

ISSUE 9 | 2022

INSIGHT

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MORSON PROJECTS RECEIVE '100%' SCORE FOR ACHILLES UVDB AUDITS

Following a successful 'Verify' audit, we are pleased to share that Morson Projects have renewed our annual re-certification to Achilles UVDB.

Achilles UVDB 'Verify' is an independent audit of an organisation's Safety, Health, Environment, Quality (SHEQ) management systems and Corporate Social Responsibility (CSR).

We caught up with Executive Director, Chris Burke as he explains more: "Due to the nature of our business, Morson Projects is categorised as requiring a B2 Achilled UVDB assessment which is a two day audit for high risk large suppliers providing works or services into the utilities sector. The audit is split into two parts; a one day Management Systems Evaluation and a one day Site-based Assessment.

"Following our most recent audit at Head Office and one of our sites in Manchester, we are extremely proud to share that we received the maximum score of 100% across the board for Safety, Health, Environmental, Quality & CSR, for both parts of the audit.

"As our business continues to grow exponentially, having our Business Management Systems compliant to the right standards continues to be of extreme importance to us.

"These standards have been 'business as usual' for our organisation for many years now. However, the renewed certificates continue to give confidence to our clients and prospective clients that Morson Projects have identified and properly addressed these

standards, put into place actions to minimise risks to the business and show our commitment to continual improvement, whilst also supporting the construction of processes to check for compliance within the organisation.

"Well done to all of the team, particularly our Compliance team for maintaining such high standards during a challenging time (the pandemic) which saw many changes in the way we operated."

Our Senior Compliance Office, Michelle Carroll, added: "During this years' office visit the documents that form our Management System were reviewed and assessed. For the site visit, the auditor initially carries out a tour of the work on-site, including viewing the equipment, materials and welfare facilities. Following this, the operatives on site were interviewed and additional records that relate to the on-site activities and environmental considerations were viewed.

"The audit report, once approved, is published online for authorised Achilles UVDB buyers to view. This enables our clients to mitigate risk in their supply chains and make more knowledgeable decisions about the organisations they work with."

Find out more about our certificates:

www.morson-projects.co.uk/our-credentials

Morson Projects' Sellafield operations receive RoSPA President's Award for health and safety achievements



Andy Hartley is pictured above at Nunsmere Hall Hotel for the 'RoSPA Goes Outdoors' Awards Ceremony and Garden Party. He shared:

"It was an absolute honour to be there collecting the award on behalf of our West Cumbria team, the award is in true recognition of the hard work and professionalism of the team and personally I would like to extend a massive thank you to everyone who has been part of this incredible journey for the past ten years."



Morson Projects' Sellafield Operations team, based at the Westlakes Science Park in Whitehaven, Cumbria, are celebrating after landing an internationally-recognised award for demonstrating high health and safety standards.

Morson Projects received the prestigious RoSPA President's (10 consecutive Golds) Health and Safety Award for working hard to ensure their personnel (staff and contractors) get home safely to their families at the end of every working day.

Organisations receiving a RoSPA Award are recognised as being world-leaders in health and safety practice. Every year, nearly 2,000 entrants vie to achieve the highest possible accolade in what is the UK's longest-running H&S industry awards.

Ian Ross, Associate Director, said: "A massive well done to everyone in the Morson Projects Sellafield Operations family who has contributed to us winning the RoSPA Gold Award for a tenth consecutive year. We can never put too much emphasis on health and safety in our line of work. Keeping our workforce safe is our priority and to be recognised with the President's Award is a fantastic achievement for the team."

Ian Woodburn, Project Manager, Sellafield Operations, added: "All of us working on Sellafield Limited projects understand and appreciate how important safety is in all aspects of the work we do, but the main driver is our very real wish to never see any of our colleagues and friends get hurt while doing their jobs, be it physical injury or mental health issues."

Julia Small, RoSPA's Achievements Director, commented: "This is a fantastic and well-deserved accomplishment. All our award entrants demonstrate their unwavering commitment and passion for keeping people safe at work. By receiving this recognition Morson Projects Ltd – Sellafield Operations join like-minded businesses and organisations worldwide, who represent the very best in their approach to Health and Safety. I would like to add my personal thanks for all the work that it has taken to secure this well-deserved award – congratulations to all those involved, who champion and drive up Health and Safety standards every day. You are a fantastic example to others in your sector."

