

ADEILADU
ARBENIGRWYDD
YNG NGHYMRU



CONSTRUCTING
EXCELLENCE
IN WALES

2021 Awards

Winners

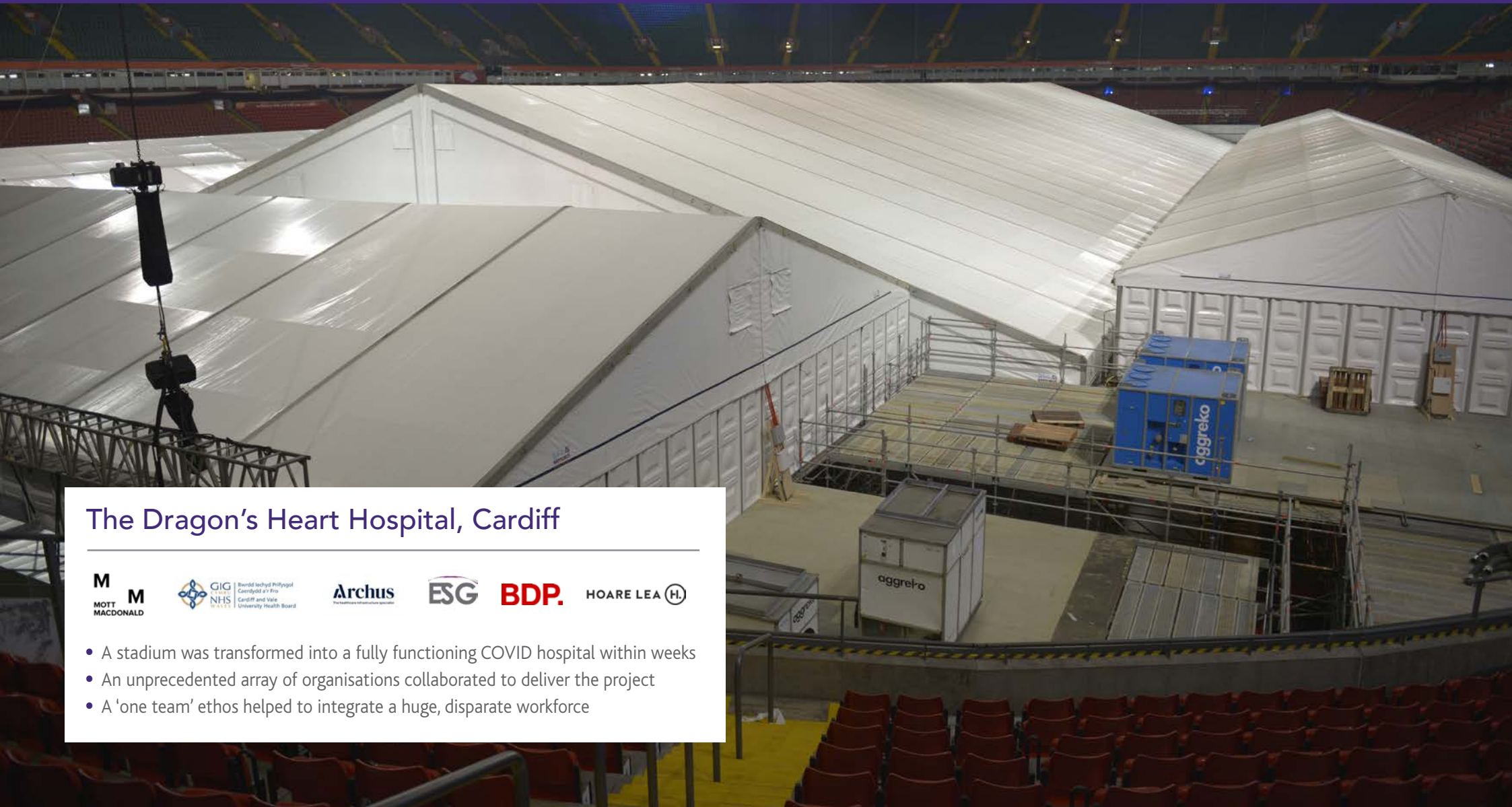
Headline Sponsor



2021 Winner
Awards

Integration & Collaborative Working Award

Award Sponsored by



The Dragon's Heart Hospital, Cardiff



- A stadium was transformed into a fully functioning COVID hospital within weeks
- An unprecedented array of organisations collaborated to deliver the project
- A 'one team' ethos helped to integrate a huge, disparate workforce

Integration & Collaborative Working Award

When the COVID-19 crisis struck in early 2020, surge hospitals were built throughout the UK to deal with the expected increase in patients.

In Cardiff, Mott MacDonald was approached by the Cardiff & Vale University Health Board to convert the Principality Stadium – home of the Welsh national rugby team – into a functioning hospital. Within two weeks, a quickly assembled team of 1,340 had constructed the facility known as the Dragon's Heart Hospital – a remarkable achievement.

Mott MacDonald was on site within 24 hours of receiving the request. Welsh Government agreed to streamline funding in response to the urgency of the project. Within 11 days 300 beds were available, with a total of 1,500 beds made ready by handover.

More than 50 Mott MacDonald staff and over 40 people from supply chain partners collaborated to deliver the project. Other key stakeholders and delivery partners included Archus (healthcare planning support), ES Global (construction coordinator),



BDP (architects), the British Army (field hospital and logistics expertise), and Hoare Lea (building services engineer). The Welsh Rugby Union, Cardiff Blues and Cardiff County Council were also consulted.

