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Events

23 July – Discovering Offsite Visit – Siemens Innovation Lab

25 & 26 August – Direction Group Dinner & Meeting

16 September – Water Hub – Laing O'Rourke Explore

14 & 15th October – Offsite Construction Show

26 & 27 October – Direction Group Dinner & Meeting

4 November – JCB-Buildoffsite Member to Member Event

For more info about events or content:
roisin.sweeney@buildoffsite.com



Richard Ogden, Chairman

So here we are just over halfway through the year. The General Election is behind us and we wait to see what the outcome will mean for the fortunes of the construction industry.

To date, not much has emerged in terms of clear statements, although I guess that the early announcements about a massive increase in the number of academies to take the place of what we used to call schools, honouring the promise of additional devolved powers to Scotland and the ambition to free up the economic potential of the Regions through initiatives such as the Northern Powerhouse have the potential to drive economic activity. All of these early announcements if carried through in a timely manner could stimulate spending on capital projects that will benefit the construction industry. I say could because the Government has said there is still has a long way to go to get the economy into a reasonable shape and if what they say is correct, then I just don't see that there is going to be the capacity for a substantial increase in public spending – capital or revenue.

However, some things simply can't slide, or at least can't be left to slide for long and structural changes such as the massive increase in population which seems to be accelerating inexorably is inevitably going to keep the pressure on for more homes, more spending on schools, more spending on health, more

spending on transport and more spending on supporting infrastructure. I assume that someone in the Treasury has a handle on how much this is all going to cost and how it can be funded. Not, I suspect, out of growth in GDP alone, in which case the consequence will likely mean an increase in public sector borrowing plus an increase in taxation – no matter what the politicians might say.

Last week's Budget statement provided no clarity. Also left unclear is what precisely the Government will be doing to arrest and reverse the inexorable downward slide of UK productivity compared to our hungry competitors in the rest of the world. Does it matter that we have slipped out of the Premier League? Personally, I believe it matters hugely. The flip side of a slide in productivity is that our competitors will increasingly out-perform us, both in export markets and at home. This can't be a good thing if we are to achieve a balanced economy and not become reliant on making a living through banking and tourism. It may be a sign of my age, but I find it simply incredible that our international position has slipped so dramatically. I look for answers and find none – or at least none that are particularly palatable.

The UK has an incredible research and academic base, we have been at the manufacturing and technology game longer than just about anyone else, we are blessed with incredibly gifted and energetic people, we are up there with the best in terms of patents registered and we still have some world class industries. However, we just can't seem to harness these assets to deliver the productivity growth that is vital to achieve long term economic success. I believe that the offsite agenda – if driven hard – has the potential to make a real difference to the productivity of the construction industry in ways that other techniques really can't match. A small, but useful, contribution to address a national problem.

A piece on the productivity challenge and the opportunities for the construction industry has been included later in this Newsletter.

Looking at activities over the rest of 2015, you can be sure that Buildoffsite will react positively to any fresh opportunities that emerge from Government policy making and we will make the most of our links to Departments. We will, of course, also continue to work as hard as possible with our expanding Membership to promote the benefits of offsite construction in all market sectors, and to do everything we can to engage with those issues that get in the way of offsite solutions becoming the construction method of choice for the industry and clients. As always, we need to be clear that it is not simply about the supply side having the right products and solutions, backed up by compelling marketing targeted at the needs of all market sectors. It is not simply about addressing the real or imagined concerns of those who, given the choice, would prefer to stick with the tried and tested traditional ways of delivering projects. It is not simply about ensuring that the industry has access to the skills needed to ensure that the opportunities presented by a transition from traditional forms of construction to assembling projects on site can be optimised. It is not just about ensuring client and funder confidence that an offsite enabled solution represents a better, more predictable solution. It is all of these things and more. Having been an advocate of offsite solutions for more than 30 years, I would not for a minute dismiss the scale of the challenge that we face and the strength of the vested interests that need to be tackled. The work goes on...

As I look back over the 10 years of Buildoffsite, I can see that change has definitely happened. Rarely nowadays do I find people dismissive of offsite solutions as a viable alternative to traditional solutions. Indeed, if anything, I find that some people are perhaps too ready to claim that they understand the benefits of offsite solutions and the opportunities to utilise offsite solutions to develop a wholly new approach to

the design and construction process. Learning from and working with others who are finding their way with offsite solutions can be really beneficial to all concerned and is, of course, something that Buildoffsite facilitates all the time.

It is still the case that the opportunities to consider offsite solutions can be compromised by decisions that are taken at the early stage of the project planning process. However, I believe that construction professionals are becoming increasingly aware that such practices do not necessarily ensure that their clients' interests are properly protected. That said, we need to keep making the case for options to be kept open.

In my experience, most people now readily accept that offsite solutions represent a more certain way to ensure right first time quality, that their use will speed the project programme, and will ensure a better handle on predictable performance in use and cost of ownership. The argument is nowadays much more likely to be about cost, but too often this tends to be about initial cost rather than cost in use. For some clients who are simply passing a building on, this may not matter, but for those clients whose business requires the long term use of a building, then it is likely to be a matter of considerable importance.

The offsite supply side is becoming increasingly robust and it is telling that major manufacturers and suppliers are looking to get ahead of the wave in terms of supplying offsite construction solutions and not just supplying commodity relatively low value products. Watch this space for some significant announcements. These changes will serve to underpin confidence in the robustness of the supply chain and will, I believe, also impact significantly on the assessment of initial cost.

So, real progress has been made and as the offsite supply side matures, the arguments for the application of offsite solutions become ever more compelling. What is certain is that the ratcheting up of industry acceptance of offsite

solutions is not suddenly going to go into reverse. We have seen and will continue to see irrevocable change in the way that the construction industry designs and builds. This transformation will continue to gain strength because it makes business and project sense, at a time when the capacity and cost of traditional construction is increasingly uncertain.

There are a couple of developments currently underway that I feel are particularly important in demonstrating the increasing recognition of offsite solutions as business as normal for the construction industry. Firstly, the role of the Skanska-led Offsite Management School to support organisations to develop through e-learning and mentoring the skills that the industry needs to exploit the potential of offsite solutions. This is a great initiative and I am really pleased that Buildoffsite has been able to play a part in supporting the initiative. We will continue to work with Action Sustainability who are the delivery partners for the School. The second development involves putting the final pieces to deliver the first UK Industry Exhibition and Seminar Programme dedicated to offsite solutions – the Offsite Construction Show – which takes place at ExCel on 14/15 October this year. It says something about the vitality and confidence of an emerging industry when it can support its own Event. This marks a watershed moment and again I am delighted that Buildoffsite is working closely with our member Marwood Events to support the delivery of an Exhibition and Seminar Programme that will itself drive a step-change in recognition and acceptance of offsite across the industry.

With the vital support and active participation of our Members - the work goes on...