For more information about the RoSPA awards visit:
www.rospace.com/awards



GREAT NORTH RUN FOR CARER SUPPORT WEST CUMBRIA

On the 11th September Andy Hassall and Andy Hartley ran the Great North Run – the World's biggest and best half marathon.

We're delighted to share that the duo raised an incredible £1,100 for Carer Support West Cumbria who provide support to all the unsung heroes who look after a family member, relative, friend or neighbour who could not manage without their help.

Project Manager, Andy Hartley, explains more: "Carer Support West Cumbria are based in Cockermouth, West Cumbria, close to our Sellafield office and this year they are celebrating their 30th anniversary.

"Having built a relationship with Angela and the team over recent months, we felt this was the perfect opportunity to raise awareness of all the work they do in the local community and we really hope everyone can get behind us both for this great cause.

"We know times are tough at the moment but donations of all sizes are welcome and greatly appreciated."

Who are Carer Support West Cumbria?

Carer Support West Cumbria have been supporting people who care for 30 years. A carer is anyone of any age who cares, unpaid, for a friend or family member who due to illness, disability, a mental health problem or an addiction cannot cope without their support.

Examples of their support include: Supporting people like 15 year old Scott, who cares for his Mum, Linda, who

has MS. They've worked with Scott's school to get him extra support, to stop him falling too far behind. They've supported people like 54 year old Sally, who cares for her elderly father, John, who has dementia. They've provided Sally with a place on a relaxation course to help her reduce the stress she was feeling that was harming her health. They've also helped Sally access support from Adult Social Care, and to apply for new benefits.

They've supported people like 9 year old Kate, who helps look after her autistic younger brother, and have taken Kate on trips with other young carers, to give her a fun break away.

Angela Longrigg, CEO of Carer Support West Cumbria added: "We had four runners taking part in the 2022 Great North Run to support our organisation and are incredibly grateful to them all. When Andy and Andy told us they would like to run on our behalf we were delighted.

"Having Morson Projects on board to boost our fundraising efforts and to highlight the contribution made by unpaid carers is fantastic. I would like to wish them the best of luck and hope they have a wonderful day. Myself and the rest of the staff team were cheering for them on September 11th."

For any last minute donations please follow these links:
greatnorthrun.enthuse.com/pf/andy-hartley
greatnorthrun.enthuse.com/pf/andy-hassall-7942c



Tom is a high achiever with excellent grades, good behaviour and was chosen to be one of his school's computer ambassadors, he also has autism. With a keen interest in computer science, engineering and design, Morson Projects seemed the perfect place to spend a day.

On the morning of his work experience, Tom met with Gareth Clarke, one of the engineers from our Jig & Tool team and practiced 3D modelling. In the afternoon, he spent time looking at our Cobot (collaborative robot) in the demo room, discussing 3D printers with BD Manager, Simon Plimbley as well chatting about his interests with our Managing Director, Chris Burke.

Tom explained to Simon and Chris how he designs STL files for his own 3D printer to make rockets, attaching rocket motors to them as well as onboard processor to record the flight data. Doing so means that when the rocket reaches maximum altitude a parachute deploys to have the rocket return safely so Tom can record the flight data. Chris was impressed by Tom's knowledge and expertise in Engineering, and the two further discussed CAD packages for STL designs, rocket motors and on board processors for flight data.

BD Manager, Simon Plimbley shared: "It was great to welcome Tom to the office and introduce him to some of our tech. It is clear Tom has a real interest in engineering and he really lit up talking about his passion – rockets!

"Myself and the team have been impressed by Tom's knowledge and enthusiasm for engineering and are keen to invite him back for more work experience.

"Tom has already expressed interest in coming back for Wellacre's weeklong work experience program next year. As such, plans are being discussed to help sponsor Tom to develop and print a rocket to be launched next year."

Emma Barton, Tom's mum expressed her thanks to the team in a message to Simon: "Tom absolutely LOVED his work experience with Morson Projects, he's not stopped speaking about his day with you all and how fantastic the robot was.

"He's chuffed to pieces to be asked back for the week next year, it can't come fast enough for him.

"I'm really happy he's found a company that share the same interests as he does and also understand the challenges he faces with autism and have made this experience a positive one for him, I'm truly grateful."

