# *buildoffsite*

### Promoting construction offsite

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I guess that by now most of you will be aware that I have decided to step down as Buildoffsite Chairman with effect from the end of this year. I thought about this long and hard and having been the Chairman since we started out on the Buildoffsite Project some 12 years ago my decision to step down was not something to be taken lightly.



Richard Ogden, Chairman

#### Without doubt

Buildoffsite has come a long way in those 12 years. Similarly the industry has also come an incredibly long way. Offsite construction methods are for the most part no longer regarded as something only for the fast food, hotel and retail sectors. Generally offsite solutions are now accepted as an established way of constructing in just about every sector of the industry with a clear appreciation of benefits. No longer something unusual to be taken up where special factors or site conditions apply but rather as just another tool in the box.

OK - we still have a way to go in helping people to understand that the decision to utilise offsite construction is not simply a like for like alternative for traditional construction methods but rather a fundamentally different approach that opens up the opportunity to rethink the entire construction process. To identify and eliminate those ways of working that give rise to needless complexity, risk and waste and to reshape processes and responsibilities so that the offsite supply side is at the top decision taking table at the start of the design process – and not something to consider some time after the key decisions that impact on construction form have already been taken.

So what this boils down to is a view that although we have achieved much there is still a great deal to be done. We also need to position the Buildoffsite organisation so that we continue to be relevant to service the developing needs of the industry in



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optimising the opportunities resulting from evolution in offsite methods and expertise. This is a fast moving scene with new players coming into the market all the time. I believe that to do this job properly now is the right time for Buildoffsite to bring in a new Chairman – someone with new ideas and experiences who will help underpin the things we do really well and to help us to identify how the organisation needs to evolve to meet the needs of better informed, more aware and more enlightened client and supplier communities.

Identifying the right person to take on the role of Chairman has been led with great sensitivity and care by a small group drawn from the Buildoffsite Executive Group led by Roger Bayliss of Skanska. I am delighted that Andy Dix has agreed to take on the Chairmanship role. Andy will formally take over at the start of next year but will actually start work in a shadow capacity from this September.



Andy has had an amazing career in the construction materials industry including spells at Marshalls PLC and most recently as MD of Aggregate Industries subsidiary Charcon Construction Solutions Ltd. Andy is certainly no stranger to offsite construction methods and

the clear business and project rationale that drives a fresh approach to construction. He is also a staunch supporter of skills development and is a Fellow of the Institute of Purchasing and Supply. A great and absolutely relevant background and an impressive track record in driving necessary change within industry organisations.

Over the next few months along with the rest of the Buildoffsite team I will be supporting Andy to develop his plans for positioning Buildoffsite forward to meet the needs of a forward looking and confident construction industry that delivers value much more in line with the practices of leading edge manufacturing industries rather than the fragmented, hierarchical, wasteful and substantially craft based industry that have been so much part of construction industry over recent decades. Dare I hope that rather than stagnating with zero annual improvements in productivity the industry through the optimisation of offsite solutions will also take on board the productivity improvements that other industries regard as business as usual. There is absolutely no reason why construction productivity should flatline in terms of productivity – but that is the reality that we face today. There is an alternative and that alternative will be enabled by universal adoption of offsite solutions coupled to intelligent understanding and application. It will be Buildoffsite's job to support the changes that need to take place

The organisation that Andy will be taking over is still unique within the UK construction scene. Generally people like to be able to pigeon-hole what organisations are – be it trade association, research association, consultancy or learned Institution. Buildoffsite fits in none of these camps and I am delighted that this is the case.

What we have engineered over our 12 years is a business case for Membership that includes any or all of the following:

- A b2b networking organisation that helps identify and share what is new and how the industry can change to meet emerging client needs
- The opportunity to participate in a forum for business challenge – challenging the status quo
- Opportunities to meet and share ideas with some of the brightest and best original thinkers around
- A learning platform for senior industry figures to develop new skills, competences and ways of working
- A common platform for generic marketing of the business and project case for the increased use of offsite solutions in all markets. Reaching the parts that individual participants may not be able to reach
- A platform for exchanging ideas with others who are also discontent with the industry as it is today



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- A mechanism for knowledge transfer involving new solutions, new competences and new understanding
- A forum where innovative and curious constructors and designers meet other industries

I could go on but the above will do as a starting point to begin to capture what Buildoffsite is all about.

It is up to individual Members how they contribute to what we do but having observed matters over 12 years I know that those who make the most effort to participate in learning opportunities are most likely to get the most out. Something that is good for the individuals concerned and good for their businesses.

If someone can spot another organisation that works in this way and delivers tangible benefits then I would like to hear from them as we should clearly be working together.

Finally I just want to mention that although I may be standing down as Chairman I plan to be around after January to give Andy whatever support he needs to engage with the tasks that need attention. What this means in practice still needs to be worked out but if I can make a contribution to the development of Buildoffsite through some ongoing consultancy arrangement then this is something that I would be delighted to discuss. We will work things out over the next few months. We will also be talking to the Membership to get a refreshed sense of what they want from Buildoffsite and how best we can organise to support their requirements and ambitions.

Andy will provide us with a heads up on his thinking and plans for the future in the next issue of this newsletter.

### HUBS update

### **Housing Hub**

The supply of sufficient numbers of new homes to meet UK housing need is an incredibly important

subject that touches on all of us – throughout our lives.

We all understand that the UK does not build enough homes with inevitable impact on price, customer choice and aspiration/wellbeing. I think we are also well aware that the UK has not build anything like the number of homes we need year on year for more than a generation. Increases in volume by some of the large housebuilders where justified by local demand is frankly not going to make any difference to the shortfall in the number of homes we need. Something radical is needed if the challenge is to be addressed.

We also recognise that the UK should not be constructing homes using out of date on site processes that do not guarantee compliance with current design and energy standards. In this context it is telling that generally private house buyers are not in a position to influence the design and construction of their new homes.

The Buildoffsite Offsite Housing Hub was set up to identify practical ways in which the number of new homes being built could be increased through the use of offsite construction methods. This is not simply about numbers it is also very much about quality, performance in use and customer and client confidence.

The signs are very positive with major new suppliers entering the market offering a range of housing solutions that are either not at all or not significantly dependent on traditional craft skills and which in common with the norms of modern manufacturing technologies can be manufactured and constructed quickly on site to meet the most demanding client requirements. Significantly performance in use will also be both predictable and consistent which is hardly the case for homes built using traditional methods of construction.

There are also significant developments in terms of clients coming into the market. The rise of the Private Rented Sector and in particular the role of Institutional Investors has been well reported and is a game changer. It also perhaps begins to position the UK to align more closely with other advanced



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European economies in terms of a profile of tenure types that is not so dominated by owner occupation.

Institutional clients recognise the value of fast build and assured performance in use and are very receptive to the advantages of offsite construction methods. Another significant development is the increasing role of both Local Authorities and Housing Associations in taking on a developer function to deliver new homes for private sale and for private rent. Many LAs and HAs have access to substantial land holdings and are increasingly looking for opportunities to generate revenue as well as meeting housing need. Government action is very much focused on generating shared ownership opportunities.

All of the above market movements create positive opportunities for offsite manufacturers who are able to develop the products that the markets require.

The Housing Hub has been working with Members to identify opportunities to take advantage of these new opportunities and to collectively engage with general promotion of the supply side and again to collectively address the concerns of clients regarding manufacturing capacity and financial resilience. The prospects look good for the industry but there are a number of things that can best be tackled by working together rather than by individual companies working in isolation.