Mott MacDonald quickly established a stakeholder management plan to ensure all parties were kept informed. Stakeholder and programme workshops were held up to four times a day to clearly identify what deliverables needed to be achieved and by when, making sure all the teams were aligned. Due to the unprecedented urgency, progress was measured in hours rather than days or weeks.

On site, the many organisations and staff from different backgrounds worked collaboratively, overcoming the challenges of COVID regulations, technical difficulties and time pressures to complete the hospital on schedule. A 'one team' mentality emerged, with no hierarchy, helped by the co-location of the teams. Good management, clear lines of communication and structured work streams were key factors in the successful delivery of the facility.

2021 Winner
Awards

SME of the Year

Award Sponsored by



Cass Supplies Ltd

- The company is committed to 'going the extra mile' for clients and community
- The team supports and mentors young people and up and coming local businesses
- Active steps are being taken to improve efficiency and reduce carbon footprint



SME of the Year



Cass Supplies is a scaffolding company based in the Vale of Glamorgan, with a staff of 50 and turnover of £5-6m per year.

The company stands out as a positive contributor not just to newbuild projects but to the wider community and the construction industry.

Cass Supplies has been in business for over 12 years and has developed good working relationships with major clients including Morgan Sindall and Bouygues. The team has over 40 years' experience between them, and several senior managers started out as scaffolders themselves.

The company is committed to 'going the extra mile' for every client, as well as giving back to the community. The company recently won two 21st Century Schools contracts, Morgan Sindall Whitmore High School and Pencoedre High School, against competition from two national scaffolding firms. It impressed the client through a social responsibility plan that demonstrated its support for local people, charities, and other local businesses.

Cass is keen to help young people gain a start in the construction business and has provided several apprenticeships. The company's managing director, formerly in the navy, offers his skills and knowledge to other companies and charities, such as InTouch and Green Task Force – two military-related charities that guide and advise ex-service personnel as they seek new careers. He is also supporting and mentoring two up and coming businesses in the Vale.

The company has been working on standards and procedures to help its teams become more effective. An app is being developed, for example, that will generate information and documentation arising from work on site, helping to streamline project management. The company plans to eliminate paperwork from its sites by 2022.

Finally, the company is pushing to improve its sustainability performance, conducting an analysis that reduced its carbon footprint by a third. It has taken delivery of its first electric vehicle, and plans to add more to its fleet.



2021 Winner
Awards

Sustainability Award

Award Sponsored by



Merthyr Tydfil Bus Interchange

CAPITA



**MORGAN
SINDALL**
CONSTRUCTION



- The building is completely electrified, allowing for vehicles to be charged on site
- The project is key to Welsh Government's public transport electrification goals
- Collaboration between the stakeholders kept a complex, evolving project on track

Sustainability Award

The £12m Merthyr Tydfil bus station is a key infrastructure project, located near the railway station as part of an initiative to create a brand-new transport interchange hub linking with the South Wales Metro.

The project provides a catalyst for future redevelopment of the town centre and the region. It is also an exemplar of sustainable design, with the distinction of being the first bus station in Wales to be completely electrified – supporting the Welsh Government target to electrify public transport by 2028.

With the relevant technologies still evolving, the decision to switch to electrification at an early stage was a bold one, representing a milestone in the evolution of public transport electrification in Wales and the UK. The project brought together Welsh Government, Transport for Wales and various transport providers to manage the introduction of new technologies and vehicle charging. The stakeholders shared responsibility for the infrastructure and making connections with private sector bodies for the provision of suitable vehicles and facilities.

The design had to be dynamic and fluid to allow for technological change, which made fixing a scope and budget for the works impossible. The proactive engagement and input of the stakeholders helped to keep the project on track. The benefits are significant – the incorporation of electrification eliminates fossil fuel usage from the building indefinitely. The integration of electrical vehicle chargers provides a charging facility for taxis and an electric transport hub for multiple public needs.

Other sustainable design features include use of materials with less embodied carbon and greater longevity; construction based on layers, conforming to circular economy principles; and diligent management of waste, resulting in 98% of waste being diverted from landfill. Heating and hot water are powered by green renewable energy sources, and a rainwater harvesting tank was introduced to accommodate the public toilets, which will be heavily used in what will be Wales' third busiest bus station.



2021 Awards Winner

Health, Safety & Wellbeing Award

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ISG

Managing Safely During a Pandemic



- A prompt, effective response to COVID safety was driven by good planning
- An emergency response team formulated a multi-pronged strategy
- Health, safety and wellbeing performance improved over the course of the crisis

Health, Safety & Wellbeing Award

Thames Valley Construction & Civil Engineering is a reinforced concrete frame specialist based in Newport.

It employs 50 people directly, with 150 subcontractors on its books. Along with the rest of the construction industry, when COVID-19 struck the company was instructed to adapt and carry on.

Maintaining production for anxious clients while keeping the workforce safe was a significant challenge. Thames Valley Construction's prompt and structured response to an unprecedented situation was exemplary, keeping the company ahead of the curve.

In line with its disaster recovery and business continuity plan, an emergency response team (ERT) was assembled to formulate the COVID strategy. The biggest issue was maintaining COVID-safe environments on site. 'Work bubbles' were created to keep workforce contact to a minimum. Other actions included use of contactless biometric face scanners, staggered shifts and breaks, temperature checks and improved sanitation procedures. A confidential helpline run by trained mental first-aiders provided a source of help and support to those under stress.



