



2017 Awards

Winners

Headline Sponsors

Without our sponsors, we could not host what has become such a great celebration of Welsh construction, so thank you once again to our headline sponsors Costain and ABC Electrification and all our other supporters in this, our eleventh year of the CEW Awards. All of our sponsors are tremendous supporters of Wales, its supply chain and the best practice principles advocated by CEW and the wider industry. Thank you for your ongoing commitment. For so many of our stakeholders – and this is proven in all the award entries we receive each year – collaboration is now second nature. It is just 'how we like to work' to so many of you: in partnership with customers, with employees and teams, with businesses and suppliers, with the communities you serve and the natural environment. Where ever we work as an industry, we create real legacies for future generations, in terms of skills, knowledge, aspirations and an improved environment. That's what we are celebrating at the CEW Awards with the help of our sponsors. Thank you.



Costain is one of the leading UK engineering companies, working in the energy, water and transportation sectors. They are justifiably proud of their track record in Wales including Porth Relief Road, Church Village Bypass and Port Talbot Harbour Way. They are currently delivering Section 2 of the Heads of the Valleys road and the early stages of the M4 Corridor around Newport, M4 Junction 28 and Brynglas Tunnels refurbishment projects. Costain is proud to have received several CEW awards, including the UK Best of the Best Award for Porth Relief Road in 2007.



ABC Electrification (ABC EL), the partnership between Alstom, Babcock and Costain, combines design, engineering and delivery expertise across all electrification activities. ABC EL won its first contract in 2013 working on the West Coast Power Supply Upgrade programme. Since then ABC EL has been awarded two of Network Rail's National Electrification Programme (NEP) framework contracts for London North Western (South) and Western and Wales. ABC EL, as the delivery partner of Costain, have been working as part of an alliance contract to develop the overhead line equipment works scope, programme, target prices and construction of the Edinburgh - Glasgow Improvement Project (EGIP).

Recently ABC EL have been working on Stirling-Alloa-Dunblane (SDA) electrification programme, Walsall to Rugeley electrification project, London Overground Capacity Improvement Programme (LOCIP) and Bromsgrove Electrification project.

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Introduction



This past year has been somewhat of a breath-taking roller coaster of news, views and events in politics and not least construction.

The world is changing and we need to keep pace. Construction must constantly evolve and lead from the front and not be driven by events. Thankfully, the examples of best practice captured in this winners' brochure proves that Welsh construction remains ahead of the curve.

What I urge everyone reading this document is not to sit back and rest on

the laurels of success, but use this to educate and inform people of the role construction performs in Welsh society.

Done right, construction can be the great enabler for Welsh economic, social and environmental success. If it is not delivered in the manner so well demonstrated by our winners of the CEW Awards 2017, then we run the risk of a return to the period of late projects, budget over runs and a drift toward price ahead of value.

The CEW award winners are the tip of the iceberg of best practice championed by CEW stakeholders, but they are the best examples and point the way forward.

We must all learn from them.

Then, building on that knowledge we must work together to educate, cajole, castigate and influence decision makers from Government and civil servants to board room and then down to site practices to ensure we build for future

generations. If we ignore the lessons spelled out in these winning projects and processes then we will endanger the built environment for generations to follow.

These winners embrace change. They prove that change is good.

If we do not follow their lead and evolve, then, at worst, the construction industry is not sustainable. We need to heed the words of Mark Farmer: construction must modernise or die. We need to embrace the ideas within the circular economy otherwise we will build for the short term and not the future of Wales. We must take these arguments to policy makers and funders.

CEW is fighting hard to make that case on your behalf. What we are doing – much of it with your support – helps the industry to keep evolving, make a margin and survive in very dynamic socio-economic political landscape. Right now, a major concern is that construction is not properly represented at a senior Government level – in Wales or across the UK. This lack of a voice leads to major risks around process, design, safety and a commitment to an integrated approach to our built environment.

CEW will give construction a voice as an independent pan-industry champion of best practice.

What's more, we will be using the examples of these outstanding winners of the CEW 2017 Awards to showcase just what can be achieved and the commitment required. So, congratulations to our winners and good luck in the CE national awards in November and thank you to our judges and to our sponsors.

Thanks to all of you for being involved this year – please keep up the good fight for best practice and Constructing Excellence in Wales.

Rhodri-Gwynn Jones

Chair, Constructing Excellence in Wales

Award Judges

Without the support and commitment of our judges we would not be able to run the awards every year. We would like to express our sincere thanks to each of them, they are the unsung heroes for our awards programme.

Mark Bodger

Strategic Partnership Director for Wales
CITB

Mike Edmonds

Independent Consultant
Altmore

Professor John Edwards

Director
Edwards Hart Ltd

Ed Evans

Director
CECA Wales

Andrew Gibson

Partner
Cushman & Wakefield

Chris Gray

Director
C D Gray Associates

Vince Hanly

Director
VH Procurement Consulting Ltd

Leigh Hughes

Business Development & CSR Director
Bouygues UK (BYUK)