October Inaugural Offsite Construction Show – on course to be a sell out

The Offsite Construction Show, (OSCS2015), the first ever exhibition devoted solely to Offsite

Construction, will be held for the first time this autumn at London's ExCel on 14 and 15 October. According to Paul Shelley, Sales Director of OSCS2015 organisers, Marwood Events, the show is long overdue: *"This industry sector needs its very own, totally dedicated, all-inclusive nationwide event – something that brings people together, providing focus and real industry perspective, as well as a launch-pad for new products and systems."*

Supported by architects trade association, RIBA and organised in association with Buildoffsite, although three months out from opening its doors in October, OSCS2015 already has an impressive line-up of exhibitors that include Tekla, Howick, FP McCann, Shay Murtagh Precast, geoLOGIC Foundations, Ormandy Group, Modularize, NG Bailey, Portakabin Group, Willmott Dixon, Lloyds Register, Enterprise Ireland, UKCES, JJ Smith, Caledonian Modular, Apex Wiring Solutions, Morland and the MPBA.

This exciting new event will be a must-visit for anyone seriously involved in any aspect of the construction industry, and visitors will see all the latest products and innovations and have reaffirmed exactly why Offsite is the UK's fastest growing construction method.

The show will also feature two in-hall seminar theatres, including one run by Buildoffsite. Details of the exciting programme of presentations started to be released towards the end of June. The show will also feature some live, in-hall tool and machine demonstrations, details of which will start to be posted on the fully featured show app during the summer. The app can be accessed on the show website: www.offsite.co.uk. Please note that no downloads are required and the app is totally cross-platform, so will work with any device with a browser that can connect to the internet.

"OSCS2015 will conclusively demonstrate that the offsite construction sector is now a real force to be reckoned with," concluded Paul.

The exhibitor list is at the end of this newsletter.

For more information, simply call Paul Shelley on 020 3371 0813 or email paul@marwoodevents.com

Offsite visit to Japan

Stewart Dalgarno
(Stewart Milne)

In March, Construction Scotland, supported by Scottish Development International (SDI) and Scottish Enterprise facilitated an Industry delegation to visit Japan on a fact-finding tour to get a better



understanding of the Japanese Housing Market and the role of and drivers for offsite housing. The visit was also used to identify opportunities for knowledge transfer and to apply the learning gained to help shape an offsite strategy for Scotland.

Construction Scotland and SDI have produced a comprehensive report on the visit which will be published in July. Copies will be downloadable from www.cs-ic.org. This is a really important report for those with an interest in the opportunities to develop offsite housing solutions at scale within the UK.

We are not going to attempt to summarise the report, since this really needs to be considered as a whole, but we felt that it would be useful to reproduce a few facts about the Japanese housing market and the learning gained about their offsite housing industry.

The Japanese Housing Market

1. The population of Japan is at 128 million – approximately twice that of the UK

2. The population of Japan is ageing rapidly and declining in overall numbers
3. In terms of land area, Japan is approximately 50 per cent larger than the UK – although much is mountainous and thinly populated
4. Japan is in an active seismic area
5. There are approximately 52 million households, 65 per cent of which are occupied by fewer than 2 people
6. In Japan, there are more than 60 million homes, of which more than 8 million are empty
7. The average lifespan of a home in Japan is 27 years – in the UK it is 84 years
8. Second-hand homes represent only 13.5 per cent of annual housing transactions, with the balance represented by new build. This is almost precisely the opposite of what happens in the UK, where second-hand homes account for 89 per cent of annual sales, with new build accounting for just 11 per cent
9. Japan built 880,000 new homes in 2014, with 60 per cent privately owned
10. In 1988, Japan built 1.4 million new homes (approximately 4 times more than the most ever built in the UK)
11. Offsite housing accounts for approximately 15 per cent of all new homes built. A percentage that has remained constant over the past decade
12. There are 5 major offsite manufacturers: Sekisui, Daiwa, Toyota Home, Panasonic Home and Misawa
13. Offsite manufactured homes enjoy a price premium over traditionally built homes – typically about 15 per cent more, due to their earthquake resistance benefits
14. Most offsite manufacturers are Members of the JPA trade association. All JPA homes are certified
15. Offsite manufacturers market new homes directly to consumers
16. 30 per cent of offsite homes are provided on serviced plots owned by the manufacturer, 40 per cent are for scrap and replace where the

customer already owns the land, and 30 per cent are for condominium development where a property developer or the Government owns the land (build for rent)

17. Recognised benefits of offsite homes include: earthquake proof, zero defects on handover, excellent design, attractive to consumers, significant customisation, branding and after-care
18. Steel accounts for 60 per cent, timber 30 per cent and concrete 10 per cent of offsite homes

The report recognises the strengths of the Japanese offsite house building industry, but also identifies a number of aspects of performance where there is scope for considerable improvement. It is recognised that many of the drivers that have supported the offsite housing industry in Japan will not be transferrable to the UK, for example earthquake proof, short replenishment timescales and depreciating second-hand market, where resale values are low.

What next?

Informed by the visit, the report will give a set of short, medium and long term recommendations for action to support a Scottish strategy for growing an offsite house building industry.

The learning journey is already benefiting Scotland's development of its own Offsite Construction Strategy. Scotland is currently well positioned, with a heritage of factory produced timber frame construction, representing 80 per cent of the housing market. Construction Scotland's overall Construction Strategy already lists timber frame construction as an exploitable USP, with significant current and future economic benefit for Scotland.

The learning gained from the study tour has already helped to develop a more detailed offsite strategy, putting timber frame construction at the forefront of offsite growth in Scotland, the UK and overseas. The strategy includes the creation

of a steering group, with input from industry stakeholders, to develop an action plan setting out how the sector intends to grow and how support from Scottish Government can be provided. This includes training and skills development, through the potential formation of the Scottish Offsite Training Hub. The marketing of Scottish timber frame and associated benefits, the investment in factory production facilities including robotics and automation, as well as lean production principles to maintain commercial competitiveness. The strategy will be facilitated by Construction Scotland Innovation Centre, with Buildoffsite as a member of the steering group.

For more information please email:
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Chartered Institute of Housing Conference & Exhibition

The Chartered Institute of Housing Conference and Exhibition took place from 23-25 June in Manchester. This is Europe's largest and best attended housing event, attracting over 8,000 visitors and 200 exhibitors. The focus of the event is primarily on social housing and it is mainly attended by Registered Providers (including Local Authorities and Housing Associations), ALMO/TMOs, Consultants, Contractor/Developers, Legal, Government Agencies, Funders and Educational Establishments.



Buildoffsite – through the Buildoffsite Housing Hub – exhibited for the first time to promote Buildoffsite and the work of the Hub. Along with a number of Hub Members, Buildoffsite was located in what was branded by the event organisers as the 'Offsite Housing Village'. This was the first time that this prestigious conference has showcased offsite. This development reflects the growing significance of offsite solutions at a time of growing demand for housing and the capacity limitations on the traditional house-building industry to deliver the additional homes that the UK needs.

The Village encompassed not only the Buildoffsite Housing Hub, but also BOPAS, Geraghty Taylor Architects, LocalHomes, Potter Raper Partnership and Climate Energy Homes, which generated a lot of interest. Interested parties were directed to the various interests exhibiting under the 'Offsite' banner.

The stand had a steady flow of visitors and it was clear that the offsite message is getting through to the housing sector. The purpose of exhibiting at the event was not only to promote membership for Buildoffsite and the work of the Housing Hub, but also to heighten the awareness and benefits of offsite construction. This was successfully achieved through the variety of companies exhibiting within the Village and through the number of useful leads that Buildoffsite will follow up on.