Communication was key to the strategy. The head office was set up as a COVID-safe control centre serving multiple construction sites. COVID management meetings were held remotely via Teams, keeping lines of communication open between head office, sites and clients. The ERT co-ordinator ensured all employees were kept informed of developments, including those who worked from home. Risk assessments and operating procedures were disseminated via socially distanced briefings in outdoor settings.

The strategy had to be flexible enough to surmount obstacles such as constantly changing official guidelines, the difficulties of obtaining additional PPE at a time of shortages, and sourcing the materials needed to maintain production.

That the company came through the crisis showing an actual improvement in its health, safety and wellbeing performance is testament to the strength of its health and safety culture, the efficacy of its business continuity planning, and the resilience of its staff.

2021 Winner
Awards

Value Award

Award Sponsored by

CIOB

Home-Grown Homes



- Ambitious project creates long-term value for social housing sector
- Innovative timber-based designs will promote growth in the Welsh timber industry
- Designs and specification tools freely available to public and private developers



Value Award



The Home-Grown Homes project stands out for its commitment to creating value for the future and its success in bringing together multiple diverse partners to achieve that goal.

The project centred on the development of timber-based designs and specification tools for use in the construction of high-quality, environmentally friendly social housing. Its outputs are set to change the way that affordable homes are built in Wales.

The £1.5m, three-year project was managed by Powys County Council and principally involved Woodknowledge Wales, Cardiff Metropolitan University, BM Trada Ltd and Coed Cymru. Informed oversight was provided by a steering group made up of local authorities, housing associations, Welsh Government, National Resources Wales and the Welsh Local Government Association.

A key driver for the project was providing a long-term market for Welsh timber. The designs developed by Home-Grown Homes are based on homegrown timber, providing a boost for the industry and reducing Wales' future reliance on imported timber and timber products.

Outputs include pilot-tested guidance on conducting post-occupancy evaluation, building performance evaluation and embodied carbon analysis; specification guidance for timber windows and timber cladding; and guidance for contractors on avoiding common mistakes with timber frame. All designs and technical information, along with relevant case studies, are freely available via the Woodknowledge Wales website.

Policy documents have been provided to Welsh Government to assist in developing a Welsh economy revolving around the timber industry. The work has also become the foundation of a pioneering Welsh Government-led project to deliver a net zero carbon modular housing solution. One judge noted that the project embodies elements of foundational economy principles, 'with a focus on stimulating growth and demand which will benefit dozens of Welsh companies while delivering on the need for more housing.'



2021 Awards Winner

Offsite Award

Award Sponsored by



Tre Ifan housing, Caergeiliog

KENTON JONES
CONSTRUCTION



Hiraeth.

PARAMOUNT
STRUCTURES



- The project acted as a showcase for a new offsite modular construction approach
- Homes fabricated in sections at an offsite facility were assembled within a day
- The scheme is an exemplar for provision of high-quality, low-carbon housing

Offsite Award

Affordable housing providers seeking to accelerate the provision of high-quality low-carbon homes are increasingly turning their attention to offsite technologies.

These are generally considered to allow for larger numbers of houses to be built more quickly, with less waste and to a higher standard than traditional construction methods.

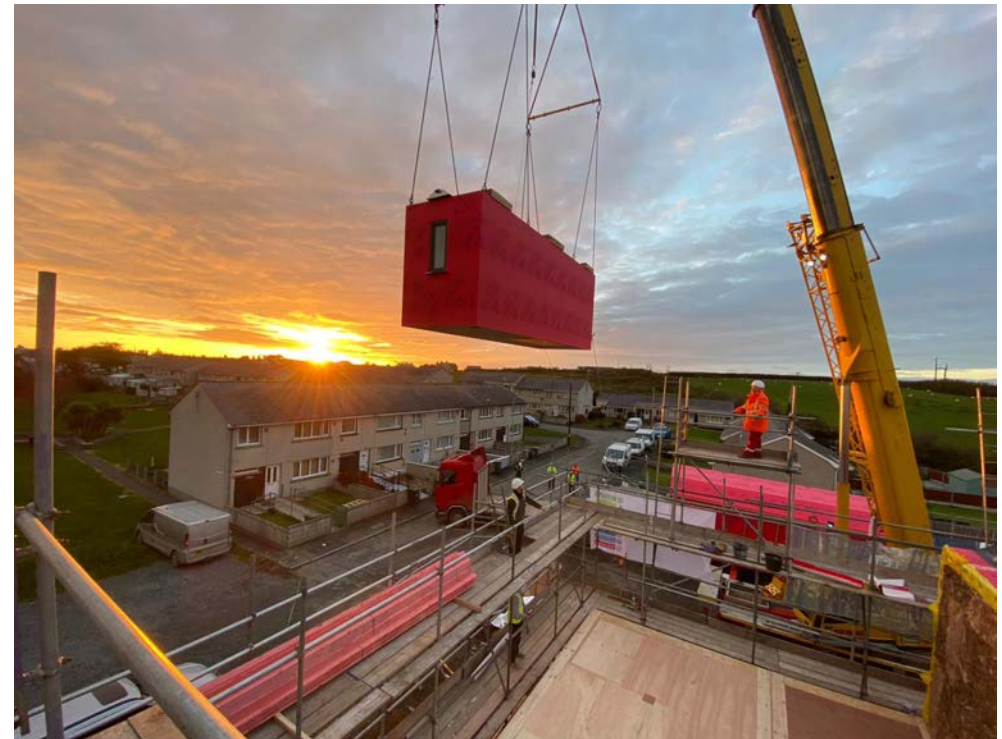
The Tre Ifan scheme for Isle of Anglesey County Council is the first multi-unit housing scheme to be manufactured and built in Wales using a new offsite modular construction process based on Welsh timber. The project built on Kenton Jones Joinery's work with woodland charity Coed Cymru, academia and specialist consultants, aimed at using homegrown timber to build new homes.