Some staff at Morson Projects are neurodivergent or have neurodivergent children and with the company's interest in working with the local community, engaging with people like Tom, we hope to help close the gap between employment, disabilities and local communities.

MAKING ROCKETS FLY: TOM'S EXPERIENCE AT MORSON PROJECTS

Earlier this month, student, Tom Barton came to work at Morson Projects Head Office in Irlam for the day, through Wellacre Academy's work experience program.



WHAT KILLED MOSQUITO AND WHERE NEXT FOR THE UK'S LOYAL WINGMAN?

The topic of fighter generations is undoubtedly one of the most hotly debated aerospace topics on the internet. However when it comes to potential 6th generation fighter capabilities, it is almost unanimously accepted that the ability to control some form of uncrewed, semi-autonomous, loyal wingman is an absolute requirement.

With this in mind, what can we read into the recent 24th June 2022 cancellation of the UK's Mosquito programme by the Ministry of Defence.¹

To try to understand this decision, we firstly need to take a trip into the past... The Mosquito programme was part of the wider Lightweight Affordable Novel Combat Aircraft (LANCA) programme. LANCA originated in 2015 as a series of Defence Science & Technology Laboratory (DSTL) investigations to assess technologies which could offer reductions in air vehicle cost and development time. This was then absorbed by the RAF Rapid Capabilities Office (RCO) as part of the Future Combat Air System Technology umbrella.

In what was, at the time, a departure from the normal approach for the UK defence institutions, a number of competing contracts were awarded for LANCA Phase 1. The three teams awarded contracts were Boeing Defence UK, Blue Bear Systems Research and Callen-Lenz. The Callen-Lenz "Team Blackdown", was a collaboration with Bombardier Belfast and Northrop Grumman UK. The competition aimed to provide a concept which offered significant reductions in cost and development time.

In the intervening time, the Bombardier Belfast site was taken over by Spirit AeroSystems and on 25th January 2021, Royal Air Force announced the Belfast Spirit AeroSystems team had been awarded a £30million contract for LANCA Phase 2, to design and manufacture a prototype under the banner of Project Mosquito.

So why has the programme been cancelled?

Looking at the stated aims of Phase 2, "to enable the rapid development of technology. By utilising the latest software development techniques and civilian aerospace engineering" and "the project will deliver dramatic reductions in costs and development timelines".

Also in the statement announcing the cancellation, Air Commodore Jez Holmes, Head of the Rapid Capabilities Office (RCO) said: "Through Project Mosquito and other experimentation activities the Royal Air Force has made substantial progress and gained significant value in understanding and harnessing a range of future uncrewed capabilities. This decision maximises the learning accrued to date and enables a change of direction for the LANCA programme. The RCO will now quickly launch activities to aggressively pursue the RAF's unchanged firm commitment to integrate advanced uncrewed capabilities into the near-term force mix with more immediate beneficial value."²

One potential conclusion from the statement is that the programme has simply run out of money, and DSTL and the RAF RCO were not confident enough in the progress to assign additional funds. There certainly has not been an announcement of a return of funds.



What is certain is the need for a loyal wingman capability still exists. Current conflicts are demonstrating that legacy 4th generation technologies and doctrines are no match for multi layered air defence networks. As a result, a number of key principles are forming to defeat the threat, namely stealth and drone swarming³. So it is with impeccable timing that BAE Systems recently entered the conversation publicly with two concepts, UAS Concept I and UAS Concept II, unveiled at Royal International Air Tattoo (RIAT) 2022:

The first being the larger, more stealthy type, very similar in size and proposed mission profile to mosquito. The second being a much smaller, potentially attritable platform, likely a response to statements of mosquito being cancelled in favour of cheaper and smaller alternatives. The appeal of the smaller and cheaper platforms being that they lend themselves more towards swarm tactics.

Time will now tell if either of these (or other) concepts are taken forward but the ball is very much in the court of the MoD, DSTL and the RAF RCO. Speaking ahead of the Farnborough International Air Show, the Chief of the

Air Staff, Air Chief Marshal Sir Mike Wigston, said that the next stage of the Mosquito replacement effort will be launched in the third quarter of 2022, as his service seeks to take 'in another direction' the Lightweight Affordable Novel Combat Aircraft (LANCA) programme that spawned the Mosquito.