Interestingly, it was also an opportunity to discuss with some existing Members the advantages of belonging to Buildoffsite, which are not always understood throughout the various ranks within Member companies. The benefits were many in exhibiting as a Village, but the primary focus was on the collaboration and working together ethos that is so important if we are to meet the identified need for housing in the coming years.

It is clear that as offsite increasingly becomes part of mainstream thinking, Buildoffsite needs to participate at events like the CIH Conference. It clearly added value to the Buildoffsite presence by sharing the stand with Member colleagues.



Brandon Lewis, Housing and Planning Minister at the Department for Communities and Local Government, visited the Buildoffsite Stand.

The Minister, who has policy responsibility for the housing supply in England, recognised both the lead role of Buildoffsite as the voice of the offsite industry and also the importance of offsite in meeting housing need.

For more information about the event or the Buildoffsite Housing Hub please email: carole.chandler@buildoffsite.com

LHC on track to complete their offsite Procurement Framework for new homes

John Skivington

How can offsite construction methods help meet the demand for more house building? The initiative taken by LHC in launching the first national framework for new offsite housing will support growth in the



market for offsite enabled new homes. This is a welcome development which will deliver increased sales for participating manufacturers and, at the same time, give enhanced confidence to housing association and local authority clients.

Despite its chequered history, the offsite sector has come a long way. Social landlords are increasingly turning to the benefits now offered by this method of building to help tackle the housing supply shortage.

Factory-built panelised and volumetric units offer a cost-effective and quick solution to house building, particularly in urban areas, where there is an increasing demand for more housing on pockets of brownfield land. In addition, improved quality, reduced waste and efficient building techniques are helping to drive demand.

As a leading provider of technical procurement advice and procurement solutions, LHC has introduced the first nationally available



procurement framework for offsite built new homes to support this surge in interest. The Offsite Construction for New Homes Framework will help social landlords tap into the benefits of this house building solution. And, once the third and final work stream is introduced later this year, it will offer our social housing clients a complete turnkey solution.

At LHC, we believe offsite manufacturing techniques offer a possible solution for getting good quality, affordable new homes built more quickly – something we see as a priority for local authorities and housing associations. This is the key driver for providing our clients with a framework that covers all of the elements they need so that, with confidence, they too can take advantage of offsite house building methods.

Improved quality, reduced waste, efficient building techniques – that result in less noise,

dust and local disruption – and an energy efficient end product are among the benefits. In addition, it is much faster to build this way, so social landlords can get tenants into homes more quickly and start getting a rental return faster.

The framework takes LHC back to its roots, when we were established 50 years ago to collaborate on 'industrialised building systems' to support the post-war house-building boom. Today, the market is buoyant again. Extensive investment and innovation, supported by tougher regulation, is paying dividends, leading to significant improvements in quality, efficiency, sustainability and compliancy.

The framework has been divided into three different work streams. The first is for 'volumetric building systems' – factory produced three-dimensional units that are transported to site and fixed together. The second is for 'panelised building systems', factory-produced flat panel units that are taken to site and assembled there. These work streams were launched last year. The third work stream to be added to the framework later this year will enable LHC to offer its housing association and local authority clients a complete turnkey solution when it comes to building new homes using offsite construction methods. This option takes the hassle away from buying elements of the supply chain and offers the complete package from start to finish.

With these improvements and the growing interest by councils and housing associations to meet the challenges of needing to build more homes, it is likely that offsite will be part of LHC's framework portfolio for years to come.

For more information please email:
john.skivington@lhc.gov.uk

Offsite prefabrication of buildings

OFFSITE MANAGEMENT **SCHOOL**

The Offsite Management School had a successful first supplier day on 19 June to present the benefits of the School. The day was hosted by Laing O'Rourke at their Explore Industrial Park in Worksop. There were key presentations from Andy Bacon, Head of Procurement at Laing O'Rourke and Kieran Brocklebank, Head of Innovation at United Utilities, highlighting why offsite construction should be embraced by the supply chain. A tour around the Explore site took place in the afternoon.

The next Offsite School event took place on 8 July at the BRE Academy in Watford. Skanska and other major contractors, clients and suppliers attended to find out how the Offsite Management School can benefit their business. The Offsite School has a range of workshops and supplier days, as well as free to use resources. [Join the Offsite School](#) **free of charge** to become a member and this will allow you to access an extensive range of free practical support in the form of e-learning modules, tailored skills-assessment and action plans, training workshops and networking opportunities. See website link below to join the School.

Our current partners include Skanska, Laing O'Rourke, Costain, Carillion, United Utilities and Siemens, alongside leading knowledge-based organisations such as Buildoffsite, BRE, Exelin and Total Flow.

Upcoming workshops are as follows:

Change Management | 30 July | London

This workshop will introduce you to the techniques you need to help your organisation acknowledge and embrace change

Visit: www.offsiteschool.com/support/training-workshops/17/change-management-workshop

BIM | 30 July | South East: TBC

This workshop will introduce you to BIM and explain why it is important to your business. It will also explain the reasoning behind the Government's drive to adopt BIM and what this means to your business

Visit: www.offsiteschool.com/support/training-workshops/22/bim-workshop

Collaborative Working | 4 August | London: TBC

This is a must attend workshop for those who want to get the competitive edge by learning the benefits of collaboration

Visit: www.offsiteschool.com/support/training-workshops/19/collaborative-working

For more information contact Events & Marketing Officer Ursula Cooper on 020 7697 1962, or email: ursula.cooper@actionsustainability.com.

You can also:

- Visit the website: www.offsiteschool.com
- Join the Offsite School: www.offsiteschool.com/login/register.aspx
- Find out more about becoming a partner: <http://www.offsiteschool.com/members-partners/about-our-partners.aspx>

Boosting productivity – can it be done?

In his most recent quarterly briefing Bank of England Governor, Mark Carney talked about the need for substantial and sustained improvement in productivity as the key to ensuring long-term UK economic recovery. He offered a simple slogan: "Doing more with less" to describe the fundamental challenge that we face.



The accompanying message was that the UK's productivity is continuing to decline in comparison to that of other economies – particularly the emerging economies. The challenge we face is not going to get any easier.

Doing more with less is, we believe, something that large parts of the construction industry would be hard pressed to demonstrate in practice. We must stress that this is not a comment about how hard individuals work – it is very much a comment about how efficiently they work or are able to work within the constraints of what is expected within commercial enterprises, reporting lines and contractual demarcations.

Over the years, the construction industry and its clients have been the focus for wisdom infusions from Latham, Egan, Wolstenholme and so on. Few should be in any doubt that the key to achieving increased productivity is very much about working smarter, working collaboratively (not just paying lip service), looking to simplify the process of construction and in so far as possible eliminating those processes and practices that add cost but little if any client value. In short, doing those things that improve the speed of construction, the quality of construction and the value delivered to clients, asset users and customers. This is the essence of doing more with less.

Experience of transformation in other industries has clearly demonstrated that productivity will not improve unless action is taken to change processes and technologies which in turn require a work force with new skills.

There can surely be no doubt that in terms of process change, the construction industry needs to embrace the opportunities to assemble buildings and structures on site from a set of precision components. The new skills required are those that enable designers and constructors to get the most out of the new approach to construction.

An inevitable consequence of such a transformational change is that over time it is likely that the industry needs significantly fewer, but better skilled, people working on site in ways and supported by technologies that enable a step-change increase in productivity. If this doesn't happen, then it is an odds on bet that levels of productivity will continue to languish with little if any prospect of improvement.