Sara Ifan

Architect
Powell Dobson Architects

Rhodri-Gwynn Jones

Chair of CEW

Helen Kane

Chair
RICS Wales

Colin King

Director
BRE Wales & SW

Simon Lander

Partner
ChandlerKBS

Paul Lavelle

Associate Director
Faithful + Gould

Professor Peter McDermott

Professor of Construction Management
University of Salford

Tony Norris

Partner Infrastructure & Construction
Geldards LLP

Geoff Ogden

Interim Managing Director and Programme Director
Transport for Wales

Tim Peppin

Director, Regeneration and Sustainable Development
WLGA

Ioan Prydderch

Head of Construction, Energy and Projects
Hugh James

Daniel Rossiter

Senior BIM Communicator
BRE Wales

Lynda Sagona

Chief Executive
United Welsh

Andy Sutton

Associate Director
BRE Wales

Professor Andrew Thomas

Director,
Diligentia

Nick Tune

CEO
coBuilder UK

Pierre Wassenaar

Director
Stride Treglown Architects

Andrew Wedlake

Construction Director
Contract Services (South Wales) Ltd

Integration & Collaborative Working Award

Judges: Mike Edmonds Ed Evans Simon Lander

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Dyfatty Refurbishment – Interserve Construction

Interserve led a project to refurbish social housing flats on behalf of City and County of Swansea. The works, carried out over two years, were highly complex in scope, including everything from structural repairs to rewiring, new lighting, and kitchen and bathroom makeovers.



But the real challenge was carrying out the works while all 120 flats were occupied. The project was a model of collaborative working; Interserve involved its key partners, subcontractors and supply chain at an early stage to share knowledge, discuss better ways of working and ensuring the tenants' wellbeing was central to the planned operations.

Tapping into the collective experience and knowledge of the supply chain produced several examples of small but telling improvements, such as AW Shopfronts' ingenious window detail that the council intends to apply to future projects. One-team working with transparent, open communication streamlined decision-making and ensured changes were efficiently communicated to all relevant parties, helping to bring the project in 14 weeks early. The delighted council awarded scores of 10 out of 10 across the board in the post-contract client satisfaction survey. But what makes this project truly outstanding is the mood of support and goodwill fostered by the project team to counter the invasive nature of the works. Many of the tenants were vulnerable, and the team faced language barriers, illiteracy, mental health issues and the needs of groups such as students and shift workers.

The council, Interserve and, notably, Contract Services – a South Wales-based SME with expertise in the requirements of the Welsh Housing Quality Standard (WHQS) – worked together to manage tenant relations, responding where possible to their concerns. For example, unsightly garages were demolished



“The delighted council awarded scores of 10 out of 10 across the board in the post-contract client satisfaction survey.”

to provide a safe pedestrian area. The liaison strategy ensured that tenants were involved and consulted throughout. Liaison officers provided by Contract Services in conjunction with the council provided advice, information and practical help, creating an atmosphere of warmth, friendliness and goodwill that was singled out by the judges. The tenants appreciated not just the finished result, but the way the works were undertaken and their own inclusion in the decision-making process.



SME of the Year (1-50 employees)

Judges: Chris Gray Helen Kane



Lawray Architects

Lawray Architects, founded in Cardiff in 1974, has successfully traded through five decades, surviving recessions by staying true to its core values of professionalism, quality, teamwork, integrity, personal growth and environment.



These values underpin a robust survival strategy based on adapting to change and investing in people. The strategy has yielded a remarkable retention rate – 100% in the Cardiff studio over the past four years. Today's 27-strong team benefits from a culture of inclusion and support that stems from the top down; the 'full inclusion' management structure and ethos assures every member of staff that they are valued and cared for, with an open-door policy and regular outings and away days to encourage team spirit and bonding.

Benefits range from childcare vouchers and tax-free bikes for work to a wellness package that includes virtual GP appointments and 24/7 counselling. The company has recently been named as the only Welsh practice to embrace the living wage. Lawray's significant investment in training, research and development over the past three years covers a range of measures, from supporting best practice industry events to coaching, mentoring and training with internal and external providers.

Personal training plans were adopted as standard in 2015 and are discussed with employees regularly, outlining personal objectives and agreeing bespoke training and development plans. A major investment in IT infrastructure to achieve level 2 BIM across the company provided an opportunity to develop the skills and boost the productivity of the entire team. There is a plan to reinvest profits into the development of software training packages to suit different abilities. Improved productivity is rewarded in a number of ways, such as the opportunity to work flexibly.



Annual staff appraisals are tied to remuneration, whereby each individual's salary is reviewed against performance and improvement and adjusted accordingly. Lawray also impressed the judges with its emphasis on fostering open, trusting relationships with clients and suppliers. Its culture of honesty and mutual respect, avoiding egotistical and claims-conscious behaviour, has ensured decades of repeat business and helped build a solid, reliable supply chain that works well together and adds value to projects. One of the company's most important priorities is communication. In a small but telling initiative, staff make conscious efforts to avoid using email when they can pick up a phone and talk, improving working relationships and decision-making.

SME of the Year (51-250 employees)

Judges: Chris Gray Helen Kane



Jistcourt (South Wales) Limited

Jistcourt South Wales, established in 1980, is an expanding building contractor with currently 85 employees.



“The company is a great believer in developing its own people, and there are ‘pathways’ to help employees upskill and progress their career.”

The company has established a number of collaborative agreements with housing associations and local authorities across South Wales, and has doubled its turnover in three years. Its success derives in part from the strong focus on quality that underpins its management of every project. But what really impressed the judges was its investment in people as a core plank of its growth strategy. The company is committed to the development of its employees and has an excellent structured training programme in place.

Jistcourt currently employs eight graduates, five trainees and 11 apprentices, all of whom are following a structured training and development plan. Jistcourt ensures that every employee has up-to-date mandatory certifications, and there is a rolling training plan for any other relevant training that is requested.