"Our work to explore uncrewed aircraft and how they might augment F-35 and Typhoon continues. The work has been challenging, but we have learned and gained a huge amount from our Mosquito programme around digital design and novel manufacturing techniques.

"We've decided that our focus now should be on systems that can be operationalised much more quickly, and that is why we have drawn the Mosquito programme to a close. [However], we are moving on fast, and... in the autumn we will unveil a series of targeted challenge areas that we want to drive forward at pace with industry, our science and technology partners, and internationally too."

With the flurry of announcements from Farnborough International Air show, it is clear that for years to come the UK defence industry is going to be a very busy place.



WHAT'S ALL THE HYPE ABOUT HYPERSONICS?

Summer 2022 saw Captain Pete 'Maverick' Mitchell take to the skies as a test pilot flying the SR-72 'Darkstar'. Though the aircraft is a work of fiction, it did raise questions around the validity of hypersonic aircraft. Now, with the UK Aerospace announcing its investment into the Hypersonic Air Vehicle Experimental (HVX), it's time to ask "What's all the hype about hypersonics"?

So, what does hypersonic actually mean? Aside from the nuances around what the speed of sound is, simply put, hypersonic is the term used when discussing speeds of, or greater than five times the speed of sound.

However, the huge engineering challenges for designing aircraft at even half that speed are not so simple. Travelling at high supersonic speeds requires hugely powerful engines, a lot of fuel and a structure that can withstand massive temperature changes during flight.

The high temperatures experienced during supersonic flight famously caused Concorde's fuselage to grow around 300mm, with its max speed limited to Mach 2.02 due to the 127 degree Celsius limitation of some of the materials. Hypersonic air vehicles are expected to see temperatures due to friction as high as 1000 degrees Celsius when operating at low altitude.

So, with numerous complex challenges, why all the interest in going so fast? Again, the answer is actually quite simple: Imagine a bowler in cricket has to deliver a ball from point A to a batter at point B. The faster the ball is moving, the less time the batter has to react and therefore the

harder it is to hit. Translated into aerospace applications, this makes a hypersonic aircraft or missile very difficult to shoot down.

If everything is stealth, what is the worry?

Stealth is an often-misunderstood term when it comes to combat aircraft. There is no single definition or feature that makes something "stealth". It's more a collection of technologies and tactics that when combined, attempt to stop an aircraft being detected by radar.

Radar works by shooting electromagnetic energy at a target and measuring the waves which bounce back. Reducing the amount of energy that bounces off an aircraft makes it harder to detect by radar. What is often overlooked however is range.

The misconception is that stealth makes aircraft like the F-22 and F-35 invisible to radar at any range, this is understandable given how effective they are in reducing the energy that they return to the source, but they still return some energy. In the past, that small amount of energy may have been indistinguishable from the background noise, but if you got too close you would still be detected.

Over the last decade radar systems have improved vastly, increasing the range at which even stealth aircraft can be detected. These improvements are chipping away at the advantage those platforms hold and there are many that are worried that soon stealth alone will not be enough to keep an aircraft safe.

The SR-72 in 'Top Gun: Maverick' exists only in Hollywood, but it's co-creators, Lockheed Martin's Skunk

Works published a near identical concept in 2016, and developed the iconic SR-71 blackbird in the 1960s.

The SR-71 is a very important example in understanding the current interest in hypersonics. Over its service life the SR-71 Blackbird reportedly outran over 4,000 missiles fired at it by enemy air defence systems, without losing a single aircraft in combat. The modern hypersonic train of thought then follows that targeting and hitting a highly manoeuvrable aircraft, travelling at hypersonic speed (above Mach 5) and at high altitude, would be almost impossible to track and hit, even with the most sophisticated air systems in service today and in the near future.

What would a hypersonic aircraft actually do?

No SR-71 was ever shot down, however 12 of the 32 made were lost in non-combat accidents. The aircraft was hugely expensive to build and maintain and came from an era before the wide use of satellites for reconnaissance. In its heyday it provided invaluable intelligence, but it was ultimately replaced by drones and satellites that were cheaper and offered more time over the target.

So, the question must be asked, what would a hypersonic aircraft actually provide?