To date, perhaps the single most significant transformational change we have seen has been the drive to embed the use of BIM or whatever you choose to call it, into the design and construction process. This is a welcome intervention, but BIM is not of itself a magic bullet that will transform the productivity of the industry and deliver increased value for clients. It may go against the perceived wisdom to say this, but the use of BIM – whilst providing a brilliant digital tool to capture and share data and to allow the better management of the design process – does not ensure that a project will be run efficiently, nor will it do anything to ensure that a project will be delivered on time and on budget. What is missing is a focus on the efficiency of construction processes.

Maximising Value – Focus on where the biggest savings are to be had

Ali Mafi, Lean Thinking

Ali specialises in project time compression. He has 35 years of construction experience, with the last 12 years spent supporting major clients and main contractors, improving their project delivery.



Almost all construction clients would like to see improvement in the value of their projects. Perceptions of value will differ from client to client but in most cases will be based on a

balance drawn between time, cost and quality. Some clients may look no further than getting the same thing for lower cost as being sufficient to satisfy their requirement to improve value. This ambition is understandable but it misses out on the opportunity to secure an improvement in time, cost and quality simultaneously. It means missing out on getting 'more for less'.

Seeking improvements in value can be progressed through measures that challenge:

- The margin: profit and contribution to overheads (perhaps 5-10 per cent of overall project cost)
- The product: what is being specified and built (perhaps 20-30 per cent of overall project cost)
- The processes: How we build (perhaps 60-70 per cent of overall project cost)

In my experience, some clients and their advisors will concentrate on taking cost out of the margin or the product, which together are likely to account for between a quarter and one third of the overall project cost. Relatively few will focus on 'the process', notwithstanding that this effort accounts for most of the project spend.

The margin: Many clients target minimising cost and fixing the added on margins. Competition is often viewed as a way of lowering the project cost by:

- Preventing too high a profit margin
- Encouraging improvement and innovation to the working practices and methods of construction

However, in reality what usually happens is that margins are squeezed. There are a number of implications which flow from this, including:

- It can lead to lower levels of management and supervision
- The supplier may focus resources on higher margin work
- It is possible that quality and time will suffer

In my experience, focusing on margins rarely leads to any sustained improvement in value for the client.

The product: The product is what we build and the industry works hard to reduce costs by changing the product using techniques such as:

- Value management and
- Value engineering

The result can be effective but can also result in de-scoping (taking items out) or re-scoping (opting for a lower spec and cheaper version) which can lead to delivering less for less. In my experience, focusing on the product also delivers very little in the way of sustainable improvement for the client.

The Process: The process is how we design, procure and build. This effort is all time-based and accounts for the bulk of overall project cost. Action to improve the process is likely to be the most effective way to reduce costs. It is also the only way that time, cost and quality can be improved simultaneously in order to deliver 'more for less'. Based on 15 years' experience of working with clients and contractors, the most important lesson I have learned is that the key to achieving meaningful improvements in process requires action to reduce project time and therefore cost. Below I have highlighted a number of opportunities for time compression. These opportunities apply to all projects, in any sector, any stage, any tier and under any form of contract:

Local Efficiency Optimisation: The focus is on optimising labour utilisation, which can only be achieved by batching up work. The associated time savings can approach 50 per cent

Multi-tasking: The practice of working on more than one project or section of a project at a time and jumping between tasks before completing one. This is a highly inefficient way of working, although it may provide an illusion of progress against the overall programme. Associated time

savings from focusing on task completion can approach 40 per cent

Protecting the End Date: The practice of padding out the allocated time for individual tasks as a way of protecting the completion date. No matter how much padding is added, it is entirely likely that it will all be used. Time savings from removing that padding can approach 30 per cent

Being Date Driven: Fixing start dates for work packages in advance so that activities are almost always scheduled to commence on Mondays notwithstanding the opportunities to initiate earlier progress. Time savings from starting a task as early as possible can approach 30 per cent

Process Variation: Delays to tasks finishing on time that are attributable to such things as material not turning up, lack of information, labour shortages, etc. Getting this right can deliver time savings of up to 30 per cent

Prioritisation: Focusing on priority tasks (in terms of the critical path) can deliver time savings up to 20 per cent

Quality: Defective work or work that is not in accordance with specification can have significant implications. Getting this right can deliver time savings up to 20 per cent.

So why, given the opportunities to save time and money, does the status quo prevail? Is it about lack of awareness, lack of skills, lack of confidence, lack of motivation, lack of incentive, a failure of leadership, or something implicit in the procurement process? In my experience, it is all of these things and more. What I still find incredible is that so many clients are content to go along with what has become the status quo in terms of project delivery. The opportunities for savings are considerable without in any way compromising the delivery of quality built assets. Given the necessary motivation it is entirely possible for the construction industry to deliver a great deal more for a great deal less whilst

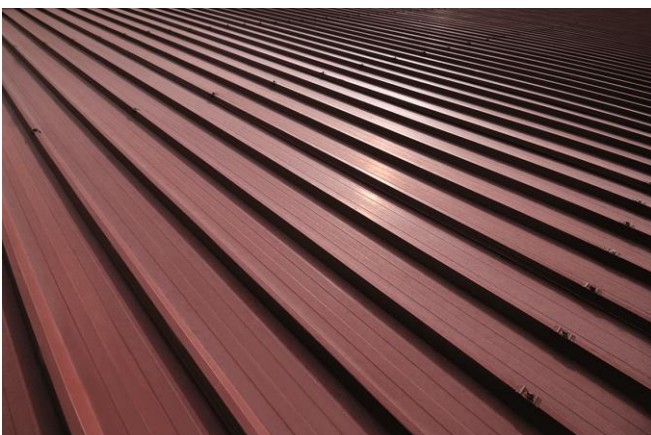
protecting the margins of suppliers that are essential to support business development.

Many of the opportunities I have commented on arise because to a considerable extent what happens on site is still very much based on traditional construction trades, with challenges associated with labour supply, standards of workmanship and poor productivity, and the sheer complexity of managing current construction processes are so often challenging. My belief is that as the construction industry adopts the processes of other manufacturing industries and moves to assembling buildings on site from a full set of offsite manufactured components, then processes on site will have the potential to become much simpler, much more efficient and much less wasteful. However, to get the full benefit, it is implicit that offsite manufacturing processes will also need to become much more efficient. Simply transferring current site based practices to a factory environment will miss the opportunity to bring about transformational change.

For more information, contact Ali Mafi by mobile: 07974 138283 or email: mafia@lean-thinking.co.uk

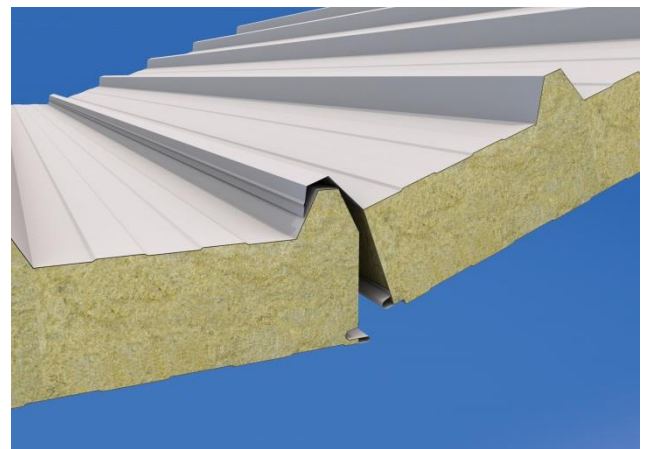
News & Case Studies

Eurobond launches Roofspan



Eurobond has launched Roofspan, a new non-combustible stone wool core, trapezoidal composite roof panel. Combining functionality, and superior fire and acoustic performance, Roofspan delivers a low risk total building solution that is cost effective, with a low environmental impact. Developed as a roofing solution for high risk buildings and manufactured with a non-combustible stone wool core, it gives superior reaction and resistance to fire, certified to LPCB standards.