To date the Housing Hub has been chaired by Dennis Seal and Nick Whitehouse of Buildoffsite. However in recognition of market developments we believe that the time has come for the Hub to be led by a significant industry client organisation with Buildoffsite taking on a support role. An announcement will be made shortly. Watch this space...

### New NHBC Report confirms growth in the use of offsite construction methods

A new Report from the NHBC Foundation **Modern Methods of Construction – Views from the Industry** confirms that Modern Methods of Construction are increasingly being embraced by UK house builders with most house builders found to have been using or at least considering using modern methods of construction (MMC) in the last three years.

The research found that one of the key attractions to MMC is the perceived ability to build more quickly and there is some evidence that MMC can lead to a reduction in costs.

The NHBC Foundation report surveyed 135 house builders and housing associations and explored attitudes towards MMC. Most of those surveyed expect the use of MMC to grow (45%) or remain static (51%) over the next 3 years.

This Report provides a welcome confirmation of the increasing support from housebuilders and clients for the use of offsite solutions. This view is consistent with the messages being collected by the Offsite Housing Hub and also reaffirms the message contained in the 2013 Offsite Housing Review written by Professor Nick Whitehouse and Professor John Miles and widely promoted by Buildoffsite.

Full article on the report on page 13.

For more information on the Housing Hub <u>Carole.chandler@buildoffsite.com</u>

### **Retail Hub**

The 4th Refurbishment hub meeting was hosted by Asda in Leeds on the 14 April 2016

The meeting was well attended by members from Asda, Astrazeneca, British Gypsum, Eurobond, GSK, ISG, John Lewis Partnership, Marks & Spencer and was designed to deliver the following outcomes:

Share the results of the offsite panelised back of house project with the wider team

Share the cost benefit analysis of the solution when compared with traditional construction



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Workshop next steps, together with additional focus areas moving forward



Lee Walker (Reform) facilitated the session, sharing video coverage of the solutions and engaging the team in the cost benefit proposal prepared by Bernard Williams of Comparator

For more information on the Retail Hub <u>Carole.chandler@buildoffsite.com</u>

### Water Hub

The Water Hub is gaining momentum. The first event for Buildoffsite members was considered by those attending to be a great success - a visit to Pulloxhill, an Anglian Water construction site. Anglian Water's challenge is to reduce time on site by 50% and to reduce embedded carbon by 50% and the majority of the assets at Pulloxhill were constructed offsite. The Buildoffsite event explored the practicalities of how Anglian engaged with its supply chain to deliver offsite solutions.

The next Water Hub event will be a visit to United Utilities site at Davyhulme near Manchester on 22nd September.

Further events are planned, including a visit to Nomenca in November 2016.

Nomenca has a product portfolio encompassing CE marked fabricated products, chemical dosing package plant and systems for water and wastewater applications, wash water booster sets, package pumping stations and package UV treatment systems. The Water Hub will be presenting at the Offsite Construction Show at Excel in London on 12th October - our session is planned from 15.00 to 16.30. We are also planning a visit to Bison, one of the UK's best-known manufacturers of precast concrete products, in early 2017.

We are also planning a Digital Water event in 2017, investigating the impact of digital on water, the automation of design, a look at smart infrastructure and standards and governance.

At the request of the clients leading the Water Hub the Buildoffsite team has developed a maturity matrix (a self-assessment matrix which allows individuals and companies to assess their progress towards implementation of offsite solutions). Working with a number of clients, the maturity matrix will be rolled out later this year

#### For more information on the Water Hub <u>Carole.chandler@buildoffsite.com</u>

### **Education Hub**

The Buildoffsite Education Hub chaired by Anna Winstanley held its first meeting on 7 June. The location was the new build Goresbrook School being constructed by McAvoy in the London Borough of Barking and Dagenham.





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The Education Hub is the latest special interest group to be established by Buildoffsite and will focus on innovation and knowledge transfer to support the business and project case for the increased use of offsite construction methods to deliver UK schools and other educational buildings.

The case for utilising offsite solutions to deliver new schools is increasingly understood by clients, designers and constructors looking to deliver quality buildings as quickly as possible to meet urgent educational needs whilst ensuring better value outcomes for all.

The first meeting provided the opportunity for participating Buildoffsite Members to identify the priority tasks for the Hub in order to deliver value to the Membership plus of course delivering enhanced value to the sector as a whole.

#### For more information on the Education Hub contact Carole Chandler of Buildoffsite on: <u>carole.chandler@buildoffsite.com</u>

#### **The Goresbrook School Project**

Located on the site of a former leisure complex the project being delivered by McAvoy involves the construction of a 10,289 m2 all-through school. The new school will provide state of the art education for a total of 1,355 pupils aged 3 to 18, including a nursery and a sixth form.

McAvoy took on the main contractor role for the project

The primary/junior school (phase 1) was handed over in April with the secondary school (phase 2) scheduled for handover in September.

The stunning £18 million new build has been constructed using a combination of modular elements plus some traditional construction.

The project involved the refurbishment and incorporation of an existing sports hall.

The project involved partial demolition of the existing leisure centre building, remodelling/refurbishment of the retained sports hall and construction of two new, three storey teaching wings, associated hard/soft landscaping, vehicular access and car parking.

The project Client is United Learning Trust

The all through school which was awarded under the Crown Commercial Service Framework was funded by the Education Funding Agency.

The project commenced on site in September 2015 with phase 1 completed in just 7 months and phase 2 in 12 months. The overall project will have been completed in 12 months.

For more information on the Goresbrook School project contact: Orla Corr <u>OrlaCorr@mcavoygroup.com</u>

### Rail Hub

We have announced the creation of a Buildoffsite Rail Hub led by Tomas Garcia of HS2 and Simon Newton of TfL, supported by Nigel Fraser of Buildoffsite. Initial work has mapped out the general objectives and, with input from the other Buildoffsite Hubs as to what works best, we have entered an initial phase of engaging with a wider range of rail sector clients, funders and procurement advisers. These have include LuL, Network Rail , CrossRail2, Highways England and representatives of the Treasury / BIS / DfT.

The objective of the next meeting will be:

- 1. To refine/revise the proposed Terms of Reference of the Rail Hub
- Achieve a Vision with a supporting strategy to achieve greater utilisation of industrialisation within the Rail & associated Infrastructure sector.
- Outline plans for driving greater collective leadership across the relevant client groups to influence improved commonality of requirements and sharing of best practice, including procurement methods.

Our aim is to identify a number of tangible activities that can be led and facilitated by a wider group of



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Buildoffsite members. An example activity is to review the concept and develop enhanced solutions for HS2 bridge and viaduct designs which are in the process of being tendered. Another will be looking at how the redevelopment of a London Tube station may be approached so as to build on the learning from Farringdon, Bank and Tottenham Court Road stations. These and other activity briefs will be developed further in July. Members who have an interest in the rail sector are invited to make this known to Roisin Sweeney to ensure that they are included in future Rail Hub specific communications.

For further information on the Rail Hub roisin.sweeney@buildoffsite.com

### **BOPAS** update

The Buildoffsite Property Assurance Scheme (BOPAS) continues to enjoy an accelerating take up in the industry both in terms of the sales pipeline and in the number of offsite providers achieving accreditation.

This should not be a surprise as in a period of uncertainty the reduction and management of risk must be attractive to all of the stakeholders in the construction process. The Brexit result has increased the uncertainty. The Major House Builders' shares have been hit and some experts are predicting a fall in house prices and a tightening of mortgage lending. From the outset the BOPAS has been supported by the major lenders and the users of the scheme have recognised that the risk management approach supported by assurance and insurance delivers comfort to the lenders, with added value to the providers, clients and end users.