The company is a great believer in developing its own people, and there are ‘pathways’ to help employees upskill and progress their career. For example, labourers can gain the relevant experience to become a foreman, moving them on to the site manager pathway. People are also integral to innovation and continuous improvement within the company. An in-house suggestion scheme produced the idea for a tablet-based site inspection system called i-Auditor which has greatly improved productivity.



People who have come up with a winning idea have the opportunity to turn their suggestion into a project, working with the implementation team. Other suggestions have included the introduction of a welfare van on certain sites. Judges also singled out Jistcourt’s care for local communities, encouraging employees – up to and including directors – and the supply chain to volunteer their time and skills outside of work. Its list of community projects is long and impressive, ranging from kitchen refurbishments for a nursery and community centre to litter picking, plastering, school improvements and playground upgrades, and demolition of a boundary wall.

An admin/tenant liaison officer is appointed for every project to ensure good communication and smooth operation, and the company has a structured, collaborative approach to local sustainability. It is justly proud of its silver Investors in People award, received in October 2016. The judges felt that Jistcourt had a clear understanding of its business and the role of training in closing the skills gap, both for itself and the wider industry. This is a company that really is making a difference.

Sustainability Award

Judges: Colin King Tim Peppin Lynda Sagona

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Holywell Learning Campus – Galliford Try

This award recognises projects that leave a positive legacy in terms of both impact on the environment and value to the community. The project to build a new learning centre on the site of a demolished high school has delivered in spades.



“More than 50,000 tonnes of site soil was reused for landscaping, representing 99.9% of soil reuse on site.”

Flintshire County Council wanted a BREEAM Excellent building designed using BIM level 2. From the start, Galliford Try ensured that sustainability was embedded in every aspect of the project, exploiting the capabilities of BIM level 2 to reduce the whole life cost of the building. The judges were particularly impressed by the project team’s approach to working on an exceptionally challenging site, requiring a design to fit extremely uneven ground. The demolition of the old high school left a huge amount of waste, necessitating a plan to reuse as much of the soil and demolition detritus as possible. In the end, 90 per cent of on-site demolition waste was reused, with six per cent of the remaining waste recycled.

More than 50,000 tonnes of site soil was reused for landscaping, representing 99.9% of soil reuse on site. The building’s sustainability credentials are impeccable, with use of renewable technologies, energy-efficient plant and controls, sustainable procurement and sourcing of materials all contributing to a BREEAM Excellent rating. But what really marks the project out is its engagement with the community and the palpable passion and commitment to improving local people’s wellbeing.

Galliford Try calculates that the project has delivered £77 million social return on investment, which means that every pound spent represents £3 of wellbeing value to society. These dry statistics disguise wide-ranging efforts to provide employment and work opportunities to improve the life chances of local people, as well as investment in the local and regional economy. Seventy-six per cent of the budget was spent within 30 miles and 93% of the subcontractors were SMEs.



The project team worked closely with subcontractors to promote local investment, cascading the commitment down the supply chain. A ‘one team’ approach to sustainability encouraged each team member to identify ways in which they could contribute to the agenda. Working in partnership with employment stakeholders, Galliford Try and its subcontractors provided 55 employment opportunities and 19 apprenticeships. A diverse programme of educational and community activities helped to inspire young people and boost their employability, including careers fairs, safety talks, site visits, mentoring for local students, BIM workshops, and celebration events such as slate laying, steel-beam signing and time capsules. It all adds up to a ‘terrific’ project that took its environmental responsibilities seriously, delivering what the judges called ‘a first-class sustainable design and a finished solution which provides a living, breathing building.’



Health, Safety & Wellbeing Award

Judges: Mark Bodger Chris Gray

Knox & Wells Limited

Knox & Wells is a contractor employing 72 staff with a turnover of £18 million. The company has always endeavoured to create a caring, supportive culture for its workforce, but decided it needed to be more proactive in getting employees and suppliers to buy in to its health and safety philosophy.



Confronted with a degree of scepticism among staff, Knox & Wells focused on changing behaviour through a bespoke ABC (achieving behavioural change) programme, together with initiatives to 'show people that we actually care'.

For example, when the company decided to make a significant investment in new plant, employees extensively trialled the proposed equipment, and the final choice was based on their feedback and recommendations. Regular health surveillance assessments have also been introduced. But Knox & Wells wanted to go further, fostering the same personal, collaborative approach to health, safety and wellbeing among its supply chain.

This was a challenge, given that its subcontractors are SMEs with limited management resources. However rigorous the health and safety procedures in place, local subcontractors struggled to provide adequate supervision on small projects and found the time and paperwork involved in producing risk assessment and method statements (RAMS) daunting. Many were reluctant to invest in health and safety during an economic downturn. Knox & Wells' innovative solution has been to organise free training sessions in small, mixed trade groups, creating a non-competitive environment in which people can freely discuss the issues. To ensure the sessions are taken seriously, they are led by Knox & Wells' Managing Director.