Roofspan offers significant advantages over conventional site assembled systems, including fast single fix installation, reliable thermal performance and low air leakage, exceeding building control guidelines. The roof panel is quick and easy to install, and the wide spaced trapezoidal steel external skin provides optimum performance for water drainage, strength and walkability.



The Eurobond NRG[®] option is available across the Roofspan range and is particularly suitable for buildings where the underside of the roof is exposed. It uses a special internal steel face that maximises daylight and reduces the requirement for artificial lighting. The result is lower light energy bills for the life of the building, a reduction in the carbon footprint and a positive contribution to material credits in a BREEAM assessment. NRG[®] is a passive energy saving product and the benefits are expected to last the life of the building in normal and unpolluted environments.

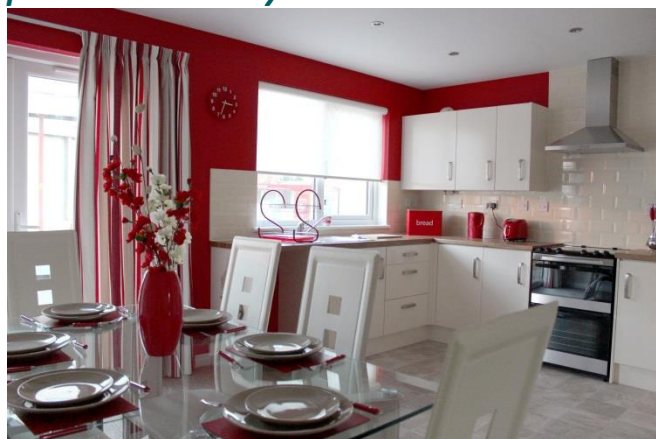
Incorporating aesthetics, functionality and performance Roofspan is manufactured from Colorcoat HPS200 Ultra® and Colorcoat Prisma® pre-finished steel by Tata Steel, complete with the Tata Steel Confidex® Guarantee, providing peace of mind for up to 40 years upon registration.

For more information, call: 02920 776677, email:



sales@eurobond.co.uk, or visit the website: www.eurobond.co.uk.

A cost-effective modular offsite housing product that truly delivers



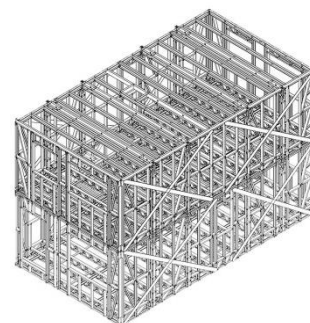
A convergence of issues within the UK housing market has led Premier Interlink (Waco UK Ltd) to develop and launch their innovative Modular Housing solution. This full Housing product has now been launched to the market and has created enormous interest.

Divisional Director David Harris commented that the combination of the housing shortage, a serious skills shortage in the traditional build sector, and the poor safety and quality record on site, led Premier Interlink to turn its research and development team's efforts to providing the market with a high quality modular housing product. With 60 years' experience of manufacturing modular buildings, it was not a significant shift for Premier Interlink to move from producing large scale accommodation buildings for the Ministry of Defence or Student Blocks to a Housing solution.

With the Government push for the offsite agenda, Premier Interlink felt the time was right to develop a full modular house. This highly effective steel frame housing product is manufactured in Premier Interlink's Yorkshire factories to exacting quality levels, in a controlled and safe environment. The era of poor workmanship on site has now been replaced by manufactured quality, replicated time after time.

After a successful product launch in November 2014, the Company's first contract is now in manufacture. This groundbreaking development of Code 5 Sustainable homes has created enormous interest.

The Company offers a scope of works that covers all options up to a fully delivered house. This ensures that the quality of all elements of the build are at high factory levels, avoiding the vagaries of poor weather and poorly skilled site operatives. To supplement the internal ISO 9001 accredited quality system, Premier Interlink also worked with warranty providers to ensure the factory and site processes were fully audited and approved. The Housing system is fully warranted and mortgage-able.



The Housing product is manufactured from a set of thermally efficient steel frames. The product

meets the 5 main elements to achieve a BRE Green Guide Rating of B or above. The structure achieves a fire rating of 1 hour. They are designed to achieve a Code for Sustainable Homes Level 3 or above and the dwellings meet the requirements for Life Time homes.

A variety of envelope treatments can be used from Masonry to Stone, Lightweight render, Timber or Metal Cladding and Rainscreen. The units are flexible, with no fixed module sizes. An efficient design sees the Company deliver a full house within two delivered modules. Larger units can be split into four modules, making connections within the rooms before final completion on site. The design of the dwellings eases future internal re-modelling.

David explained some of the real benefits of the modular approach. He felt Housing Associations would secure the following benefits:

- High quality of build
- A total system approach, giving a flexible design
- Real value for money, due to the manufacturing efficiencies
- An environmentally efficient build process and final product
- Surety of delivery, as the units are subject to a lean manufacturing assembly process
- High standards of safety within the controlled environment
- Total cost certainty by procuring a factory manufactured product

Premier Interlink looks forward to delighting more customers with their Housing Solution.

For more information, call: 0800 3160 888, email: sales@waco.co.uk or visit: www.waco.co.uk. You can also follow us on Twitter: @waco_uk or find us on LinkedIn: Linkedin.com/company/premier-interlink-waco-uk-ltd

Portakabin Hire helps meet demand for school places

Portakabin Hire is seeing an unprecedented demand for primary and secondary teaching accommodation. In just three years, there has been a growth of more than 170 per cent in the Division's education business across the UK. High levels of migration, increasing birth rates and the development of new housing are putting severe pressure on primary and now secondary school places nationwide, with acute rises being seen in London, the South East and in major cities.

Figures from London councils have revealed that 133,000 new school places will need to be created in the boroughs by 2018, and 497,000 additional places are required nationally.



Following the success of a project at Westgate School in Winchester, Hampshire County Council has awarded three new contracts to Portakabin Hire to provide additional primary school places from September 2015 for short-term use, while permanent teaching accommodation is constructed. Hampshire has very high levels of new housing to the north of the county which is close to the M4 corridor and within an hour's commute from London. This has created increased pressure on primary school places in the region. The interim classrooms are necessary to accommodate children while Hampshire County Council develops permanent school extensions and carries out improvements to existing buildings.

Poulner Infants School in Ringwood, St James CE Primary School in Southampton and Trosnant Junior School in Havant will each benefit from a high quality double classroom building from Portakabin Hire which will be in use for two years during the building projects. At Westgate School, Portakabin provided an interim primary school for 60 children, comprising a hall, two classrooms, a covered outdoor learning area, playground and storage hut. These decant facilities were used while the main school facilities were extended to become Hampshire’s first 4-16 ‘all through’ school.