While the US, Russia and China are all at various stages of developing hypersonic missiles, the UK announced development of a hypersonic unmanned air vehicle that could deliver payloads at great distance and then return to be used again.



"One of the things we're looking at is how can we do this for a fraction of the cost that our adversaries might spend in this area."



Ed Gower, who leads the HVX programme at Reaction Engines told the BBC: "...what we're doing here is ... not a missile; it's something that is able to return sub-sonically. Because of that it will need to operate at high speed and low speed, which is obviously what distinguishes it from something like a ramjet on a missile..."

Speed will improve reaction times for roles like air defence interceptors or ground attack close air support. However the aerodynamic realities required to achieve hypersonic speeds would severely limit the effectiveness of the aircraft in its intended role once it reached its target. The survivability that high speed would give you could be really valuable in a "Wild Weasel" suppression of enemy air defence role, but would a hypersonic aircraft be better than a swarm of cheap, attritable drones? Air Vice-Marshal Linc Taylor, the RAF's Chief of Staff Air Capability recently shared: "...the UK has some novel technologies that could allow it do things differently to those seen elsewhere in the world, and at much lower cost... One of the things we believe will have value in our future way of war-fighting, changing the way we fight, is in reusable hypersonics... At the moment we're exploring the technologies. If they do come to fruition, we will then go, 'Okay, this does have utility, we have the evidence behind it', and then we'll develop it... One of the things we're looking at is how can we do this for a fraction of the cost that our adversaries might spend in this area."

For the UK, cost is key, but as with other areas it really seems like the MoD, DSTL and the RAF RCO have a new approach to technology development: all of which means an exciting time for the UK aerospace sector.

Written by:
Chris Summers
Principal Engineer
Morson Projects



LIKE WHAT YOU'VE BEEN READING? JOIN OUR AEROSPACE & DEFENCE TEAM!

The Morson Projects team is currently 900+ personnel strong, with over 350 people deployed on Aerospace & Defence programmes. We are currently working towards a target of growing our team by almost 20% over the coming 12 months.

Morson Projects are a long-term supplier for top industry clients such as BAE Systems, Leonardo Helicopters, Vertical Aerospace, Rolls Royce, Airbus, Raytheon and Bombardier where we have been involved in many of their major programmes in recent history.

Our highly qualified team of professionals have developed solutions for the Aerospace & Defence industry throughout all project phases from structural design concept through to

manufacturing detail, including the integration of systems, stress analysis, tooling design and manufacture, and production support.

Over the past 12 months our business has evolved considerably, client demand has increased and we are investing more than ever before in the future of our team, the next generation of engineering talent and key industry programmes.

As a team we have had unrivalled exposure to many different ways of designing aircraft and as a result we are able to share and harness this experience to ensure we bring the most advanced, robust and efficient aircraft analysis and design techniques to our clients. Which will remain a key priority for us, always.

Sounds like a team you'd like to be part of?

Due to the unprecedented growth we are seeing as we continue to work on the UK's most significant programmes, now more than ever we are focussed on attracting, developing and retaining the best talent. It is an exciting time at Morson Projects as we continue to invest in our team substantially.

To find out more about our current opportunities, please get in touch with Matthew Thompson, Resourcing Manager by calling 0161 707 1516.



SYSTEMS ENGINEER JOE MCGUIRE RECEIVES FIRST CLASS HONOURS DEGREE

Please join us in congratulating Systems Engineer, Joe McGuire, who has received a First Class Honours for his BEng (Hons) Electrical & Electronic Engineering at University of Central Lancashire.

7 years ago, at the age of 17, Joe joined Morson Projects as an Apprentice and was enrolled onto a 2-year Level 3 Apprenticeship in Electrical & Electronic Engineering. From there, Joe then successively completed his HNC, HND, and now, his Degree! We caught up with Joe to find out more about his journey so far.

Hi Joe! How does it feel to have a First Class Honours degree?

It feels somewhat surreal having finally finished a 7-year long educational journey whilst being at Morson Projects.

Completing the degree and achieving a First whilst working full-time on demanding projects, is something I'll always be proud of. I'm thrilled with the end result and overall achievement – the hard work paid off!

What has been the highlight of the course for you?

I would have to say the extended engineering project was the highlight of the course due to the crossovers between my day-to-day activities within my role and personal interests in electronics, software development, and engineering design. The most satisfying part of completing that module was the fact that I chose a rather ambitious project and managed to execute and deliver within the deadlines whilst attaining a great result.