The housing targets set by government continue to be unachieved and with little hope of better performance from the private house builders. It is in the main the providers of homes in other sectors who are supporting a new delivery process at scale for offsite manufactured high quality products that are BOPAS approved. Local Authorities, Registered Providers and Institutional Investors all retain a long term interest in the robustness and performance of their estate. They do not want voids in occupancy, high cost in use, or high maintenance costs. The predictability of outcome delivered through BOPAS accredited suppliers is of value to them and in some cases they are making major investments in their own manufacture, BOPAS accredited of course.

### 8 June Member to Member Event

Around 65 Members plus guests attended the afternoon Member to Member Event which took place on 8 June. The venue was the Silhillians Sports and Conference Centre just off Junction 5 of the M42.

The event had been organised in collaboration with Buildoffsite Member ARUP and we are grateful to Duncan White, Matt Cooper and Sophie Le Bourva for making the time to present to us.

Buildoffsite events always provide great opportunities to take stock of emerging issues and opportunities for offsite, to meet with key decision takers and to contribute to the development of the Buildoffsite work – programme. We need to work hard to ensure that what we do connects with and supports the emerging needs of the Membership and to do that job properly we need your advice and input.



The presentations on the day ranged from Duncan's piece on rethinking the factory, Paul Cunningham's overview of Swift Group's approach to product development (aka learning how another industry goes about smart innovation, manufacture and customer engagement), an overview of the work of



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the Buildoffsite Hubs, updates on significant industry investments and a rapid canter through a number of emerging technologies and processes. A really mixed bag which attracted a wide ranging discussion followed by some great networking.

With the pace of innovation picking up it has never been more important for Members to keep up with developments and to stay informed. If there are any issue that you would like us to address at future events do please get in touch with Roisin or Anna – roisin.sweeney@buildoffsite.com anna.whiting@buildoffsite.com

### **NEWS**

### Caledonian secures £13m turnkey contract for ACS Cobham International School

Caledonian has won a £13m contract to deliver a new student accommodation block for leading local and global educator ACS Cobham International School. As principal design and build contractor, Caledonian will take responsibility for the end-to-end delivery of this cutting-edge new building, to be completed by June 2017. Designed by Broadway Malyan, this all-new facility will complement the school's existing boarding house, set in 128 acres, providing an additional 113 bed spaces (all in premium single and double rooms). Supervisor accommodation, study areas and common rooms in addition to the student bedrooms complete this ergonomically designed, eye-catching four-storey building.

Caledonian will start work on the full turnkey package in the next few weeks, comprising the new build stand-alone boarding house and associated external works, encompassing a blend of traditional and modular construction. The accelerated offsite programme will reduce the construction period by 40 per cent and will deliver the facility in time for ACS Cobham to have the additional boarding provision available for the start of the new school year in 2017.

Caledonian CEO Paul Lang said: "This is a significant project for Caledonian; not only will we be

responsible for the manufacture and construction of the modular components of the building, but we will also demonstrate our credentials as a principal design and build contractor."

Ian Jones, Senior Project Manager for ACS Cobham, added: "Renowned for innovation and pioneering the provision of high quality education, ACS selected Caledonian for the outstanding quality of their work, the efficiency of their manufacturing process and the significantly reduced levels of disruption their approach affords our rich school life."

ACS Cobham offers a rigorous curriculum including the prestigious International Baccalaureate Diploma and US-based Advanced Placement to 1,500 students from over 70 different nationalities. The new boarding house development and current house refurbishment, underlines their reputation as a premium school residency programme provider. ACS Cobham has launched a dedicated web page to keep current and prospective parents, staff and students up to date on progress: <u>http://www.acs-</u> schools.com/boarding-house-development.

For more information, please contact Caledonian's Head of Marketing Phil Holmes on tel: 01636 821645, email: PHolmes@CaledonianModular.com, or visit the website: www.CaledonianModular.com.

## Trimble introduces three enhanced Tekla software solutions

New software versions improve construction project workflows through better usability, efficient drawing production and enhanced collaboration.

Trimble has introduced three new software versions of its Building Information Modelling (BIM,) and analysis and design solutions for engineering and construction: Tekla Structures 2016, Tekla Structural Designer 2016 and Tekla Tedds 2016. The solutions provide enhanced collaboration and workflow efficiency for structural steel and precast concrete designers, detailers and fabricators, concrete contractors, general contractors and structural engineers.



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**Tekla Structures 2016: New user interface and advanced information utilisation.** Tekla Structures, the most advanced BIM software, produces accurate, constructible modelling of any steel or concrete structure possible. The new software version provides even more efficient modelling and allows increased productivity by avoiding costly errors easily in the fabrication and construction phases.

The new Tekla Structures user interface offers a smooth experience thanks to several features that make modelling easier and accelerate the design process. The customisable menus and easily recognisable icons allow users to save time, improving modelling efficiency, while the consistent colours help them to immediately spot what they are looking for in the models.

The new version also introduces more efficient utilisation of model information. Finding possible flaws during the design phase, when they are simpler to fix compared to rework on the construction site, can bring savings. Users can also create repetitive fabrication information, such as concrete covers for precast elements, which can be automated for increased productivity.

With Tekla Structures 2016, collaboration has become easier and more reliable with its advanced functionalities such as Industry Foundation Classes (IFC) file change management. When another discipline working on the construction project makes changes, Tekla Structures' users can now see what has changed in the IFC reference model.

Additionally, visualisation and traceability improvements in Tekla Model Sharing leverage collaboration through sophisticated change management. The tool allows team members to work on the same model from any location or time zone to deliver projects faster and with more flexibility. The changes list allows for filtering and searching for specific ones.

Risto Räty, general manager of Trimble Buildings Structures Division, said: "Many of the new features and improvements have been developed to address our customers' requests. For example, drawing production is faster with functionality improvements and a 2D library that allows users to pick details for their drawings from a collection of ready-made 2D details, such as bolts, instead of drawing them. Reusing customer-specific 2D details saves even more time."

#### Tekla Structural Designer 2016: Enhanced

**collaboration.** Tekla Structural Designer 2016 is an engineering tool for analysing and designing buildings efficiently. The new version features major performance enhancements in both modelling and processing time when analysing and designing structure. It can now also easily handle even larger and more demanding models.

Tekla Structural Designer 2016 joins open BIM workflows with IFC compatibility, enabling smoother processes and reduces manual work. The users can share and review their designs with other project disciplines even at a very early stage of the Design-Build-Operate (DBO) workflow.

### Tekla Tedds 2016: New options and more flexibility.

Providing additional features, which have been requested by its users, has enhanced the new version of Tekla Tedds, a solution for automating repetitive structural calculations. New options bring more flexibility and choices for the analysis and design of retaining walls, foundations and steel and concrete beams to both the U.S. building codes and Eurocodes.

The comprehensive calculation allows work to be easy and fast, enabling users to avoid human errors when working with load combinations. Document templates that can be matched to company standards, including custom layouts and logos, save time and improve presentation.