The seminars provide a unique level of mentoring support, encouraging suppliers to adopt best practice and prioritise employee wellbeing, such as through raising awareness of the living wage. Progress is reviewed at follow-up one-to-one meetings, and support is offered to improve standards and procedures. As a result, many subcontractors have reviewed their occupational health procedures, introduced health assessments, rolled out Knox & Wells' training programmes across their own workforce, and introduced point of work



“The accident frequency rate has fallen from 5.83 in 2014 to 4.11 in 2016.”

risk assessments. The accident frequency rate has fallen from 5.83 in 2014 to 4.11 in 2016. The judges said that the company's commitment to its workforce and supply chain shone through in its submission, and the decision to invest in health and safety during a recession was brave. The hands-on attitude of senior management has been key to the success of a proactive approach that has brought about real change within the company and transformed the culture of its supply chain, as well as making a difference in the lives of individual workers and their families.

Value Award

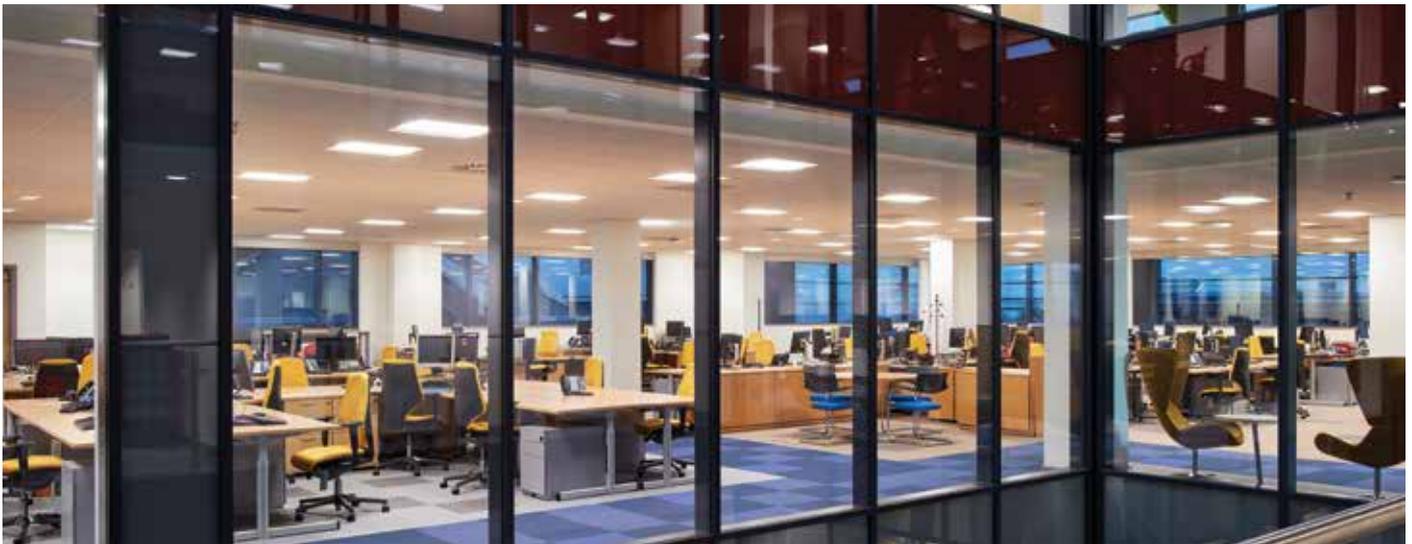
Judges: Mike Edmonds Leigh Hughes Simon Lander

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Our Space – Public Health Wales

In 2016 Public Health Wales (PHW) moved from nine satellite offices to occupy four floors of a new, open-plan office in a regeneration area of Cardiff. PHW seized the opportunity to use the fit-out as an intriguing demonstration of how to maximise value from investment in office accommodation.



At a time of austerity, with public bodies like the NHS needing to make the most of every penny, the fit-out project revealed an innovative new approach to procurement that challenges traditional sourcing methods. The Wellbeing of Future Generations Act requires organisations to improve the social, economic, environmental and cultural wellbeing of Wales by thinking long term and working with people and communities in a more joined-up way. Recognising that insistence on lowest cost furniture and equipment too often results in poor quality, poor ergonomics and short lifetimes, PHW's solution was practical, sustainable, supportive of social enterprise and a direct challenge to the throwaway society.

It's a great example of putting principle into practice. PHW formed a consortium, bringing together design company Rype Office, office furniture manufacturer Orangebox, and Greenstream Flooring to source furniture and equipment that was either secondhand or could be reused through cleaning, repairing or reupholstering. This not only opened up new employment opportunities, it prevented the items from going to landfill.

Rype Office organised the remanufacturing of items on site by a team drawn from long-term unemployed people in South Wales. Orangebox provided 550 remanufactured task chairs, while Greenstream Flooring, a community interest company, provided new and reused carpet tiles, again using the labour of low-income and long-term unemployed people. In the course of the refit, 1,143 individual items were reused, ranging from chairs, flooring, office pedestals, storage cabinets and sofas to whiteboards and coat stands. Of all the items used for the refit, 45% were reused and 49% remade, with just 6% sourced from new stock – all from local manufacturers. The sustainability benefits were as dramatic as the social and financial positives, with around 134 tonnes of CO2 saved and 41 tonnes of waste diverted from landfill.

“Of all the items used for the refit, 45% were reused and 49% remade, with just 6% sourced from new stock – all from local manufacturers.”



Dr Andy Rees, the Welsh Government's Head of Waste Strategy Branch, remarked that 'Public Health Wales are a fantastic example of circular economy contribution.' The judges appreciated the passion behind PHW's successful efforts to achieve its primary objectives and welcomed the way the learning is being taken forward into other projects.