Commenting on the project, Stuart Adlam, Lower School Leader at Westgate School said:
“Portakabin performed really well and with a fast turn-around time, which allowed the facilities to be installed in a very short period before the end of the school year, giving parents the opportunity to see them first hand. The building was sufficiently flexible to be used by our Reception year, and for Breakfast and After-school Clubs. The teaching accommodation looked good, allowed easy access to the outdoor space, and was light, airy, spacious, well ventilated and comfortable. The parents were impressed with the quality of the accommodation. The interim facilities served their purposes very well and we would definitely recommend the solution to other schools needing decant classroom buildings.”

The provision of high quality interim teaching accommodation is a highly effective solution that more schools and local authorities are turning to. The approach allows them to react quickly to peaks in the requirement for places, which can be very difficult to predict and to provide alternative accommodation for pupils when it is necessary for building projects to continue during term time. By providing classrooms of the very highest standards and with a design life of at least 60 years, buildings from Portakabin Hire help to ensure there is no compromise on the quality of the learning environment.

The facilities can be configured and fitted out to the exact requirements of each individual school – as learning clusters, standalone teaching blocks and generously-sized, light, modern classrooms. The buildings can be linked to the existing school, the floor area can be increased or reduced in line with local demographic needs and the accommodation can remain in use for as long as needed.

By completing most of the construction work off site, Portakabin Hire can deliver classroom buildings to very short programmes, ensuring much less disruption to teaching. Installation works can also be timed for the school holidays, to be ready ahead of the new academic year, or for use as decant facilities while new schools or extensions are developed.

***Pioneering education partnership
constructed off site in under four months***



The Portakabin Group has constructed a new sixth form centre in Wakefield using a [Yorkon](#) offsite solution to reduce the programme to just 13 weeks on site. Crofton Sixth Form is a pioneering partnership between Wakefield College and Crofton Academy, which has opened to meet the increasing demand for post-16 places in the region. Crofton Academy was keen to build on its status as a highly successful secondary school catering for 11-16 year olds, with the addition of a new sixth form facility. At the same time, Wakefield College had a requirement to

expand its own post-16 provision in the region. The two institutions formed a unique partnership to create a purpose-designed learning centre.

The concept architects for the scheme were P+HS Architects, who have previously collaborated with the Portakabin Group on a number of Yorkkon projects including the award-winning science centre at Christ College in South Wales. The 528m² building on the site of Crofton Academy was handed over after just 13 weeks on site and the craning phase was carried out during school holidays to minimise disruption to teaching. Its distinctive external envelope features a bold green and black vinyl wrap which contrasts with the building's dark grey external finish.



Commenting on the project, Jon Howard, Director of Estates at Wakefield College said: *“The use of a Yorkkon offsite solution radically reduced the programme time and the impact of construction on the school’s existing operations. We simply could not have achieved that with site-based construction. We have a very good relationship with the Portakabin Group and their team met every one of their commitments. The building’s performance and appearance have exceeded all our expectations. We wanted an eye-catching facility and that’s exactly what has been achieved. It definitely has the ‘wow factor’, and reflects the college’s identity and values very well. The new facility has been exceptionally well received by everyone who has visited it, including other schools and colleges. The internal layout utilises every inch of space and we now have an*

outstanding sixth form centre for up to 150 students. I’m also delighted to report that this is the first building I’ve ever received with absolutely no defects.”

Phil Bentley, Director at P+HS Architects, said: *“We recommended a Yorkkon solution for this project having worked with the Portakabin Group previously. We knew the approach would result in delivery of the building on time, on budget and built to a very high standard – and to a much shorter programme than on-site construction could achieve. Their team is always thorough, proactive, and often brings additional thoughts and ideas to a project, as well as aesthetic flexibility. Use of a Yorkkon solution will also allow the sixth form centre to be expanded very quickly in the near future to meet the increasing demand for places.”*

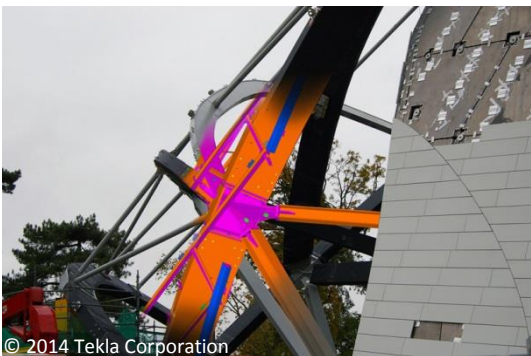
The building was designed with partitions, which will be removed to open up the spaces on completion of the second phase, and Portakabin has already installed the ground works and service infrastructure required for the sixth form’s expansion. This was a particularly challenging project, with the site being located so close to existing school buildings and between steep grass banks. This involved the use of a 500-tonne crane to lower the steel-framed Yorkkon modules into position. Portakabin provided a full service for this project, including modular design and engineering, manufacture, fitting out and landscaping.

Facilities at Crofton Sixth Form include six classrooms, a quiet study area, computer suite, common room, office, circulation areas, lift, toilets with disabled access and plant room. All teaching and study areas have full IT connectivity and one of the classrooms has a computer game design facility to accommodate a specialist course offered by the college.

For further information, call 0845 2000 123, email info@yorkkon.co.uk or visit www.yorkkon.info

Tekla launches Structures 21 – improving construction project workflows

Tekla has introduced Tekla Structures 21, the latest version of its BIM software for the engineering and construction markets. With advancements in drawing control, interoperability, usability and performance, Tekla Structures 21 improves industrial and commercial construction project workflows across construction disciplines – delivering benefits to structural steel and precast concrete designers, detailers and fabricators, concrete and general contractors. As well as enhanced collaboration with Mechanical, Electrical and Plumbing (MEP), plant design engineers, architects and others. In conjunction with Tekla Structures 21, Tekla is also launching two new and unique services: Tekla Model Sharing and Tekla Warehouse.



Risto Rätty, Executive Vice President, Deputy CEO of Tekla and General Manager of Trimble Buildings Structures Division said: *“After a decade in use, Tekla Structures continues to further the evolution of BIM from experimental to an essential part of designing, engineering and building of all types of buildings and structures. Tekla Structures 21 reduces the time between concept and construction by enabling advanced project team collaboration and productivity, and allowing free flowing communication between all project stakeholders. The end result is the efficient design and building of better structures.”*

Enhanced Collaboration and Workflow:

Improved Reference Model Handling – Collaboration with other trades is easier with

Tekla Structures 21’s improved reference model handling, whether the reference model’s file type is IFC, DGN, DWG or SKP

Better Industrial Project Workflow – Integration with industrial plant design software improves interoperability for plant or offshore construction projects. All while the improved link with Intergraph Smart 3D means better model information transfer and the new bi-directional link with AVEVA PDMS introduces better management of information transfer and changes

Smoother Integration and Export – Integration with Autodesk’s Revit Architecture and Revit MEP, and Trimble SketchUp Pro offers improved collaboration opportunities between architectural project teams. Tekla Structures 21 automates the export of models and drawings downstream, to smooth project workflows

Enhanced IFC Change Management and Control – Enhanced IFC change management enables users to detect, manage and accommodate changes with more control