Three pairs of two-bedroom semi-detached homes were fabricated at KJJ's new offsite manufacturing facility at Welshpool and delivered to the site at Tre Ifan, where the modules were assembled and erected within a day. The speed and efficiency of the process minimised disruption to local residents and helped the construction team to manage the island's often extreme environmental conditions.

The design of the homes provides a massive potential boost for the Welsh timber industry. Homegrown softwood provides the primary structure, with cladding of larch and western red cedar and internal finishes of ash and oak. All timber used in the project was sourced within 50 miles of the site.

Funded by the Welsh Government's Innovative Housing Programme (Year 2), the project acted as a test bed for innovation and analysis, with the project team learning as the project progressed. A lean manufacturing methodology was developed, along with technical solutions and processes that addressed the concerns of warranty providers.

Positive outcomes include the development of infrastructure, skills and resources, as well as housing patterns and module types, that have the potential to transform the delivery of affordable homes.

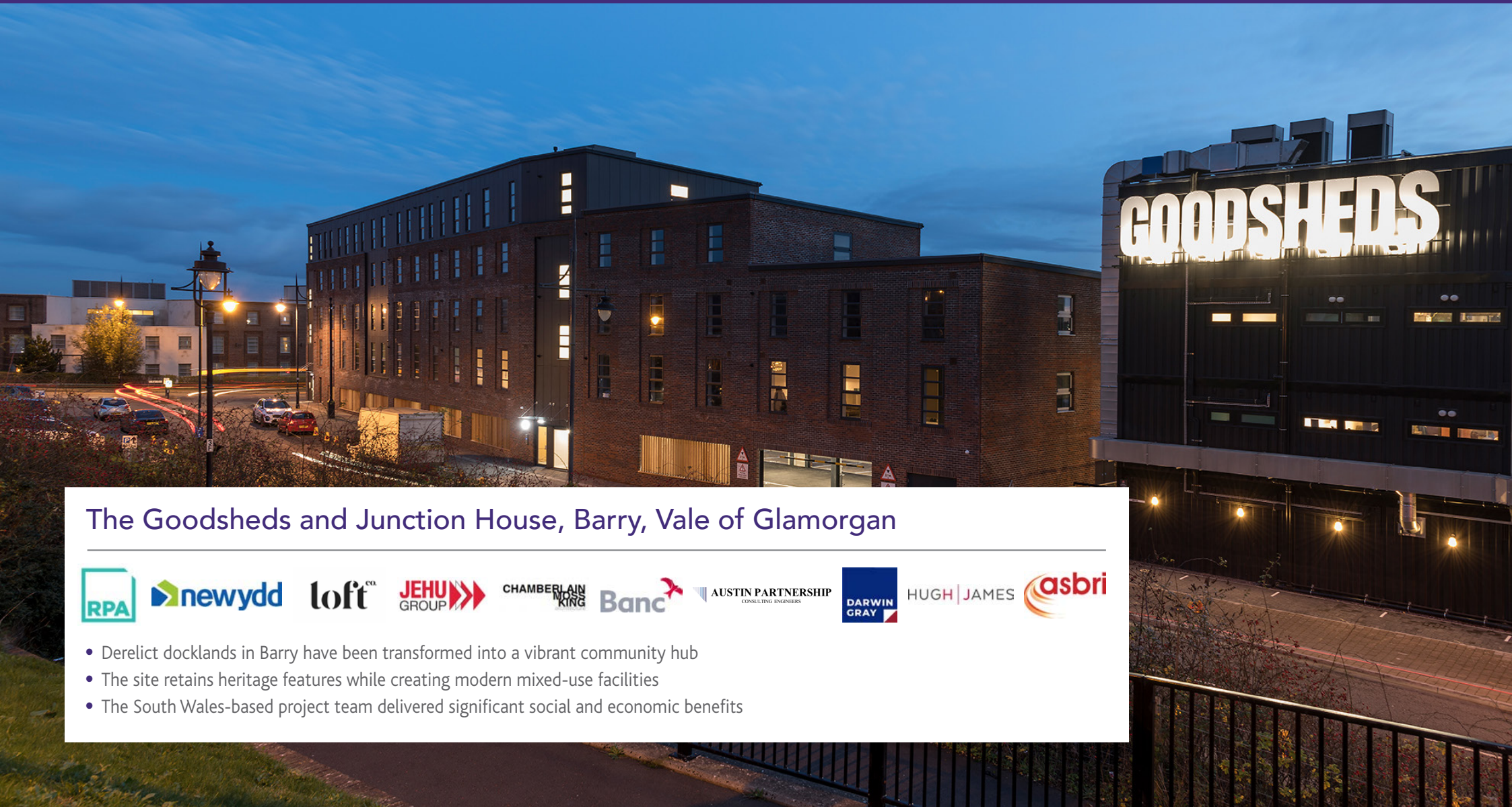


2021 Awards Winner

Regeneration Award

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The Goodsheds and Junction House, Barry, Vale of Glamorgan



- Derelict docklands in Barry have been transformed into a vibrant community hub
- The site retains heritage features while creating modern mixed-use facilities
- The South Wales-based project team delivered significant social and economic benefits

Regeneration Award



Goodsheds has been described as the UK's 'first sustainable urban high street', where people can live, work, eat and play.