What support have you had from the team at Morson Projects?

Morson Projects have fully supported and encouraged me throughout this journey. The continued support from the management and my colleagues has definitely contributed to the success that I have achieved, and for that, I'm truly grateful.

How will your degree impact on your current day-to-day role?

I believe the time management, organisational skills, and work ethic required to complete a degree whilst working full-time has contributed to my development within my current role.

The technical knowledge gained from completing the degree has broadened both my skillset and knowledge depth in Electrical Engineering. It has also opened professional and academic pathways that were once unavailable to me, for example, the option to complete a Masters Degree and the distinct possibility of gaining chartership status in the future.

What do you find most rewarding about your role?

First and foremost, I enjoy the working environment my team create. It is a pleasure to work with such great colleagues in a positive, collaborative, and productive environment. As a Systems Engineer, I particularly enjoy the combination of creativity, discipline, good-practices, and design patterns in providing innovative solutions for the client. I find it rewarding that I have the opportunity to work on both new and legacy control systems that are present within the UK's critical infrastructure.

What advice would you give to someone looking to study Electrical & Electronic Engineering?

Master the first principles of the subject as these are used from Level 3 all the way to degree level. It's advantageous to be interested in the subject as this helps the learning process. Finally, make sure you like maths!





TOOLING DESIGNER GARETH CLARKE RECEIVES FIRST CLASS HONOURS DEGREE



Please join us in congratulating Tooling Designer, Gareth Clarke, who has received a First Class Honours for his BEng (Hons) Mechanical Engineering at Manchester Metropolitan University.

Gareth has worked at Morson Projects for 8 years and has been studying for a BEng(Hons) Mechanical Engineering for the past 4 years alongside his full-time role at our Head Office in Manchester. His course has been fully funded by Morson Projects. We caught up with Gareth to find out more about his journey so far.

Congratulations Gareth! What made you choose a career in Engineering?

My Dad actually worked at Morson Projects for 28 years as an Electrical Design Engineer, so I definitely saw the success in his career and the variety in his job role which inspired me to follow a similar path.

I joined Morson Projects via an apprenticeship, and at the time I didn't let anyone know my connection to him though as I wanted to know I'd got the job on my own merits!

Tell us a bit more about your role...

I joined Morson Projects straight from High School in 2014 and have progressed in my career as part of the Tooling team. I currently lead a Tooling Design & Manufacture delivery team which consists of 4 others and me. We take our clients requirements, work out how to solve their problem or facilitate their requirements and then work with them to deliver whatever it is they might need.

Tooling is a unique and often quite 'wacky' discipline. Each project is unique and often means working with a vast range of other disciplines, whether that be Mechanical Engineering, Aircraft Design, Civil Engineering and so on.

What do you enjoy most about your job?

For me, I really enjoy the variety of work, particularly the CAD element of Tooling Design & Manufacture; creating and testing a model to then see your ideas come to life, whether that is a lifting mechanism, trolley or overspeed test fixture. Regardless of what problem you are solving, it's all about the accuracy of the design, and creating a tool that works for the customer!

What has been your favourite project to work on?

One of the most interesting jobs I have worked on was an engine upgrade for one of our defence sector clients. I was responsible for designing the seats used to secure the engines' intakes and exhausts. I was the lead Mechanical Design Engineer and I was responsible for producing over 100 individual designs with a team of 4 people. This is one of the largest and most interesting jobs I have worked on, as there was a lot of aspects to consider in order to get them right. Plus, it was great to see and work with one of the most impressive ships in the world!

As part of my day-to-day work, I am also in charge of producing all tooling jobs we receive for Siemens Industrial Turbomachinery. This involves working with Siemens to find solutions to any issues they may have, producing CAD designs and drawings of a solution and then organising the manufacture of the item for them to use. I have designed all sorts of equipment over the years from lifting mechanisms, laser trimming fixtures and industrial transport fixtures.

What's next for you?

Now that I have completed my degree and I've had the final results, I am looking forward to my graduation in a few weeks' time. I am having a short break from academic work and other qualifications, so I am enjoying being able to focus fully on my day-to-day work.

Following my graduation, I am going to start to look at further career development opportunities and other qualifications such as working towards becoming a Chartered Engineer.