# Tekla Structures 2016, Tekla Structural Designer 2016 and Tekla Tedds 2016 are available now. To download, visit:

#### Tekla Structures: <u>http://www.teklastructures.com</u>

#### Tekla Structural Designer:

http://url.tekla.com/TeklaStructuralDesigner2016D ownloadNow



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Tekla Tedds:

#### http://url.tekla.com/TeklaTedds2016DownloadNow

For more information on Tekla software, visit <u>www.tekla.com</u>

### Trimble and the University of Cambridge to collaborate on research in engineering and construction technology

Trimble is pleased to announce that it is partnering with the University of Cambridge to collaborate on research to improve technology development in the engineering and construction industry.

Trimble will work closely with the Laing O'Rourke Centre's Construction Information Technology Laboratory (CIT). The state-of-the-art research facility aims to solve complex engineering problems and automate difficult construction tasks through decision support tools. These tools would recognise data patterns, retrieve useful information and generate knowledge of the built environment.

The goal of the Trimble Sponsorship Programme is to enable research focused on advanced, accessible and intuitive technologies that can drive increased collaboration for the Design-Build-Operate (DBO) lifecycle of buildings and infrastructure. The programme will also support cutting-edge research in construction information technology.

The initial focus of the collaboration is to enable world-class academic research that has the potential to achieve a significant impact across the construction industry as well as provide educational and professional development to encourage and champion construction information technology research in academia and industry. It will also focus on accelerating the advantages of Building Information Modelling (BIM).

Bryn Fosburgh, sector vice president at Trimble said: "The research interests between the University of Cambridge CIT Laboratory in the Laing O'Rourke Centre and Trimble are truly aligned. Working closely with the research teams at Cambridge, our goal is to foster innovation and enable academic research in information technologies that can affect and transform the way the industry designs, builds and operates buildings and infrastructure.

"The construction sector is undergoing rapid transformation as a result of the revolution in digital engineering. Cambridge University has a wide portfolio of research projects which aim to solve problems in the construction sector," said Professor Campbell Middleton, head of the Laing O'Rourke Centre at the University of Cambridge. "This exciting new relationship with Trimble will enable us to work together to push forward our agenda to develop new, transformative tools and technologies to deliver a much safer and more productive construction industry and help build the infrastructure on which the well-being of society depends."

For more information please visit: <u>http://cit.eng.cam.ac.uk</u>.

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# Portakabin video follows challenging building project

Portakabin has produced a short video about how a highly complex, 4,200sqm ward and theatre building was constructed at the Royal Stoke University Hospital in less than four months, to help meet the increasing demand for orthopaedic services. The video, which can be viewed by following this link: http://www.portakabin.co.uk/royal-stoke-hospitaldetails.html, is a fly through the £13.5 million building showing the clean air theatres for all orthopaedic procedures, recovery room, ward bays and single en-suite rooms. It features interviews with a director of the University of North Midlands NHS Trust and one of the ward managers providing a clinical perspective of the new building.

The facility has been designed to provide excellent light, space, décor and infection control and was installed by Portakabin immediately adjacent to the main hospital, with minimal impact on service provision. The building structure was delivered as



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124 modules which were installed in a carefully planned operation complete with wall finishes, internal partitioning, mechanical and electrical services and flooring already in place. This approach further reduced work and disruption on this busy hospital site.

Modular construction is a fast and flexible way for healthcare providers to expand or relocate services, particularly on constrained sites. The hiring of buildings also allows projects to be funded cost effectively from revenue rather than capital budget streams, giving NHS trusts much greater flexibility to meet changing local needs.

For further information about interim buildings for healthcare projects, visit <u>www.portanews.co.uk</u>, email <u>information@portakabin.co.uk</u>, or call 0845 401 0010.

Portakabin Group completes building installation phase for £5.6m primary school contract

The Portakabin Group has craned the final modules into position on site at Pyrford Primary School near Woking for a new £5.6 million building to accommodate 480 children. The project is replacing an existing facility which is beyond repair. It is the first of six schools in the Surrey and Kent region being rebuilt under the Government's Priority School Building Programme (PSBP) by the Portakabin Group in contracts worth in the region of £28 million. Each scheme is being designed in line with stringent Department for Education teaching standards to create outstanding learning environments and will be delivered using Yorkon advanced off-site construction solutions.

The structure for the new Pyrford Primary School has been manufactured off site in York using the latest modular technology. It was craned into position on site in Woking in just seven days during the school holidays. A large 500-tonne crane was used to lift the steel building modules, weighing up to 20 tonnes, from an adjacent cricket field and over trees. The use of off-site construction is halving the programme time for completion and occupation ready for the start of the 2016/17 academic year. The original school building will then be demolished. The approach has avoided any interruption to teaching on this constrained rural site which is immediately adjacent to the existing school.

Kathryn Krynicki, Head Teacher at Pyrford Primary School said: "We were delighted and excited to return from the school holidays to see our new building already in place. This is another key milestone in the project and in the history of the school. Our current facilities are beyond repair so we are really looking forward to having a brand new, purpose-designed school which will transform the learning environment for our children and our staff."

Pupils and teachers will benefit from a completely new school, with high levels of natural light and increased access and space for outdoor play and learning. Designed by architects Surface to Air, the two-storey school will have 16 bright classrooms with dual aspect natural light and a double-height multipurpose hall. Two teaching wings are organised around an internal central 'street' with atrium light wells. This feature at the heart of the school will provide good passive supervision, informal group learning space and break-out zones. Externally the building is being finished in a materials palette of brickwork, neutral white render, and panelised metal in white, dark grey and subtle blues to complement the rural surroundings.

The Portakabin Group was announced as preferred bidder for six infant and primary school projects in Surrey and Kent. The contracts for the Department for Education are worth in the region of £28 million and will be completed by winter 2017.

For further information about <u>Yorkon</u>, call 0845 2000 123, email info@yorkon.co.uk or visit <u>www.yorkon.co.uk</u>.



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### The infrastructure industry's first specification for carbon management was launched on 4 May 2016

### http://www.mottmac.info/carbon/Carboncrunch\_H owtomanagecarbonandcost.pdf

The BSI's new publically accessible standard PAS 2080 will support those who want to cut their carbon emissions while encouraging innovation in the design of new assets.

PAS 2080 – the world's first carbon management standard for infrastructure provides the guidance the sector needs to effectively manage greenhouse gas emissions while driving down cost. PAS 2080 provides a common language and framework to manage carbon across all sectors of the infrastructure industry. It will enable all members of the value chain to make carbon management a central part of their strategies when delivering infrastructure projects and programmes of work.

# Carbon crunch



The PAS has been created to enable, not restrict. While there are some very defined guidelines in PAS 2080, it enables value chain members with varying maturities in carbon management to clearly understand what is expected of them to improve collaboration and innovation, and to realise carbon and cost benefits. It is compatible with BSI standards for BIM and information management to aid integration of carbon management with other developments in the industry. PAS 2080 will not guarantee success. However, if applied intelligently with good business management then it will be a powerful enabler to drive down cost, cut carbon emissions and unleash innovation in design and technology.

A new report, 'Carbon crunch – how to manage carbon and cost', introduces PAS 2080 and sets out the key requirements for success, with contributions from:

- Keith Howells, Chairman, Mott MacDonald
- Chris Newsome, Asset Management Director, Anglian Water and Chairman of the Green Construction Board's Infrastructure Working Group
- Scott Steedman, Director of Standards, BSI
- Nirmal Kotecha, Director of Capital Programmes and Procurement, UK Power Networks
- Matthew Webb, Senior Energy and Carbon Strategy Manager, Transport for London
- Andrew Swain, Senior Manager for Sustainability, Tarmac
- Maria Manidaki, Sustainability and Carbon Leader, Mott MacDonald and Technical Author for PAS 2080

If you would like to discuss PAS 2080 or find out how cutting carbon can help you to improve commercial efficiency and reduce cost, please do get in touch.