It breathes new life into an unused railway shed in a neglected corner of Barry, addressing the placemaking agenda by creating a true community hub.

The £8.5m mixed-use development is built on the former site of the derelict Barry dockland. Located close to Barry's high street, it provides 40 independent food, drink and retail businesses plus office space, an outdoor gym, and a mix of accommodation.

The design took care to retain original elements of the dockside setting, dividing the project into three unique spaces. The Shipyard provides shopping and eating facilities based in 38 repurposed shipping containers, while The Tracks houses artisan traders, a cinema and event space in a series of refurbished railway carriages. The Sidings is the name for the renovated Victorian railway shed, now converted into commercial units and short-stay lettings, while a new building, Junction House, offers housing association apartments at social and market rents.

The project was delivered by a collaborative local team and included many social and economic benefits. For example, for every £1 spent £2.08 was reinvested in the local economy. Over four and a half million pounds was spent with businesses based in Wales, while 73 employment and training opportunities and eight apprenticeships were created during the period of the contract.

The outstanding feature of the project was the team's success in preserving the heritage of the site while creating something exciting and new. This was a significant challenge for the team, who benefited from the lessons learned from the adjacent restoration of the Pump House as well as the commitment and support of Welsh Government and other stakeholders. The result is a vibrant development that is fit for purpose not just for today, but for generations to come.



2021 Awards Winner

Digital Construction Award

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**MORGAN
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Ysgol y Garnedd – Digitising for future and social value



- A collaborative project team made full use of BIM and digital technologies
- The facilities and asset management teams were involved from the start
- A federated asset information model (AIM) was handed over on completion

Digital Construction Award

The success of the project to build Ysgol y Garnedd, a brand-new £8m primary school in Ffordd Penrhos, Bangor, was largely dependent on two key factors: Gwynedd Council's embrace of collaborative working, and the use of a digitally enabled approach to design and construction.

Much lip service is paid to the benefits of building information modelling (BIM) and the digital sharing of information, but projects that truly exploit the potential of digital construction are rare. Digitisation can only work when the project team is collaborative, integrated, and committed to sharing data, skills and knowledge. Ysgol y Garnedd stands out as an exemplar of this progressive approach.

Gwynedd Council had previously followed a traditional route to procurement, based on tendering full design and specification according to a bill of quantities. However, this process gave little weight to the value of digital technologies. Projects were hampered by disparate formats for data, delayed O&M information, and a disconnect between the CAPEX project and the needs of the facilities and asset management teams.



All this changed when the council opted for a modern, collaborative approach to the Ysgol y Garnedd project. Early contractor involvement (ECI) helped to build an integrated project team that was empowered to fully embrace BIM, engaging with the FM team from the start. The project team implemented user-friendly training and guides to demystify the process for everyone involved, focused on delivering the core principles of compliant BIM.

The BIM-enabled process supported 'right first time' working and efficient information exchange and control. Model data was successfully output in COBie format, and a comprehensive asset information model (AIM) was handed over on completion. The project also left a valuable legacy of upskilled client and supply chain staff.

This exemplar application of digital technologies supports the Construction 2025 agenda and demonstrates how digitisation can be made available to all.

2021 Winner
Awards

Innovation Award

Award Sponsored by



Partneriaeth Adeiladu
Gogledd Cymru
North Wales
Construction Partnership

Home-Grown Homes



- Research project aims to help social landlords achieve net zero carbon homes
- Focus on moving Welsh timber to the heart of build programmes
- Designs and specification tools freely available to public and private developers



Innovation Award

The Home-Grown Homes project brought together several partner organisations to develop designs and specification tools for the construction of high-quality, environmentally friendly housing fit for the 21st century.

Its outputs are already changing the way that social and other affordable homes are built with a view to tackling fuel poverty and climate change.

The £1.5m, three-year project was managed by Powys County Council and principally involved Woodknowledge Wales, Cardiff Metropolitan University, BM Trada Ltd and Coed Cymru. Informed oversight was provided by a steering group made up of local authorities, housing associations, Welsh Government, National Resources Wales and the Welsh Local Government Association.

A key focus was to gain a better understanding of how high-quality housing can be affordably delivered at scale and at pace from the Welsh timber supply chain, reducing Wales' future reliance on imported timber and timber products.



Outputs include pilot-tested guidance on conducting post-occupancy evaluation, building performance evaluation and embodied carbon analysis; specification guidance for timber windows and timber cladding; and guidance for contractors on avoiding common mistakes with timber frame. All designs and technical information, along with relevant case studies, are freely available via the Woodknowledge Wales website. Policy documents have been provided to Welsh Government to assist in developing a Welsh economy revolving around the timber industry.

One result is that Welsh Government has changed its development quality requirements for newbuild social housing to promote the use of Welsh timber. Partner organisations such as Powys County Council and Wales & West Housing Association are now making Welsh timber the material of choice in their build programmes.

The work has also become the foundation of a pioneering Welsh Government-led project to deliver a net zero carbon modular housing solution.