Innovation Award

Judges: Peter McDermott Geoff Ogden Pierre Wassenaar

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SPECIFIC IKC – Active Classroom

The SPECIFIC Innovation and Knowledge Centre at Swansea University’s Bay Campus has one overarching goal – to develop buildings that generate, store and release their own energy.



The Active Classroom was built to further this research, which it does in a unique way – by acting as a test bed for new processes, materials and technologies. The classroom is a real, working implementation of a smart, energy-efficient building. The floor tiles provide heat, keeping the classroom at a comfortable temperature, while the batteries store power generated by the photovoltaic roof, allowing the building to function off grid.

All the technologies work together as one system due to the specially created building management system (BMS). An app controlling the BMS can be programmed to heat the classroom prior to use, depending on how many people will be using it. It controls the battery and power and can improve its own efficiency by learning from previous usage. By its very existence, the classroom validates the concept of buildings as energy generators, providing vital data on how well the systems perform in use and how people use and interact with the building. A bespoke control system captures all the technical information on the classroom’s performance, and user feedback is gathered from evaluation surveys. (So far, occupant opinion suggests the building feels light, airy and comfortable to be in.)

This data will be of huge benefit to SPECIFIC, its project partners and prospective collaborators, who will be taking the learning forward into future projects. By removing the risk from both the concept and the new technologies involved, the classroom has enabled the development and spread of valuable innovations that will benefit the construction industry and the wider built environment. New company BIPVco, for example, designed, manufactured and supplied a unique PV system, incorporating power generation functionality into the fabric of the roof. Matrix Structures provided a new interlocking panel system that greatly assisted the construction, reducing installation time and concrete waste. Construction companies and building owners can come to the



classroom and see for themselves that the power station concept is valid and the new systems really work.

The judges applauded the clarity of the project’s goals, the intelligence of the execution, and the teamwork involved in designing and building a structure with so many unknowns. The result is a facility with the potential to bring about real change in the way buildings are conceived, designed and constructed.

“The judges applauded the clarity of the project’s goals, the intelligence of the execution, and the teamwork involved in designing and building a structure with so many unknowns.”

Young Achiever of the Year

Judges: Andrew Gibson Sara Ifan Paul Lavelle Daniel Rossiter

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Matthew Myerscough – Cass Hayward LLP

Matthew Myerscough is a design engineer with Cass Hayward, an engineering consultancy specialising in bridges. He graduated from Durham University in 2008 with a master's degree in civil engineering and spent three years building a career in structural engineering design before joining Cass Hayward in 2011.



“His thirst for knowledge and determination to learn has helped him to expand his skills, contribute ideas and work effectively as part of a team.”

Here he has been able to pursue his passion for bridges, working on the design, assessment and inspection of a range of structures including pedestrian, railway and highway bridges. He was involved in the design of the Eastern Bay Link road scheme (EBL) in Cardiff, a joint venture between Dawnus and Ferroval Agroman, which in 2016 led to his secondment to the joint venture for a 12-month placement as a site engineer.

This proved to be a significant move, introducing him to the real world of a construction site and helping him to acquire an appreciation of buildability issues to add to his design experience. This will not only enhance his role in the Cass Hayward design team, it was an important step towards his goal of chartered status with the Institution of Civil Engineers. For the judges, Matthew's obvious passion and enthusiasm for engineering (and suspended bridges) was clear. For him, engineering isn't a profession but a lifestyle. His thirst for knowledge and determination to learn has helped him to expand his skills, contribute ideas and work effectively as part of a team. His drive for self-improvement has led him to complete a postgraduate MSc in bridge engineering and travel abroad to visit major bridge construction projects – including a tour of Norwegian suspension bridges, funded by scholarships.

Matthew has had articles published in Bridge Design and Engineering magazine, presented academic papers to the industry, and won two awards from the Institute of Structural Engineers: the Guthrie Brown Award for papers of merit, written by a member under 40 years of age, and the Husband prize for the best paper on bridges in 2014. Matthew is also an enthusiast for community involvement, as demonstrated when he volunteered to manage a design and construction project for Willows High School in Cardiff. This not only taught valuable lessons about managing a budget, working with local stakeholders and sustainable procurement, it also showcased his budding leadership skills – as when he persuaded a subcontractor to lend the project a 15-tonne wagon and driver free of charge. The judges view him as an emerging leader whose continuing quest for innovation epitomises the spirit of Generation for Change.







Preservation & Rejuvenation Award

Judges: John Edwards Colin King

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Waterworks – Torfaen County Borough Council

The Monmouthshire and Brecon Canal is a nationally important heritage asset, and its southern section is a designated conservation area in Torfaen.



This project aimed to transform a disused stretch of waterway into an important visitor destination and recreational resource, contributing to the regeneration of the area. It involved six derelict locks, three listed bridges and various other heritage structures. Funded by the Heritage Lottery, the project was led by a partnership between Torfaen County Borough Council and the Monmouthshire, Brecon and Abergavenny Canals Trust. One of the outstanding features of the scheme was its extensive use of volunteers to keep costs down, harnessing the enthusiasm of the local community and providing opportunities for training and skills development. This delivered significant savings compared to similar canal projects using contractors; over a four-year period, volunteers invested over 56,000 hours of their time, equating to £325,000 in value.