Would you recommend an apprenticeship to someone looking to start a career in Engineering?

I would definitely recommend an apprenticeship to anyone looking to start their career in engineering. It is a great way to get started in the industry, I think it creates a big advantage as the experience you gain from the work environment as well as academic learning is invaluable.

To find out more about Morson Project's Tooling & Design Capability please speak get in touch with Gareth and the team by calling 0161 7070 1516.

Morson Projects welcome Craig Sutcliffe as Corporate Development Director

We are delighted to have recently welcomed Craig Sutcliffe to the Morson Projects team as our new Corporate Development Director within our Power, Automation and Control Division.



Craig is already part of the Morson Group family, having worked at one of our sister-companies, Vital Human Resources, in various Director roles over the past 26 years and will be taking on this new role alongside his current commitments at Vital.

We caught up with Craig to find out more about his career history and why aligning his two roles will bring great benefits to our own business and that of our clients.

Hi Craig... First up, tell us a bit more about Vital?

Vital Human Resources Ltd (Vital) is a dedicated recruitment business, delivering high calibre blue-collar and white-collar personnel.

For over 30 years, we have built long-term partnerships with clients and our partnership approach provides a mutually beneficial environment where trust, investment and innovation are key. In 2013, we were acquired by the Morson Group and are an integral part of the Group's rail and power infrastructure capability.

Why is now the right time for this new role?

We are all aware that there are huge investments being made in modernising and upgrading the UK's power network at present.

The battery storage, EV charging, substation and tertiary connections market is now growing, workload is expanding and clients demands are increasing.

With myself being with the business for over 26 years, and supporting the business from an operational, legislative and commercial perspective, I am able to work with clients to add significant value to their projects during what will undoubtedly be a challenging time for project delivery and resource allocation.

My years of knowledge, experience and network of industry contacts across the power industry, and in particular my HV power connections at grid, DNO, EPC and contractor level have already positioned me uniquely to support power industry clients with their resource, and now we are able to complete the offering with the added value of providing out-sourced engineering design and consultancy where required – it was a natural fit.

What benefit does this provide our clients with?

My role is very much that of a 'match-maker', aligning our clients goals with the right design/engineering capability (Morson Projects) and the right people (Vital) at various stages of the construction process, to help clients and partners to understand and utilise the best skills and capability available in the market to successfully deliver their key project scope:

At design stage, we offer a full suite of market-leading multi-disciplinary engineering services such as; civil, mechanical, electrical, primary and secondary design, plant and survey works and so on. At construction stage, we continue to recruit contractors for our clients via Vital, where I remain Executive Director.

What's next?

With our specialist in-house IR35 tool, managed service solutions and ability to secure talent from both UK and non UK, we truly now offer a unique offering and far beyond others.

The Morson Group's attitude towards investment, engagement with colleges, skills training, apprentices, digitalisation and innovation was a key factor to me agreeing to take on this additional role, this sort of investment is key to seeing the success of the power industry over the coming years.

I would just like to take this opportunity to say thank you to Morson Projects for welcoming me to the team, I look forward to working more closely with the great engineers and designers you have, a fantastic people and business.



If you think Craig can help you with your next power infrastructure project, please don't hesitate to call 0161 707 1516 to get in touch.



SENIOR COMMERCIAL OFFICER HANNAH WORDEN RECEIVES FIRST CLASS HONOURS DEGREE

Hannah has worked at Morson Projects for 6.5 years and has been studying for a BSc in Quantity Surveying at the University of Salford for the past 5 years alongside her full-time role at our Head Office in Manchester. Her course has been fully funded by Morson Projects. We caught up with Hannah to find out more.

Congratulations Hannah, how does it feel to have a First Class Honours degree?

It feels a bit surreal to be honest but I'm very proud of myself. It has been hard work alongside a full-time job, but it was definitely worth it to achieve a 'First'!

What has been the highlight of the course for you?

In my first year I received an award for the achieving the highest grade in the School of the Built Environment in my cohort – that was pretty special as it boosted my confidence and pushed me to strive for the best possible grades for the remainder of my course.

What support have you had from the team at Morson Projects?

I'm grateful to work with an amazing group of people who have supported me throughout my degree and encouraged me to do my best in every assignment and exam. They even supported me when I was stressed over my final research paper and being a nightmare! I'm very grateful to work with them all.