2021 Awards Winner

Innovation Award

Award Sponsored by



Partneriaeth Adeiladu
Gogledd Cymru
North Wales
Construction Partnership

Tre Ifan housing, Caergeiliog

KENTON JONES
CONSTRUCTION



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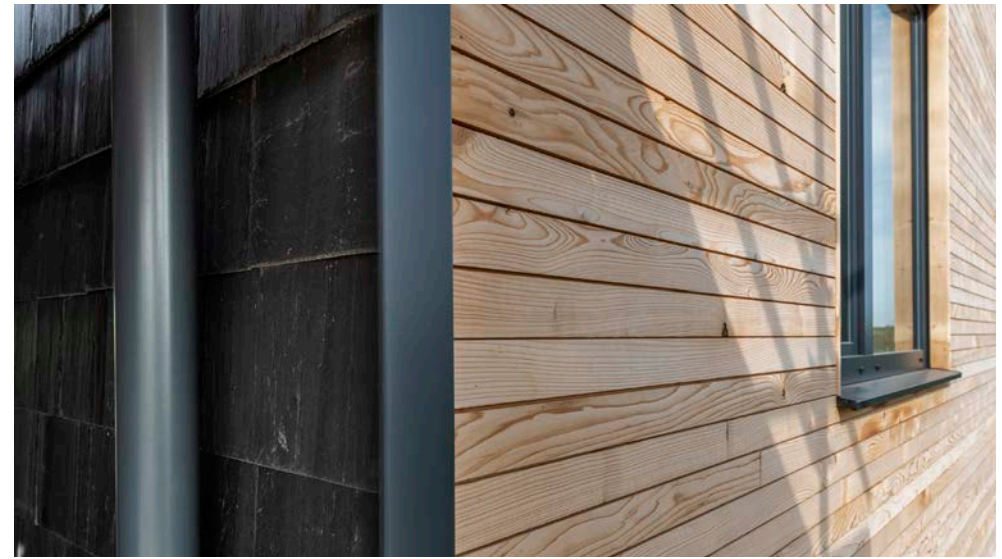
PARAMOUNT
STRUCTURES



- Homes were constructed offsite using an innovative modular approach
- Welsh softwood is at the heart of the cost-effective, sustainable housing design
- The new process will support growth in the affordable housing sector



Innovation Award



This project for Isle of Anglesey County Council centred on the provision of social housing constructed offsite using an innovative modular approach. It is the first multi-unit housing scheme to be manufactured and built in Wales using such a technique – and the first to be delivered using Welsh timber.

The project built on Kenton Jones Joinery's work on developing modular construction solutions based on homegrown timber, aimed at the provision of cost-effective, sustainable housing. Three pairs of two-bedroom semi-detached homes were fabricated at KJJ's new offsite manufacturing facility at Welshpool and delivered to the site at Tre Ifan, where the modules were assembled and erected within a day.

Homegrown softwood provides the primary structure of the houses, with cladding of larch and western red cedar and internal finishes of ash and oak. All timber used in the project was sourced within 50 miles of the site. Other features include recycled newspaper insulation, triple-glazed windows and doors, and natural slate finishes, providing a high-quality, high-performance fabric with low embodied carbon.

The project was carried out under the auspices of the Welsh Government's Innovative Housing Programme (Year 2). It is a showcase for new offsite construction methodologies using Welsh timber, including the development of technical solutions and processes addressing the concerns of warranty providers.

Positive outcomes include the development of infrastructure, skills and resources, as well as housing patterns and module types, that have the potential to transform the delivery of affordable homes as well as provide a boost for the Welsh timber industry. The new lean manufacturing processes will enable a relatively low-skilled workforce to produce high-quality, high-performance, low-carbon homes more quickly and with reduced waste.

2021 Winner
Awards

G4C Future Leader Award

Award Sponsored by



Rachael Ng

ARUP

- Rachael's innovative green infrastructure designs are leaving a lasting legacy
- Her leadership skills and collaborative way of working inspire colleagues and clients
- She has placed herself in a position to promote positive change

G4C is a driving force for industry change, through the development and connection of future industry leaders.

This award recognises an individual who has made a positive impact on their peers, organisation and the wider industry, with particular reference to people development, sustainability and innovation.

Rachael Ng was nominated by her employer, Arup, for her leadership skills, innovative designs and commitment to delivering great infrastructure. A key member of Arup's capital delivery team, she is a senior water engineer working on projects across Wales, the UK and the globe. Many of her projects have won national and international awards and left a lasting legacy.

Rachael is a natural leader who creates inclusive, collaborative, multidisciplinary teams. She is known for inspiring and supporting her staff, promoting diversity and idea sharing and nurturing junior team members. Her communication and people skills enable her to bring together diverse groups of stakeholders, from national and local government to utility companies, academics and local community groups, to work cooperatively on complex projects.

She specialises in sustainable, nature-based solutions and is a go-to person for green infrastructure strategies. She has excellent technical skills, with a flair for innovation and thinking outside the box, and is a natural choice for challenging, high-profile projects. Her work on Llanelli's green infrastructure, for example, was trailblazing, introducing a green approach to water management that is proving highly influential. Other achievements include leadership of the Cardiff flooding strategy and delivery of a major trunk sewer enhancement scheme.

Rachael believes it is her responsibility as an engineer to develop infrastructure that improves people's lives and benefits future generations. Her personal and professional qualities, coupled with her track record of success, have placed her in an ideal position to influence and promote positive change within the industry.