Use of volunteers also saved the risk costs usually added to a contractor's tender price, allowing the project leaders to take a more flexible, practical approach to risk. Employment of contractors was confined to specialist works, such as operating major plant for dredging and excavation. Under the guidance of professional supervisors, trainers and craftsmen, over 270 volunteers participated in activities including stone masonry, carpentry, use of lime mortar, landscaping and habitat improvement. Young people not in education, employment and training and the long-term unemployed gained valuable, NVQ accredited skills and experience.

The environment and biodiversity has been another beneficiary; ecological improvement and habitat creation were designed into the works, and the local economy has benefited from local sourcing of traditional products and materials. One interesting outcome has been a social enterprise opportunity provided by the replacement of the lock gates. The project worked with Swansea University's engineering department and the Kennet and Avon Canal



“One of the outstanding features of the scheme was its extensive use of volunteers to keep costs down, harnessing the enthusiasm of the local community.”

Trust to develop a new, sustainable lock gate design. The resulting modular composite steel and wood lock gate reflects the appearance of a traditional oak gate, but will last four times longer and comes in a flat pack that is easy to transport and assemble. A social enterprise has been set up to develop the project further. Overall, the judges thought this a well-considered project, balancing functionality with sympathetic repairs and improvements to convert an eyesore into a valued local asset.



Digital Construction Award

Judges: Andrew Thomas Nick Tune

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Unlocking Rail Electrification Data – Arup and ABC Electrification

The Greater West (TGW) is the largest UK rail electrification project to date, upgrading Brunel’s mainline Victorian-era railway from London to Cardiff. Route sections 8 and 9 extend from Patchway, on the outskirts of Bristol, through to Cardiff.



The ongoing project involves complex interfaces with existing infrastructure, major stations, structures and tunnels, and requires multiple stakeholders, design firms and construction management teams to communicate and work together. From the start, project participants faced the challenge of accessing and sharing data from a wide variety of sources. Data sets in a range of formats and sizes began to proliferate as the project progressed, with data from the site adding (and continuing to add) to the mix.

It became apparent early on that the initial IT infrastructure did not allow for effective management and dissemination of all the data; information was being stored in a variety of locations across several incompatible platforms, making it hard to access. There was often a lag of several weeks between the generation of onsite data and the moment when the design team was able to interrogate it. A data acquisition and management (DAM) team drawn from the project partners was created to establish data standards and streamline data flows.

The first task was to develop a project-wide BIM execution plan (BEP) to agree and document project standards, roles and responsibilities. This achieved its goals, but in practice barriers remained to transforming the burgeoning body of data into usable design information. The Arup team set its mind to creating a solution that would make the data visible and easily accessible to all those who needed it. The solution is based on a relational database, which builds bridges between multiple digital platforms, existing data sets and site data as it is generated, and a rail industry-specific web viewer that provides a user-friendly interface.

The judges were impressed by the innovative, digitally based solution to a problem that affects many large, complex construction projects – the need to manage both historic and open source information. Arup combined various

“It is a truly innovative use of original technology and processes that has led to measurable improvements in time, cost and quality.”



technologies into an accessible, easy to understand interface for technicians, designers and other stakeholders, supporting the project’s collaborative approach. The solution bequeaths a body of intelligent legacy information that can be used for sophisticated, efficient asset management. It is a truly innovative use of original technology and processes that has led to measurable improvements in time, cost and quality, and can be regarded as a glimpse into the future of construction.

People Development Award

Judges: Vince Hanly Rhodri-Gwynn Jones Tony Norris



A465 Section 2 – Costain

As the Welsh construction sector continues to grow, Costain anticipates a shortage of professional and skilled workers to meet anticipated demand.



“The judges singled out Costain’s efforts to encourage women into construction, supporting five Women into Construction events.”

The A465 Heads of the Valleys Section 2 project presented an opportunity to expand training and development opportunities for its own staff, its supply chain and the local community. Costain achieved National Skills Academy status for the project, providing a platform for skills development (including physical skills) during the course of the works. Supported by the Welsh Government and the CITB, Costain has used the academy to deliver a wide range of targeted training opportunities for its staff and supply chain. For example, behavioural management training for managers and front-line supervisors aims to improve leadership skills and management abilities.

The opportunities have been extended to the wider community, such as the apprenticeship framework created in partnership with the CITB and Coleg Gwent to benefit local unemployed people looking for a career in construction.

The judges noted Costain’s willingness to work with training organisations, colleges, educational establishments and other partners to achieve its aims. For example, the company has engaged with the Prince’s Trust and the Welsh Government LIFT programme to provide work opportunities for hard to reach



groups, such as those previously unable to find employment. With an eye to the future, Costain uses events such as careers fairs and university open days to encourage young people into the industry, working with the Welsh Government’s Seren Network to promote construction as a career to the most academically talented STEM students in Wales. Its 25-strong team of ambassadors regularly visits schools, colleges and community groups. The judges singled out Costain’s efforts to encourage women into construction, supporting five Women into Construction events and supporting the Chwarae Teg Agile Nation 2 programme.

So far, the National Skills Academy has created 53 apprenticeships and 196 jobs, and in CITB reviews it has scored 100% in each of the past four quarters. Training for leadership, advanced health and safety, construction ambassadors and other development training have all exceeded the initial targets set. The judges felt that Costain’s passion and commitment to people development shone through, benefiting not just the people working on the scheme but everyone in the vicinity, helping to change lives in a deprived area. As a result, the project will leave a legacy of a more highly skilled workforce to service the future needs of the construction industry.