#### Davide Stronati

Group sustainability manager, Mott MacDonald Davide.Stronati@mottmac.com

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### Modern Methods of Construction – Views from the Industry

The steady growth in the use of offsite construction methods among house-builders is reflected in a new report from the NHBC Foundation.



The Report (NF70) is based on survey information from 135 large and medium-sized house builders and housing associations and explores attitudes towards MMC. Those participating accounted for just over 45,000 homes or 30% of NHBC new home registrations in 2015.

The research finds that the majority of house builders have used or have considered using modern methods of construction (MMC) in the last three years. Key findings include:

- Of those surveyed only two said they had not used or considered at least one form of MMC in the last 3 years
- The most used methods are sub-assemblies and components, installed by about threequarters of the house builders and just under half of the housing associations in 2015.
  Panelised systems, such as timber and steel frame are the next most used MMC type
- Few have used full volumetric construction or pods. However, many organisations are considering them for future use
- The majority of organisations surveyed consider themselves to be 'late adopters' or 'followers' of volumetric construction, pod and panelised forms of MMC – rather than 'market leaders'
- One of the key attractions driving the use of MMC is the perceived ability to build more quickly, potentially at lower cost.

Most of those surveyed expect the role of MMC to grow (45%) or remain static (51%) over the next 3 years.

For the purposes of the Report the term modern methods of construction (MMC) embraces a number of approaches involving off-site manufacture or assembly and includes:

- volumetric construction
- pods
- panelised systems
- sub-assemblies and components
- site-based MMC

#### Main reasons for considering MMC

The main reason for considering use of MMC was to achieve a faster build Programme. The majority of house builders and housing associations identified this as their main driver and overall two-thirds gave this as one of their top three factors.



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Other reasons for considering MMC include improving build quality, tackling the skills shortage, and improving health and safety. Achieving a fast weathertight envelope, reducing costs and improving site efficiencies were also mentioned.

Housing associations were motivated by the need to deliver homes quickly, and cost effectively, and the results suggest they believe MMC will help them achieve this objective.

#### To download the full report:

http://www.buildoffsite.com/content/uploads/201 6/07/NF70-MMC-WEB.pdf

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## TRIMBLE SOLUTIONS (UK) LTD APPOINTS NEW UK MANAGING DIRECTOR

Trimble Solutions (UK) Ltd is pleased to announce the appointment of Richard Fletcher as the new UK managing director.

Richard, who has been employed at Trimble Solutions (UK) Ltd for three years, moves in to this new position with a wealth of knowledge and experience behind him, having worked within the software and construction industries for over 19 years.

In his new role, Richard plans to grow the company further; providing the tools that will improve how the construction, structural and civil engineering industry works and by reacting to new technological developments.

Richard comments on his new appointment: "I am delighted to have been appointed as Trimble Solutions Ltd's new UK managing director. In addition to having hands-on software experience, I have spent the majority of my career as a business development manager, so I know exactly what customers require and how the construction industry is evolving.

"Over the past few years there has been a real focus on BIM, especially since it has had government support. However as technology is changing rapidly, it won't be long before the industry moves on to the next step of further automation of processes and as such, I look forward to ensuring that Tekla software continues to be at its forefront."

For more information about Trimble please visit www.tekla.com/uk

### **Comparator Tool enters uncharted** territory

Version 6 of IFPI's ground-breaking 'Comparator' model is now in the final stages of development having superseded V5 without the latter ever having seen the light of day – at least in a commercial sense.

V5 of the basic model predicts the whole-life cost and sustainability of traditional and offsite options for new-build and refurbishment schemes from Feasibility stage onwards. It was partly funded by UKCES having been sponsored by *Buildoffsite* with a Steering Group of members chaired by Richard Ogden. V5 was successfully trialled on a series of case studies including:

- A superstore
- A fast-food Drive-thru
- A row of Town Houses
- A 10-storey office building and
- A volumetric hospital ward

During this UKCES-funded offsite development phase the model's co-creator Professor Bernard Williams switched away from conventional elemental cost analysis to a 'modular' format, introduced a project programming facility and also opened up access to BIM libraries and manufacturers' web-based e-data. However, despite this massive increase in the flexibility and application of the '*Comparator*' tool, one major obstacle still remained to the commercial application of the model i.e. the plethora of products and services available to architects and engineers when designing and specifying buildings and how to access and store cost and sustainability data on them in the model.

To overcome this final hurdle the V5 schedule of rates is being replaced in V6 by a generic system of predicting cost and sustainability of components and systems building on the prime cost analysis



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functionality already built into the model. In V6 the model will generate a whole-life cost and sustainability prediction for any generic component based on its material content, format, manufacturing and installation process. The output is being validated against known typical data for *every* generic component in the model to make sure that the results meet the developers' stringent requirements for a high level of accuracy in Feasibility stage approximate estimating.

This ability of the model to produce realistic cost and sustainability data on *any* generic component is not only a breakthrough in the application of *'Comparator'* – it is also a massive advance in the art (or science!) of approximate estimating.

Meanwhile the IFPI team are planning a major approach to the industry which they hope will result in all the main players adding data to their catalogued components which can be loaded straight into 'Comparator' by the users. As Bernard says they already have this information either on their sites or tucked away in files (or both) so making the data available in a format in which 'Comparator' can use it seamlessly should be quite painless for suppliers and will guarantee that their products get in front of the designers and their QSs at very early stages of design development.

While this V6 development has been taking place the IFPI team have been making V5 available to the various *Buildoffsite* Special Interest Groups (Hubs). This is part of their commitment to UKCES to make a version of the model available for use in helping people in the industry - practitioners as well as students – to better understand the whole-life economics and sustainability of offsite solutions. The Hubs are collegiate and are ideal starting points for the introduction of the 'Comparator' model to seasoned captains of industry – providers and users alike - and the Refurbishment Hub has already taken up IFPI's offer of free support to their activities.

### Fig.A Elemental cost comparison of 5 partition solutions



Their initial study of the whole-life cost and sustainability of partitions in the customer toilets of

the 3 Retailers leading the Hub was carried out using

'Comparator' (Fig.A) and this was extended to a review of all the partitions in the back-of-house in a typical minimarket. One of the Retailers is now commissioning a full redesign of their minimarket stores using offsite partitioning and will have the opportunity to use V6 in developing and presenting their business case to the Board.

Time means money to Retailers and the model's ability to accurately predict the effects of offsite construction on construction time will certainly augment the case being made by this Retailer on grounds of whole-life cost advantages (Fig B).

#### Fig.B Typical Programme time output from 'Comparator'



The new version of Comparator will soon be used at a Scottish University in the development of a doctoral thesis on offsite housing construction. This again is part of IFPI's commitment to making the model available to the Education sector and Professor

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Williams is keen to hear from other people in education who would like to see how the V6 Comparator might help their cause. He can be reached at <u>bernardw@int-fpi.com</u>.