2021 Winner
Awards

People Development Award

Award Sponsored by



Cass Supplies Ltd



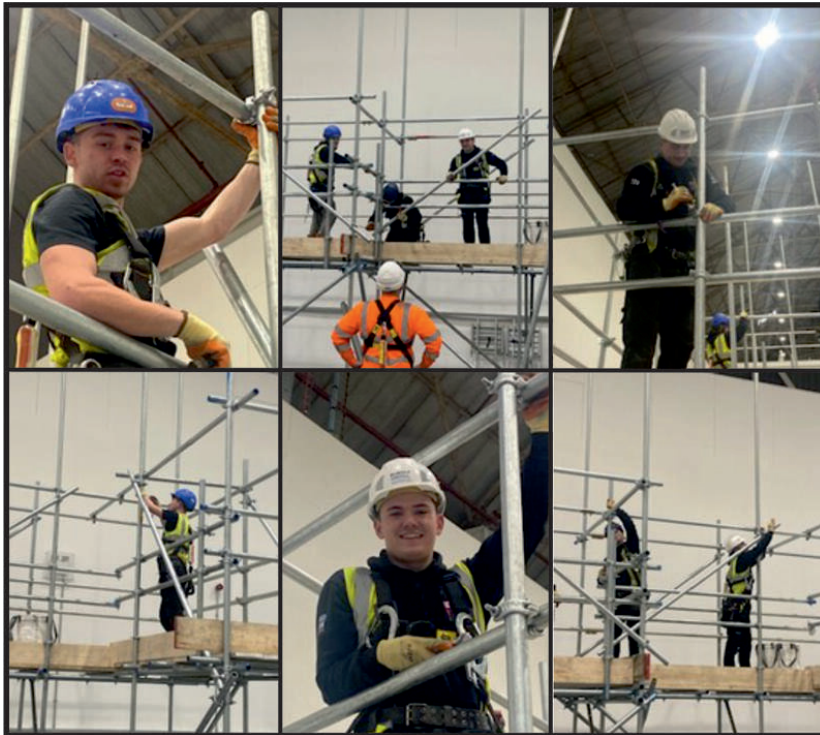
- The company is committed to giving young people a start in construction
- Former apprentices are finding work in scaffolding around the UK
- The MD supports ex-service personnel in building new careers

People Development Award

Cass Supplies is a scaffolding company based in the Vale of Glamorgan, with a staff of 50 and turnover of £5-6m per year.

It is keen to support its community by spending money locally and providing jobs and opportunities for local people. It is a firm believer in training young people up from the grass roots, demonstrated by the handful of senior managers who started their careers as scaffolders.

Helping young people to make a start in the scaffolding business had been hampered by the lack of CITB training centres in south Wales. The opening of a new construction training centre in Swansea opened up opportunities which the company quickly seized. Three young men recruited on to a scaffolding apprenticeship successfully completed the scheme and are now fully integrated into scaffolding gangs working throughout the UK.



Two major projects awarded via the 21st Century Schools programme – Morgan Sindall Whitmore High School and Pencoedre High School – enabled the company to recruit a further six young apprentices. It is hoped that once qualified and having gained practical experience, they will become mentors to other young people coming up through the business. The increased volume of work also allowed the company to employ additional staff in the yard, all of whom live locally.

Cass Supplies acknowledges a wider obligation to support other local businesses as they grow, encouraging them to develop their workforces. The company's managing director, formerly in the navy, offers his skills and knowledge to other companies and charities, such as InTouch and Green Task Force – two military-related charities that guide and advise ex-service personnel as they embark on new careers. He is also supporting and mentoring two up and coming businesses in the Vale.

Cass Supplies stands out as a company that not only talks about people development, it practises what it preaches.

2021 Awards Winner

Client of the Year

Award Sponsored by



Gwynedd Council

- A collaborative approach to procurement delivered a high-quality primary school
- Traditional cost-driven practices were abandoned in favour of quality and value
- The integrated team overcame the challenge of COVID-19 to finish on time and under budget



Client of the Year



Ysgol y Garnedd is a brand-new £8m primary school in Ffordd Penrhos, Bangor, built on the site of a demolished school.

When procuring the project, Gwynedd Council broke with tradition to take a progressive approach based on collaboration, integration and early contractor involvement. The result was a high-quality building completed on time and under budget, with no variation.

Gwynedd Council had historically favoured conventional procurement practices based on tendering full design and specification according to a bill of quantities. However, this cost-driven and quality-weak approach had not produced the best outcomes. The expertise of contractors and their supply chains was under-exploited, and tender returns were often above budget. Project teams tended to be disparate and disconnected, and not fully aligned with the customer's values.

For Ysgol y Garnedd, the council took the bold decision to embrace a new approach focused on quality rather than cost and collaboration rather than confrontation. Early contractor involvement (ECI) helped to build a climate of trust and shared commitment within the project team. Early engagement with relevant stakeholders ensured the design was fit for purpose and fully compliant with client expectations.

The council appointed a design team of eight consultants, all of whom were involved from the outset. The team discussed different construction methods and advised on buildability, cost, and the availability of appropriate subcontractors at the concept design stage. Meetings with stakeholders including staff, pupils, governors, council departments and local residents also began at an early stage, with their input informing the design.

Using collaborative digitised technologies, the team developed a BIM model that met the client's requirements and was 100% clash-free before work began on site. When COVID-19 struck, the integrated team was able to quickly adapt operating procedures in order to complete the works on time.

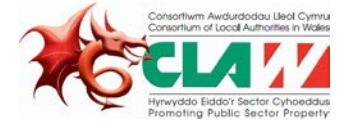
The lessons learned from Gwynedd Council's journey have been shared with industry and the North Wales Construction Partnership Framework to inspire others and drive the 'best local value' agenda.