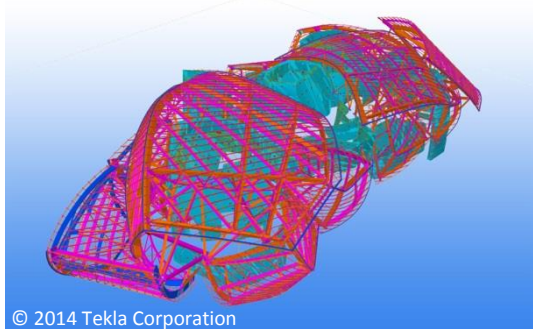
Simpler, more Efficient Modelling – Drawing construction lines, circles and points and placing custom parts is straightforward as is editing the positions. In addition, the Organiser allows accurate, object-based model data for material quantity take-offs

Drawing Control and Automation – Simplifies the processes of navigating, printing and viewing drawing properties for greater view-level control and allows users to give customised company-specific dimensions to their own standard parts, such as bolts and embeds

Better Concrete Pours – Tekla Structures 21 makes modelling cast-in-place concrete and modifying pours and pour breaks easier and more reliable. This is because concrete pour information is now automatically inherited after a pour break; no vital information will be lost

Tekla Structures 21 has been introduced at the same time as two new unique services:

- **Tekla Model Sharing:** This service allows project team members to work on the same Tekla model from any location or time zone for delivering projects faster and with more flexibility
- **Tekla Warehouse:** A free online library of Tekla Structures add-ons, libraries and templates, allowing users to achieve more efficient workflows and higher quality projects



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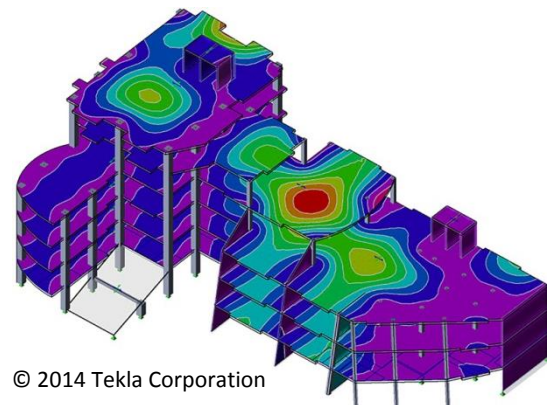
Tekla Structures 21 is available now. For more information and to download Tekla Structures 21, visit: www.teklastructures.com or contact Risto Rätty by email: risto.raty@tekla.com.

Tekla launches Structural Designer – a new way to analyse and design buildings

Tekla has added Tekla Structural Designer to its portfolio – a dedicated analysis and design software for structural engineers working on commercial building projects. Tekla Structural Designer complements Tekla Structures, extending the benefits of 3D modelling for

engineers with an innovative approach that combines analysis and design into a single, seamless process. Tekla Structural Designer's sophisticated loading and analysis functionality, fully automated design, high-quality documentation and seamless BIM collaboration allows engineers to analyse and design buildings more efficiently and cost effectively.

Tekla Structural Designer offers powerful features for optimising concrete and steel design, and enables engineers to compare alternative design schemes quickly, efficiently manage changes and collaborate seamlessly. Regardless of project size or complexity, Tekla Structural Designer's fully automated, productivity-enhancing capabilities enable engineering firms to successfully bid on more projects and enhance their client service.



© 2014 Tekla Corporation

Barry Chapman, Director of Engineering Segment at Tekla, said: "Many of us at Tekla are engineers ourselves and understand the importance that productivity, value engineering, constructability and change management play in the design and build process. We've created and added Tekla Structural Designer to our Tekla product portfolio to further extend the benefits of 3D modelling directly to engineers, by bringing them the power to analyse and design better in a way that can save time, cut costs and provide a competitive edge."

Tekla Structural Designer meets the real-world needs and challenges of engineers.

For more information, visit:

www.tekla.com/tekla-structural-designer or [view the Tekla](#)

Structural Designer video at:

<https://www.youtube.com/watch?v=Xsh50VvNM0s>

The McAvoy Group – The Crypt School, Gloucester

The Crypt is a boys’ selective school on Podsmead Road, Gloucester for pupils aged 11-18, with a co-educational Sixth Form. The school, which was rated ‘outstanding’ in an Ofsted inspection published in May 2012, is one of the oldest in the UK with a history stretching back to the 16th century.

The Requirement: The historical school needed new-build teaching facilities for a range of subjects.

The Solution: The McAvoy Group was appointed to design and build new teaching facilities for several subjects including science, engineering and mathematics at the two-storey secondary school. Facilities include fully fitted out science rooms intended for use by the physics department, and engineering and robotics room with pneumatic system installed as well as toilet blocks and office accommodation.



The 983m² modern, high specification build features a ground floor construction with steel floor cassettes with 200mm insulation and

plywood U Value, insulated timber wall panels with a single brick course to 2.325m with render above to external walls, a parapet roof construction with single ply membrane on insulated deck.

Other elements of the build included PPC aluminium windows and doors, polycarbonate rooflights with new wall-mounted gas fired condensing system boilers providing the heating with a wall-mounted programmer and system control with two-stage frost protection. New radiators with integral thermostatic valves, matching lockshield valves and steel radiant panels were also installed throughout the building. Meanwhile, there is mechanical ventilation to the ground floor featuring Airmaster units and natural ventilation, manual open windows with trickle vents and roof lights to the first floor which can be opened.

The build also has impressive green credentials which include FSC certified timber products to walls, roof and floors, while aluminium windows and doors, floor and roof finishes were chosen for their recyclability qualities. Finally, low energy light fittings and daylight controls will maximise energy use and keep running costs down for the school.



The project was delivered in 22 weeks which was ahead of programme and within the specified budget.

The team from McAvoy delivered the new school facilities within a busy live school environment with site access through a playground which was in use. McAvoy co-operated with the school on all occasions to ensure the staff and students were involved throughout the build process. The project is also part of the Considerate Contractors scheme.

For more information on this project, please contact: Orla Corr, Chair of the McAvoy Group on email: orlacorr@mcavoygroup.com.

Shepherd PRISM deliver the first of four Telford Co-operative Academy scheme plant rooms

Telford Co-operative Academy is due to open in September 2015 and will be a school for 11 to 16-year-olds. As a Performing Arts and Business and Enterprise school, it will have 1,200 places available and will provide state-of-the-art facilities and fantastic learning resources for students and the community. The Academy is part of Telford and Wrekin Council's £200 million Building Schools for the Future scheme which includes the development of six new schools.

The Telford and Wrekin project has seen close collaboration across Shepherd, with Shepherd PRISM delivering a fully integrated two section plant room. Using a standardised model in the collaborative pre-construction thinking phase, resulted in three of the four plantrooms being identical; the remainder only required minimal changes which generated maximum efficiencies

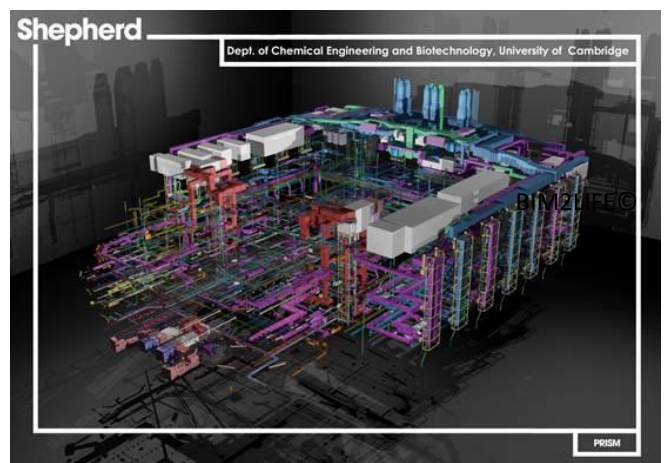


in design, BIM, fabrication and procurement costs.