### The Offsite Construction Show October 12th – 13th 2016, Excel, London – More Stands added to the plan!

#### (link to plan http://interactive.floorplanlive.com/offsite-cs-2016/index.html)

The Offsite Construction Show 2016 (OSCS2016) is all set for an early sell out, at last the OFFSITE Construction Industry has its very own totally dedicated event bringing people together, providing focus, industry perspective and a launch-pad for new products and systems

The Show is supported by many leading companies such as Tekla Trimble, Howick, FP McCann, Shay Murtagh Precast, Geologic Foundation, Ormandy Group, Modularize, Avatco Building Solution, Portakabin Group, Elliotts Enterprise Ireland, JJ Smith, Caledonian Modular, Apex Wiring Solutions, Morland, MPBA, Fabric First Academy...... have booked their stand space

We live in an increasingly remote digital age, there is simply no substitute for meeting people in person and networking at this new industry event.

The Show is supported by Buildoffsite and we are working with them to develop the seminar program, Master class sessions and some new and exciting one tp one sessions

This program will reflect the scope of the exhibition and will include the following market sectors and cross cutting themes:

• BIM (in practice)

- Lean (reducing time and cost)
- DFMA
- Standardisation
- Integrating Supply Chain
- Housing (private and social)
- Other Residential
- Infrastructure including Transport, Water, Power
- Retail
- Commercial
- Health
- Education

#### The full program will be announced shortly

This exciting Event will be a must-visit for anyone seriously involved in any aspect of the construction industry all our exhibitors and partners are working with us, so that visitors can see what is new in the market and hopefully show why Offsite is the UK's fastest growing construction method.

If you are involved in the offsite sector, you cannot afford to miss this show, the first ever national event at a major venue supported by major industry figures. For more details, call 086 9296 Paul Shelley ext 3

## A Tale of "What & When" Versus "How & Who"

#### Graham Cleland, NG Bailey

I cannot say that I am a great fan of cross-sector comparisons as these are often found to be a little lacking in terms of their intended application. However, it seems to me that certain pernicious problems that face the UK construction industry today do have parallels with the UK automotive sector of yesteryear.

Consider, winding the clock back 40 years or so would reveal UK automotive output at nearly two million units with the market dominated by the likes of Ford, Chrysler, British Leyland and Vauxhall, and a new entrant in the form of Datsun attempting to secure a foothold of sorts. In its early years this new

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entrant had found it difficult to compete with the more established brands in the sector, primarily because of a reputation for poor quality product, despite a positive perception of its vehicles being cheaper to buy and maintain.



Of course, by the time that Nissan set up the first Japanese production facility in Europe in Sunderland in 1986 it was the case that UK automotive output was in steady decline, but those early teething problems suffered by Datsun were soon to be forgotten and the UK automotive landscape was about to change forever. The dominant position that had been held by the more powerful brands some ten years earlier was fast unravelling, and the new pace of change was ultimately going to prove too much for some of these long-established businesses to handle. Having been dogged with problems associated with design appeal, unionisation issues impacting productivity, supply chain relations and product quality, the automotive landscape was about to be revolutionised because the Nissan investment into the UK was soon followed by the likes of Toyota and Honda too which would act to reverse the decline.



These new kids on the block were committing significant capital investment into manufacturing capability and capacity, and this was transforming that earlier reputation for poor quality product but without people having to pay a price premium for ownership. For Nissan in particular, having produced just over 5,000 vehicles in its first year of production, the plant in Sunderland now produces over 10,000 per week. This growth reflects a 100 fold increase in output in a single generation, which is not just impressive in its own right but has clearly had a positive impact on the sector overall. For Nissan and their like, there was no need to wait for permission from the historically dominant players to challenge the status quo, they simply had to decide it was in their own and the UK Government's interest and the rest is history.

So, returning to the pernicious problems that face the UK construction industry today, the question is whether the mainstay of major contractors that largely dominate the sector recognise they might face a similar risk to that of those established players in the automotive sector from 40 years ago. Further, even if there is a collective appreciation of a potential threat, there is the separate question of whether they truly comprehend the action they might need to take to ensure they exist in another 40 years, because evidence from the likes of British Leyland suggests this outcome is not guaranteed. And specifically for those organisations that have shareholders to keep satisfied, the prospect of any investment deteriorating over the longer term due to lack of action could be a little worrying.



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Evidently, the UK Government has provided some insight into the transformation they would like to witness in the next decade with its Construction 2025 aspirations. And in response the sector has started to interrogate how such improvement can be delivered. This response has included contributions from the likes of the Construction Leadership Council in terms of action on skills, business models, innovation, trade and sustainability; and Constructing Excellence in terms of action on innovation, benchmarking and knowledge transfer. For my part, I think there are a couple of points that need to be made here regarding the contribution from leaders of the major contractors: first, it should be these people who recognise the step change required, and second it should be those same people who translate this and front the action within their respective organisations. In other words, resolution of the pernicious problems referred earlier which include the likes of sector productivity, competitiveness, through-life build quality, health and safety performance, etc., has long been in the gift of these leaders, the concern is whether there has ever been the true appetite to recognise and properly confront these problems.

By way of a simple illustration of this lack of appetite, it is worth examining the point being made in the title of this paper and its relevance to the particular problem that has dogged the sector in terms of low levels of productivity. As a general rule it matters not which of the major contractors annual reports you choose to read, there is plenty of narrative in these documents regarding where any of these businesses has been active and what they have been building, but very little (if any) narrative in the same regarding how such projects were built. In addition, these same documents do not appear to deal well with connecting individual threads of business strategy to provide future direction as how they might respectively address the productivity challenge, and which parties they might need to engage with in order to drive higher levels of productive working. The upshot of this lack of messaging appears to be that, year-on-year, these businesses tend to deliver more of the same, and accordingly the construction sector at large has remained stifled and the step change required remains somewhat elusive.

This state of affairs warrants some scrutiny, so it might be worth starting with what appears to be the most blatant of facts: productivity in construction can be positively influenced by removing operative hours from site, and transferring the work to more easily controlled manufacturing environments. Whilst this sounds straightforward enough, unless the leaders of major contractors fully embrace the notion and reflect this appetite at the heart of their strategic intent then the messaging within their organisations can get mis-interpreted. And when I refer to the importance of placing the notion at the heart of their strategic intent, I also mean that it is critical to ensure there is better connectivity between the individual threads of business strategy so that any risk of conflict in this messaging is eliminated.

Consider, for example, the typical strategic imperative adopted by major contractors regarding Health & Safety. They all have some form of headline, a banner of sorts under which they can hang a lot of related themes. But whether these banners be entitled "Zero Harm" (Balfour Beatty), "Safety First, Second Nature" (Mace), or "Don't Walk By" (Carillion), they all conform to the same sort of overarching aspiration for the business not to cause harm to people who come into contact with the activities of the same. What these banners do not necessarily do is translate aspiration into explicit action that works to positively eliminate risk by stating a preference for an offsite solution to be selected ahead of traditional forms of construction. In the same way that PPE is now intentionally regarded as providing the protection against harm to a person of last resort, a conscientious major contractor who aspires to drive productivity should perhaps direct its workforce to utilise offsite options as a default. It is not particularly contentious to suggest that improved Health & Safety performance can be achieved by reducing the requirement for operatives on a construction site, and this latter objective must be reflected in an organisation's Procurement and Labour strategies.

Plainly it is important that offsite solutions are deemed to add value, but the first key point being made here is to ensure the contribution is properly measured. In other words, as opposed to the



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simplified commercial debate that typically ensues about an offsite solution being more costly than a traditional equivalent thereby preserving the status quo, the contribution needs to be quantified in the context of driving an entirely different level of productivity. If I put this in the context of NG Bailey's "Safety First And Foremost" banner, it is the case that proven offsite solutions are now mandated as a default option, hence reflecting how we will build in addition to what we will build. It is important to clarify here that NG Bailey's strategic aspiration is not converted to tactical instruction merely to ensure the investment it has made into manufacturing capability and capacity is exploited, rather it is because the evidence is that it drives productivity and yields upstream benefits to major contractors and clients alike.