Client of the Year

Judges: Vince Hanly Rhodri-Gwynn Jones Tony Norris

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Flintshire County Council

Flintshire County Council's Strategic Housing and Regeneration Programme (SHARP) is an ambitious response to an identified need: the lack of housing for people unable to afford average market prices for homes.



Through SHARP, Flintshire is creating 500 new social, affordable and rent-to-buy units, driving regeneration in areas where the private market is not prepared to take the risk. The SHARP programme is the first of its kind in Wales, and Flintshire has set the bar high. All houses are built to the council-approved Flintshire House Standard, ensuring a quality of design and levels of sustainability far above what is normally expected of social rent units.

Each scheme is planned with a view to enriching the local community and adding to the area's desirability. From the start, the council ensured a structured, collaborative approach, appointing a single development partner (Wates Residential) to help deliver the programme. A joint approach has been applied to all elements of design and planning, while a detailed community engagement strategy works to inform and win over local people. Social and economic benefits for local communities are high on the agenda; bespoke community investment plans are created for each scheme, and an emphasis has been placed on developing a strong local supply chain.

Already the partnership has created the Flintshire Apprentice Academy, which will provide training and employment opportunities for 50 local people. During the five-year programme, Flintshire expects to generate £60 million of economic and social benefits and create 2,000 employment opportunities. The first scheme, Custom House Court, was completed in December 2016, and has set the benchmark for future projects. Community consultation events were held early on, informing residents about the scheme and acquiring views on design and layout. For example, it was agreed that features recovered from the



former Custom House School, demolished to make way for the development, would be incorporated into the design. The joint operational approach and partnership culture promoted by Flintshire saw the project completed on budget and 12 weeks ahead of schedule.

The judges paid tribute to the council's determined, resilient approach, its hard work and the strength of its partnership with Wates Residential. The programme is producing 'exceptional and impressive' results, and the innovative model is transferable. A number of other Welsh and English local authorities have visited to review the programme, and are seeking to replicate the model within their own delivery plans.

Project of the Year – Civils

Judges: Ioan Prydderch Andy Sutton Andrew Wedlake

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Tremorfa Food Waste Anaerobic Digestion Plant – Encon Construction Limited

City of Cardiff and Vale of Glamorgan councils planned to build an anaerobic digestion facility on a brownfield site in Cardiff. The new facility would process 35,000 tonnes of food waste per year to generate 2MWh of electricity, with leftover waste used as fertiliser.



This impressive project not only delivered an invaluable resource for the area, but provided an excellent demonstration of what SMEs can achieve with the right leadership, conditions and collaborative culture. The plan was to build a reception building, tank farm and bunded enclosure, but the site presented many difficulties. The land comprised a 10-metre layer of slag waste from the adjacent steelworks overlaid on estuarine mud. It was contaminated with asbestos, suffused with knotweed, and there were ecological considerations.

Kelda Organic Energy was appointed as the turnkey contractor, engaging Cardiff-based civil engineering firm Encon Construction and process contractor Anaergia at an early stage. This was crucial, enabling the design of the civils and process elements to be fully integrated. The project had to cope with an early hiccup when new CIRIA guidelines on the design and construction of waste facilities required changes. Specifically, the designers had to replace the original plan for a low-level earth bund with a reinforced concrete solution that could cope with a catastrophic failure of the holding tanks.

The site conditions required creativity and nimble thinking on the part of the engineers. For example, the fused slag crust was susceptible to expansion, while the underlying mud was prone to 'heaving' – potentially compromising the stability of the tanks. The solution was the use of specially designed piles for the tanks, with void formers below the structural bases. Specialist consultants were brought in to deal with the asbestos contamination. Trial pits were dug on a 20-metre grid to determine the extent of the problem, then action was taken to minimise any potential disturbance. There was a contractual requirement for the project to achieve a CEEQUAL Very Good rating, and this has been triumphantly achieved; some factors – notably people and communities, ecology and biodiversity, and use and management of physical resources – scored over 75% (Excellent).



“This impressive project not only delivered an invaluable resource for the area but provided an excellent demonstration of what SME’s can achieve.”

The judges were impressed by the clients’ forward-thinking and supportive approach, and the application of intelligent engineering that got the job done safely, on time and to budget. A contaminated brownfield site and blot on the landscape has been transformed into an asset for all parties and the communities that it serves.

Project of the Year – Buildings

Judges: Ioan Prydderch Andy Sutton Andrew Wedlake

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Ysgol Bae Baglan – Bouygues UK (BYUK)

Ysgol Bae Baglan is a landmark building for Neath Port Talbot County Borough Council (NPTC). Four schools were amalgamated into one modern campus, which has become the heart of the community, opening up its facilities and extending its educational services to the public.



Faced with a flat, exposed site bordered by rolling sand dunes and hills, the building design reflects its surroundings. The roof rises and falls, recalling the sloping roofs of traditional Welsh valleys terraced housing. Earth sculptures and mounds around the building, incorporating much of the soil from the construction, serve multiple purposes, acting as windbreaks, enhancing biodiversity, and providing elevated areas for viewing sports and drama performances.

The layout of the school promotes flexibility in the way spaces are used, while a creative approach to sustainability is typified by the transpired solar collector (TSC) incorporated into the external sports hall – a simple system developed by Tata and Swansea University in which the wall traps sun-warmed air in its outer layer, pre-heating it for supply to the sports hall and activity studio behind. Its use means that 10% of the school is directly heated by solar energy, contributing to the building’s BREEAM Excellent rating. Team Bae Baglan was appointed via the South West Wales Regional Contractors (SWWRC) framework, and the project was brought to a triumphant conclusion three weeks ahead of schedule, within budget and with no design compromises.