A close relationship between the Shepherd Engineering Services teams in BIM and Shepherd PRISM has brought additional benefits to the project as the detail could be identified in real-time which minimised drawing approval periods and reworks.

Shepherd PRISM up to speed at CEB Cambridge

The Department of Chemical Engineering and Biotechnology (CEB) at the University of Cambridge are awaiting a move into their new home during the course of 2015. Shepherd Engineering Services are due to complete works in July 2015 and significant progress has been made to date with a substantial volume of work which has been undertaken by Shepherd PRISM.



CEB's new £60million building – including two 120-seat laboratories, open plan research write-up space and academic and administration offices – is the first of its kind to facilitate collaboration

between undergraduates, postgraduates and researchers through the whole cycle of scientific investigation.

Faced with this mounting client anticipation, the value of using offsite solutions has come to the fore: *“There has been much work expended in the factory to ensure we achieve our 2-25-50 strategy, at Integrated Project Delivery stage 1 and the ongoing integrated project delivery stages. The whole team set out the plan to maximise off site delivery and have been smart in their thinking with new and innovative solutions developed for the project, a beacon project for Shepherd PRISM,”* said Chris Catterick, Non-Executive Director of Shepherd PRISM.

New Members

C-Probe Systems Limited is a
C-PROBE
manufacturer of products for the management of the whole life performance



of structures. *Graeme Jones, Managing Director*
Its products include low carbon alkali-activated (geopolymer) binders for restoration and build, fireproof ICCP/FRP for structural strengthening, galvanic and impressed current anodes for corrosion protection, embeddable probes and sensors for structural health monitoring and network management systems for service life remote control and tracking of performance online.

These products are aimed at providing constructions that are controllable against the effects of corrosion whilst being intrinsically resistant to fire, chemicals and the environment that provide durable solutions for the service life

of reinforced concrete and masonry structures. Our WoW Smart™ technology provides future-proofing of precast structural elements with wet-on-wet cast-in cathodic protection that uses structural health monitoring for the tracking of the whole of its service life. Our internet management system (AiMS) allows engineers and owners to assess ongoing performance at the click of a mouse in the office or on the go.

The company has received many prestigious international awards with the most recent Fiotech CETI award 2015 for New Materials, Methods, Products and Equipment for its controllable geopolymer bed joint anode used to protect and restore heritage steel frame buildings from corrosion as one example of its expanding innovative product range.

For more information, please contact Graeme Jones on his mobile: 07747 012960, by email: gjones@c-probe.com, or visit the website: www.c-probe.com.



calfordseaden is a leading multi-disciplined construction and property consultancy with a trading history of almost 70 years. We provide a definitive range of services to the UK building and construction industry



covering Building Surveying, Quantity Surveying/Cost Consultancy, Project Management, Employer’s Agent/Client Representative, Architecture and Masterplanning, Civil and Structural Engineering,

Mechanical and Electrical Engineering, Sustainability, Clerk of Works, Health and Safety, and CDMC. Through these complementary and mutually supportive competencies, we provide our Clients with a truly multi-disciplined service.

We are appointed on a variety of projects across all disciplines from single buildings to multi-million pound mixed-use regenerations. Our project portfolio encompasses all forms of housing including general needs rent, shared ownership, private sale, market rent, intermediate rent/keyworker, sheltered, supported, extra-care and student accommodation. We also work within the commercial, industrial, health, education, community, retail and leisure sectors.

In the last five years we have worked with public and private sector clients on completed construction projects totalling over £1.5 billion. We are currently commissioned on projects valued at over £1 billion. We have extensive experience in traditional construction, but are also a leading authority in the design and use of modern methods of construction, sustainable design and construction, renewable technologies, 2012 construction commitments, and other important factors pertaining to construction and property development. For more information, please contact John Spence on: 01689 888222 or email: jspence@calfordseaden.co.uk.



Shay Murtagh Precast is a family owned company that since commencing in business in 1975 have become industry leaders and specialists in the design and manufacture of a wide range of infrastructural precast concrete products for the civil engineering and construction industry throughout the UK and Ireland.

The company specialises in prestressed and precast concrete products for the rail, road and water/waste-water sectors, and the product range includes concrete storage tanks, bridge beams, tunnel

segments, culverts and lift shafts, as well as many bespoke products for all market sectors.



*Liam McGovern,
Commercial & Construction
Director*

Our expertise in innovative design, manufacture and delivery of value engineered precast concrete solutions for the infrastructure space is fully aligned with our mission statement of 'Proven commitment to consistent on time delivery of Infrastructure' and this has provided our extensive client base with a service that removes doubt and risk.

The company has been and continues to be involved in many significant projects across the UK over recent years, including Crossrail, supplying over 28,000 tunnel segments to the HMJV constructed tunnel that went under the river Thames in east London. We also supplied the larger bridge infrastructure beams to the Reading Viaduct for Balfour Beatty, and are currently in design and pre-manufacture phase on the Mersey Gateway Viaduct Bridge for the Keir, FCC and Samsung-led Merseylink Civil Contractors group.

For more information, please contact Liam McGovern by email: liam@shaymurtagh.co.uk, or call: 0844 2020263, or visit the website: www.shaymurtagh.co.uk.

The Offsite Construction Show Exhibitor List

Adept Consulting (UK)	Knauf	RIBA Journal
Apex Wiring Solutions	LHC	Roan Building
Architab Solutions	Lloyds Register	Rollalong
Arv Solutions	Merk Timber GmbH	Senior Architectural Systems
Buchan Concrete Solutions	Millbrook Transport	Shay Murtagh Precast
Buildoffsite	MMC	SIA Nordic Homes
Caledonian Modular	Modern Methods Of Construction	Sidey
Central Site Accommodation	Modular & Portable Building Association	Simply Precast
CPM Group		Simpson Strong-Tie
Cygnum Timberframe	JJ Smith (Modular Building Automation)	Spanwright UK
Danilith	Modularize	Stanton Bonna Concrete
ela8	Morland (Newmor Group T/A)	Stewart Milne Group
Enterprise Ireland	NG Bailey	Techrete
Eurobond Laminates	NM Group	Tekla
Fabric First Accademy	Offsite Management School	Tremco Illbruck Coatings
F1 Modular	Oran Precast	Trend Control Systems
FP McCann	Ormandy Group	Trent Construction Services
Futureways Homes	Per Aarsleff (UK)	UKCES
geoLOGIC Foundations	Pinnacle LGS	Voestalpine Metsec
Geraghty Taylor Architects	Polarwall	Premier Interlink (Waco UK Ltd)
Howick	Portakabin	Wernick Buildings
Invest Northern Ireland	Progress Holding	Willmott Dixon Construction
J & J Carter	R&M Fixings & Supports	Zehnder Group UK
Jackpad	RIBA	Zutec Technologies