Consider now a governance perspective. In my view it is important to capture the linkage between strategic aspiration and tactical action in published documents such as annual reports. This is because it allows industry leaders to reinforce some key messaging to audiences that sit within and outside of the organisation and then make connections between individual threads of business strategy. By way of example, many major contractors monitor their Health & Safety performance, not just because there is a legal duty but also in order that they can report and promote positive trends. However, much of this performance reporting is retrospective in the sense it reflects what has passed as opposed to what is to come. Indeed, the content of these annual reports frequently reveals references to fully investigating any / all accidents so that lessons can be learned. But what is often missing from these documents is any sort of expression of intent to drive Health & Safety performance to an altogether different level, and where this links with other strategic threads.

By way of example, say the leaders of any of the major contractors set an explicit goal in their annual report to reduce their Accident Incident Rate by 25%, there would have to be agreement within the organisation as to how this could be achieved. And interrogation of the basic nature of the calculation for Accident Incident Rate would reveal that the options might be somewhat limited to reducing the number of operatives employed at site, or in other words making greater use of offsite solutions to deliver an equivalent level of output. The real relevance of previous performance would be limited to merely providing a baseline for the 25% improvement.

To re-iterate, it is important that offsite solutions add value, but the second point being made here is to ensure that if it is possible to reduce the risk of harm then it is incumbent upon the leaders of major contractors to set that agenda. In other words, if it is the case that what gets measured gets managed, there is justified reason for such leaders to force a different agenda by establishing fresh, stretch targets for Health & Safety performance. Putting this governance perspective in a slightly different context, imagine if the obligations under the Corporate Manslaughter Act were interpreted in such a way that in the event of a fatality associated with a particular trade at a construction site, an option had existed to have the same work carried out away from the site, then the same leaders would need to know why this option had not been exercised. The Act is clear in the sense that leaders are not only required to keep their management systems under review, but also to monitor the way in which actual activities are managed and organised by their senior management. Again, putting this in the context of NG Bailey's "Safety First And Foremost" banner, it is the case that there is direct link between Health & Safety and Procurement strategies, hence reflecting how we will build in addition to what we will build so as to mitigate the risk of harm.

The importance of the inter-relationship between individual threads of business strategy cannot be over-emphasised. Indeed, from an investor perspective, it is worth re-iterating the point that the annual reports of major contractors should provide an insight into the positive actions that leaders are taking to influence how they will build as opposed to what they have built and ensure the viability of their business long into the future. However, from an internal organisation perspective, it is really critical because the various threads of business strategy need to be aligned, and the collective effort of employees needs to pull in a singular direction to

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deliver the desired results of the business' leaders. Too often, there is excessive divergence between individual threads and whilst this might not cause intrinsic damage to a company's results, it can certainly limit the potential that could otherwise be realised.

In summary then, regarding the pernicious problems that face the UK construction industry today, it appears that the issues associated with sector productivity, competitiveness, through-life build quality, health and safety performance, etc., are resolvable provided leaders are prepared to think a little differently about how their respective organisations should go about their business. These leaders could actually be assisted by the UK Government who could help enforce betterment via bodies such as the HSE through a tougher legislative regime on themes such as CDM by placing a greater emphasis for clients and major contractors to focus on principles of prevention. I stated at the outset to this paper that I am not a great fan of cross-sector comparisons but the example of the UK automotive sector is particularly salient in this instance as the competitive landscape in construction is also likely to change with additional far-Eastern entrants entering the fray in the near future. And with these new interventions, rather like the UK automotive sector of yesteryear, it would be folly at this juncture to predict which of the existing major contractors will exist in another 40 years, though not so foolhardy to suggest that the passage of time will result in some casualties.

#### Tekla BIM Awards 2016

Use of Tekla BIM software affects landscapes around the world. We would like to express our appreciation towards your work and share your success stories worldwide. Participating in the 2016 Tekla Finland and Baltics BIM Awards is a great way to gain publicity for your company, especially if you win! The competition has been growing in both media coverage and popularity each year.

#### The new social and health care center JUST in Järvenpää Finland is the winner of the Tekla BIM Awards 2016!

All the projects were of very high BIM standards this year. Thus, winners did not settle for modeling only but challenged themselves with accuracy, versatile usage of the BIM and BIM-based co-operation between the parties.

JUST sets high standards to follow

The jury was very pleased with the JUST project with BIM-based cooperation and diverse BIM use, owner's active role in adopting BIM processes and successful knowledge management. The new social and health care center JUST was entered by Alliance JUST.

Comments by the jury:

- A new type of project alliance
- All possible tools in use (e.g. VDC Virtual Design Construction)
- Excellent documentation
- Visionary usage of BIM in various fields
- working procedures have been adjusted to maximize the benefits of BIM
- BIM data has been utilized in planning/design, construction, and management

Comments by the voters:

- "New level for the user participation"
- "Future model for the integration and cooperation""
- "The Open building principles in use in the model"

Special recognitions for Timber campus, Statoil office building, and Länsimetro

The three honorary awards were given to Timber campus in Pudasjärvi, Statoil Office Building, and Länsimetro.

**The Timber campus in Pudasjärvi** was entered to the competition by Sweco Rakennetekniikka Oy,



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Lemminkäinen Talo Oy, Are Oy and Kontiotuote Oy. It is the largest timber campus in the world, and an exceptional project to model. For the jury, there were multiple interesting elements such as the role of the owner and the automatic production process for timber.

The Timber campus was also voted for the public favourite:

- The timber structures were modeled and utilized in the production phase, which I found both interesting and inspiring
- The use of the BIM modeling was efficient. This could be spotted clearly e.g. in roof trusses and CLT walls, and, in timber construction in general

#### **Statoil Office Building**

Concretus Desingers from Lithuania entered the competition with the Statoil Office Building. In this international project the jury was particularly interested in the precast concrete production, utilization of the LEAN processes and successful logistics.

Comments by the public:

- "Strong overall handling of the project and deception perspective has succeeded in making the impressive entity stand out of its environment"
- "New solutions, seismic area"

**Länsimetro** is a unique project by A-Insinöörit Suunnittelu Oy, Arkkitehtitoimisto ALA Oy, Granlund Oy, YIT Rakennus Oy, Lemminkäinen Infra Oy, Arkkitehtitoimisto Pekka Helin & Co Oy, Arkkitehtitoimisto HKP Oy and Ramboll Finland Oy.

From the jury's point of view, this massive project succeeded especially in modeling the cast-in-place concrete and status checking. Special tools were successfully used in the most challenging parts. BIM was also used to demonstrate the designs to the authorities, and Lauttasaari and Koivusaari were presented to building authority almost solely with BIM. Comments by the public:

- "Challenging underground structure and richness in the structures of the stations"
- "From all aspects, this is a challenging project. It represents the top of modeling in the infrastructure field and multiple problems were solved along the way"

Other winners

Public Vote winner: Ordsall Chord - Northern Hub Commercial Project Winner: South Bank Tower -Severfield

**Public Project winner:** Ogden centre for fundamental Physics - SCS Site Services

Industrial Projects winner: North Walsham Containment Enhancement - TDS Midlands

Infrastructure Projects Winner: Ordsall Chord -Northern Hub

Small Projects Winner: Development Dock - FP McCann

**Sports and Recreation projects Winner:** London Olympic Roof Transformation Project - William Hare

Visit the <u>project pages</u> to find out more about the winners and other participants.