This, however, belies the challenges that dogged the process. The judges remarked on the expertise of the team, led by Bouygues UK (BYUK), as it went 'above and beyond' to achieve the best possible result. BYUK was determined to efficiently manage predicted outcomes by finding risks and addressing them collaboratively, assisted by early involvement of the supply chain. For example, initial investigation of the site suggested that the ground contained potential hydrocarbons. Through collaborative working with National Resources Wales and engineers Cambria Consulting, the team proposed an alternative dynamic ground compaction method to mitigate the risks to the project.



“The finished school has delighted everyone with its thoughtful, appealing design, innovation and technical excellence.”

Other highlights include upskilling opportunities for the local supply chain in use of BIM level 2; involvement of local school pupils as school ambassadors; and use of the framework’s National Skills Academy to deliver 3,800 person weeks of training and development. The finished school has delighted everyone with its thoughtful, appealing design, innovation and technical excellence – a result that could not have been achieved without great teamwork, passion and commitment from all concerned.

Chairman's Special Award

CUBRIC – BAM Construction

This award was introduced a couple of years ago and will not appear every year. It was introduced to recognise outstanding projects, people or programmes which do not necessarily fit neatly into one of the categories.



The winner of this award must make a contribution that not only raises the profile of the Welsh construction industry, but also highlights the contribution it makes to society. This means that the winner's influence and work is likely to have an impact beyond Wales.

This year the judges believed this project to be a worthy recipient of this Award.

The Cardiff University Brain Research Imaging Centre (CUBRIC) is the second phase of Cardiff University's £300 million Innovation Campus, a cutting-edge research site with state-of-the-art facilities. The aim is to establish CUBRIC as a European centre of excellence for brain imaging, improving the global perception of Wales as a knowledge and innovation hub. The judges recognised the importance of the building's design and construction in achieving these ambitions and supporting the vital work being carried out inside. For example, the architect, contractors and equipment provider worked together to incorporate special features for the safe housing and removal of the centre's powerful MRI scanners. The net construction cost for the building was £2,713 per square metre, including the specialist fit-out to the scanner areas and abnormals, which represents exceptional value for money for a building with this level of servicing and sophistication.

The work being done in this building on research, continued learning and studies is vital. This work could not have been achieved without this purpose built building.

The judges felt this project should be recognised due to the importance of the building here and internationally. It has a clear purpose and was designed specifically to meet that purpose.

CUBRIC has been highly successful in securing funding to tackle global health issues, recruit the world's best scientists and explore new partnerships with leading academics, industry partners and healthcare professionals.

CUBRIC has established itself as a European centre of excellence for brain imaging and will forge the way for Wales to become an innovation leader on the world stage.

“The judges recognised the importance of the building's design and construction in achieving these ambitions and supporting the vital work being carried out inside.”



Highly Commended

Sustainability Award – Ysgol Hafod Lon



This new school in the Snowdonia Business Park, Gwynedd, catering for pupils with a wide range of educational needs, has been singled out for its first-class sustainable design. A biomass installation provides most of the heating, and natural ventilation is delivered to classrooms through a Breathing Buildings system. High-level windows and rooflights ensure maximum use of daylight, LED lighting saves energy and a photovoltaic array reduces the draw of electricity from the grid. The underlying concrete structure provides a high thermal mass and excellent airtightness keeps heat loss to a minimum. External finishes, such as stone and timber cladding, are low maintenance, and a reclaimed rainwater scheme takes care of flushing the school’s WCs. The judges were impressed with this well-conceived project located on a difficult site, use of repetitive design gave flexibility of use for future function and demand.



Project of the Year – Buildings – Rhyl High School



This project is an excellent example of creative thinking and collaboration in the face of early budget cuts that may have stopped others in their tracks. Willmott Dixon had begun work on the design of the proposed £30 million Rhyl High School when Denbighshire County Council asked for £10 million to be chopped from the cost. The contractor worked with the council and the school’s governing body on a value engineering exercise which, remarkably, achieved a scheme with the same standard of build, if with a smaller footprint. Given such trying circumstances, the elegant result is all the more impressive. Rhyl High School is regarded as an asset for the whole community, with stakeholders uniting in praise for the building, the boost to the local economy and the sympathetic, responsive approach of the project team.



Special Recognition

People Development Award - Jistcourt (South Wales) Limited



Jistcourt (South Wales) Ltd, a building contractor with 85 staff, was singled out for its commitment to training and developing its people. The judges felt the company’s structured approach, if shared, has the potential to help close the skills gap facing the wider industry.



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Supported Charity



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Care and support
through terminal illness

Our supported charity this year is Marie Curie, attendees at our awards were extremely generous and raised just over £5000, this will help fund care and support for people living with a terminal illness, and their families, across the UK. Marie Curie believe everyone living with a terminal illness should be able to get the most from the time they have left, however hard that may sometimes feel.

Everything they do depends on the generous donations of their supporters. Around two-thirds of the money they spend each year comes from the people, companies and trusts who decide to support them. The remaining third comes from the NHS.

Without their supporters, they wouldn't be able to provide vital care and support to the people who need them at an extremely difficult time.



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