2021 Awards Winner

Civils Project of the Year

Award Sponsored by



Crumlin River Bridge



AMCO GIFFEN



ARCADIS

- An ageing bridge was replaced on schedule, overcoming several challenges
- Collaborative working and a 'one-team' culture helped achieve a successful outcome
- The upgraded structure will improve capacity on the Welsh railway network



Civils Project of the Year

Network Rail secured £5.1m funding from the Department for Transport (DfT) to replace the ageing railway bridge over the River Ebbw in Crumlin, Caerphilly.

A nine-day railway closure was agreed for September 2020, giving Network Rail just 12 months to organise project delivery. Collaborative working based on a 'one team' culture ensured the physical work was successfully completed within the planned window, with zero injuries and no complaints from neighbours or the public.

The project demonstrated best practice and innovation to overcome several challenges, notably the geography of the site. The original 1902 structure was skewed, with a relatively low clearance between its underside and the river. Other factors included steep river embankments, the proximity of a busy main road and access road, and the presence of utility services including an overhead gas main and high voltage cables.

The team succeeded in overcoming these constraints to produce a design that upgraded the performance and design life of the overbridge while minimising intrusive and high-risk construction processes. When Covid-19 struck, the works programme was adjusted to protect the site team and supply chain without compromising quality or critical path delivery.

Protection of the environment was a high priority throughout. For example, the team developed bespoke temporary works that removed the need to work in the river. A Capital Asset Value for Amenity Trees (CAVAT) assessment was conducted to ensure that any trees and vegetation removed were appropriately replaced. A total of 1,500 tonnes of material was removed from site, all processed to avoid landfill.

The upgraded structure was handed back after just one inspection, with limited snagging works required. The new structure will increase capacity on the Western Valley route and is future-proofed to modern standards, with a 120-year design life.



2021 Winner
Awards

Building Project of the Year

Award Sponsored by

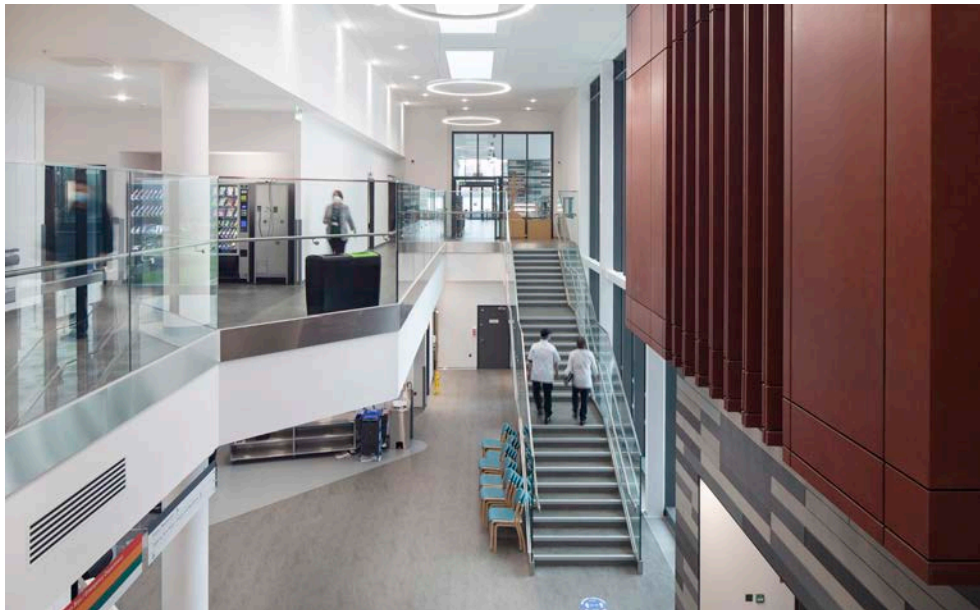


The Grange University Hospital



- An integrated delivery model helped the project to complete four months early
- Clinical staff were involved in the design through virtual reality technology
- Fire safety was further enhanced following the 2017 Grenfell tragedy

Building Project of the Year



The Grange University Hospital (GUH) is a 450-bed specialist and critical care centre in Llanfrechfa, Cwmbran.

The new £350m facility was completed four months ahead of schedule, within budget and with zero defects. This outcome is particularly impressive given that the latter stages of the work were carried out during the COVID-19 pandemic.

Laing O'Rourke's integrated delivery model, based on a DfMA (design for manufacture and assembly) approach, ensured the successful coordination of the manufacturing, construction and MEP (mechanical, electrical and public health) aspects of the project. Effective use of building information modelling (BIM), coupled with close collaboration between the designers and manufacturing team, minimised design clashes and compatibility issues on site. The co-location of key workers helped to promote good communication.

Extensive offsite manufacturing of structural and MEP elements and use of paperless processes streamlined project delivery, saving an estimated 237,099 man-hours compared to a traditional project. The works programme was accelerated in response to COVID-19, resulting in the early handover of 384 bed spaces in April 2020. The facility was fully completed in November 2020, four months ahead of the planned opening.

A key factor in achieving a successful outcome was the involvement of staff using virtual reality. A consultant in emergency medicine commented: "It's been good to be involved in the design and see it come to life." The Aneurin Bevan University Health Board welcomed the potential boost to recruitment following the opening of its new state-of-the-art building.

The hospital is an exemplar for buildings of its type. The facility is BREEAM Excellent, and its fire safety credentials are exceptional. A senior fire safety advisor noted the outstanding fire alarm cause and effect management and approach to fire stopping. The project has been cited in the Government's Construction Playbook, and Laing O'Rourke is actively sharing best practice with design teams and clients around the UK.