#### http://www.tekla.com/baltic/bim-awards/about



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#### **TDS Wins Shropshire Business Award**

Last Friday 24<sup>th</sup> June saw TDS take home the trophy for the Shropshire Business Awards Apprenticeships Award 2016!



It was a brilliant night which allowed us to pay tribute to our six current TDS apprentices who have contributed enormously to the firm over the last few years. It was also recognition for us that the opportunities that we are creating and what we are doing as a company really is working.

Setting up our own training academy, The TDS Academy (now CADCOE) in 2011 to help to address the prevalent skills shortage in the construction industry, has by no means been an easy task. It has been the process of a huge amount of time, commitment and hard work. It has essentially involved us learning an entirely new trade – education.

Becoming the only training provider in the UK to teach and offer a formal and recognised CAD qualification which incorporates 2D, 3D and BIM training has allowed us to take apprenticeships one step further. We don't just hire; we teach, we train and we promote the industry. We now see over 60 apprentices a year come through our academy doors, from firms all over the UK. Getting the message out there to firms nationwide and continuing to attract these numbers of young people into our apprenticeship training scheme is essential for continued growth within the sector. We of course see the benefits and the satisfaction daily from our guys. From some of the incredible work they produce and the hard work they put in to not only their job but also to their studies. They are a vital part of the team, and it really is brilliant to see young people who are given the responsibility of managing their own projects, under the guidance of experienced senior draughtsmen, really shine when given the opportunity to show everyone what they can do.

We are delighted to have been awarded the Apprenticeships Award 2016. Going forward TDS is continually committed to providing Apprenticeships in our local Shropshire area. But more than that, we are committed to promoting and training the next generation of digital designers all over the country.

### **New Members**



Based in Buckinghamshire, Construction Specialities UK Ltd (CS) is part of a global, family-owned building products company, founded in the US in 1948. We work closely with architects, designers, building owners, facility managers and contractors to provide solutions to complex building problems faced every day.

Our commitment to 'making buildings better', along with our culture of creative thinking and customer collaboration, has led to many breakthroughs and innovative solutions. We currently hold over 40 product patents worldwide.

CS's high quality, reliable products are designed to extend the lifecycle of a building's fabric, reduce maintenance costs, and reduce operational costs of facilities, across a wide range of market sectors. We are leading manufacturers of interior wall protection, impact-resistant doorsets, performance coatings, entrance flooring, expansion joint covers,



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architectural louvers, solar shading and explosion venting.

Our most recent product developments are also ideally suited to off-site manufacturing:

CS Elimax Reform – a modular flat pack serviced wall system, providing configuration flexibility to suit project requirements. Manufactured in a controlled factory setting for consistent quality and finish, Elimax Reform ensures fast and clean installation; reducing time on site, minimising disruption and saving money

CS Joint System for Precast Concrete Facades - a durable, reliable and maintenance free solution to the problem of water ingress, condensation and expansion in precast concrete buildings. Designed to be included in the pre-fabrication process, it is fast and easy to install

CS Rapid Fix – a mounting system enabling fast and easy installation of wall protection systems

For more information about CS products and solutions, please contact Retail Business Manager Chris Sutton on tel: 07881 506767, email: <u>chris.sutton@c-sgroup.co.uk</u>, or visit: <u>www.c-</u> <u>sgroup.co.uk</u>.



SIG is the largest supplier of insulation products in Europe. The Group is the market leader in the UK, Ireland, Germany and Poland, and the leader in technical insulation in France. SIG is also the largest pure-play specialist distributor of air handling products in Europe and the largest and only national specialist supplier of roofing products in the UK, and is the largest specialist supplier in France.

SIG is a leading supplier of interior fit out products in Europe. It is the market leader in the UK and Germany, and the leading specialist in France.Building on its market position, SIG has invested in facilities to build and install Offsite products ranging from pre-assembled plumbing and heating systems to roofing solutions, panelised wall assemblies, floor cassettes and whole buildings. Based in three principal locations in the UK, SIG's Offsite business provides manufacturing, assembly and installation services to clients in retail, education, residential and the public sector.

For more information,please contact Managing Director Robert Colver on tel: 01142 857138, email: <u>robertcolver@sigplc.com</u>, or visit the website: www.sigplc.com.



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HOCHTIEF is one of the largest international construction groups, delivering complex infrastructure projects across the globe.

We deliver world-class projects by investing in innovation, efficiency and skills to build solutions that work for people, for the environment and for the long term.

Our heritage of engineering excellence in the face of complex challenges means we deliver smart solutions for our clients, specialising in markets such as <u>road</u> and <u>rail</u> infrastructure, <u>energy</u>, <u>tunnelling</u> and <u>civil</u> and structural engineering.

Offsite solutions play a key part in the success of many of our projects, so we are delighted to be a member of Buildoffsite, working together to drive forward quality, value and sustainability in the construction industry.

The lead contact is Keith Broughton, Major Projects Sector Director



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### Hochtief Discovering Offsite Tour

Date: 14 September 2016

Venue: Forth Replacement Crossing Contact and Education Centre Adjacent to Forth Road Bridge Administration Building South Queensferry Edinburgh Scotland EH30 9SF

The Queensferry Crossing forms the centre piece of a major upgrade to the cross-Forth transport corridor, representing a total Scottish Government investment of £1.325 to £1.35 billion, releasing £245 million worth of savings since construction started in June 2011.



The 1.7 miles (2.7km) structure will be the longest three-tower, cable-stayed bridge in the world. This innovative design provides extra strength and stiffness, allowing the towers and the deck to be more slender and elegant.

#### In total, the overall Forth Replacement

<u>Crossing</u> scheme is 13.7 miles (22km) long, including major motorway upgrades to the north and south of the bridge and also the first ever use in Scotland of variable mandatory speed limits to smooth traffic congestion via an Intelligent Transport System. This also controls dedicated bus lanes within the motorway hard shoulders – another first in Scotland. The construction of the Queensferry Crossing maximises offsite fabrication with individual prefabricated units weighing up to 400 tonnes being manufactured, trial assembled and painted offsite in factory conditions. The Design and Build contract is being undertaken by the "Forth Crossing Bridge Constructors" (FCBC), a joint venture between Hochtief, Dragados, American Bridge International and Morrison Construction

#### http://www.forth-bridges.co.uk/queensferrycrossing.html

#### The Tour Programme:

- 10.30 11.00 Registration and tea and coffee
- 11.00 11.10 Welcome Sally Cox (MD Hochtief)
- 11.10 11.40 Presentations
  - The Project Overview Transport Scotland
  - Project Step by Step Alan Platt (CD FRC)

12.40 – 13.00 – Q&A

- 13.00 14.00 Lunch and networking
- 14.00 15.00 Presentations
  - Project Off Site Prefabrication
  - Buildoffsite presentation
- 15.00 15.45 Q&A

15.45 - 16.00 - tea and coffee

16.15 – 17.30 - Bus tour of the site (no PPE required) including the prefabrication area and pre-casting area.

17.30 – 18.00 - Bus to then deliver delegates to Hawes Pier via Contact and Education Centre (the venue for the day) to collect cars

18.00 – 20.45 - Boat trip on "Maid of the Forth" Including barbeque on board

20.45 – Transport from Hawes Pier

Attendance is free to Buildoffsite members. £100 +VAT for non members

#### To register: anna.whiting@buildoffsite.com