How will your degree impact on your current day-to-day role?

Currently, some of the key tasks I complete are:

- Reporting the weekly spend against various projects across all of the Morson Projects divisions both internally and externally
- Preparing and submitting invoices / payment applications for said projects
- More recently I have been supporting our Power department as appointed Junior Quantity Surveyor on their larger projects – this involves reviewing contracts, submitting the required commercial documents and liaising with the clients in relation to variations and project costings in general

Now that I have completed my degree, I am hoping that my newfound knowledge and understanding of both Commercial and Quantity Surveying tasks provides me with opportunities to grow more within my current role as well as providing me with a stepping stone into other areas of the business.

In the future, if the opportunities arise, I would be interested in the possibility of pursuing further qualifications in contract management / dispute resolution and so on, and maybe even becoming Chartered.

What do you find most rewarding about your role?

I love the varied nature of the role and the clear route for progression following graduation. I also work within a great team who all support each other on a daily basis to ensure we achieve our goals and deadlines.

What advice would you give to someone looking to study Quantity Surveying?

If you are interested in various areas of contract and commercial management (and want the experience of going on-site to visit current live projects within the built environment) it is the degree for you. Don't be afraid to ask people around you for help if you are working in industry – it definitely helped me when trying to do a hypothetical bill of quantities for a complex renovation project (which is actually a live project now across the road from the University of Salford).

It has been an enlightening course to undertake as the content has helped to develop my understanding in my current role in the Commercial Department as well as providing me with new skills that I can apply to all disciplines and projects within the wider Morson Projects business.



University of
Salford
MANCHESTER

"I love the varied nature of the role and the clear route for progression following graduation. I also work within a great team who all support each other on a daily basis to ensure we achieve our goals and deadlines."



MORSON PROJECTS' YOUNGEST FELLOW

JON CALLAHAN'S JOURNEY

An aspiration for many engineers, we caught up with Jon to find out more about his journey so far and why he would recommend professional registration to others...

Hi Jon, congratulations! How does it feel to be a Fellow?

"Achieving Fellowship at any age is an outstanding feat of engineering however I am very proud, at 34 years young, to be the youngest elected Fellow of the IMechE within the history of Morson!

"The experience and opportunities I have had at Morson Projects have allowed me to work on some of the most exciting engineering projects out there; switching from military jets to commercial helicopters and from small business aircraft to some of the largest aeroplanes in the sky. It is a privilege that these opportunities within Morson Projects have been recognised in my election to Fellow Engineer with the IMechE."

What was the process for becoming a fellow?

"Having achieved Chartership at 27 years old with the IMechE, I set my sights firmly on progressing to Fellow ever since! The found the process very similar to that of Chartership, however the jump from Chartered to Fellow back now seems enormous. I'm very proud to have led such highly technical roles within Morson Projects which has allowed me to manage multiple teams of engineering specialists and end up where I am today.

"My latest role as Principal Engineer, operating at the highest level of software verification for our client, Rolls Royce, has allowed me to influence policy and technical direction of software verification activities as well as present to the Rolls Royce Process Board all of which formed the basis of my Fellowship application."

What support did you receive from the Morson team?

"Morson Projects are lucky to have two fantastic Fellow Engineers with the IMechE, our Executive Director Chris Burke and our Business Development Director Syd Carson have both been Fellows for as long as I've known each of them. I ambushed an unsuspecting Syd back in October 2021 and he cleared his diary for the afternoon as we went through each step of a very rough draft that I had been putting together for quite some time. The support I received following this meeting from both Chris and Syd has been fantastic, including the opportunity to partake in additional training courses to strengthen my application for Fellowship."

How does this benefit your team and clients moving forward?

"Professional registration is the engineering industry's gold standard. It gives engineers continuous access to world-class resources to deliver the best solutions to clients time and time again.

"Morson Projects is at the forefront of some of the biggest engineering challenges throughout the UK in multiple engineering industries. Achieving Fellowship at 34 years old is a true status of how disciplined and talented our development programme is within Morson Projects and I'm sure this milestone marks the start of further Fellowship applications from our engineers which I look forward to supporting.

"As an elected Fellow our clients gain recognition of the engineering talent within our group at a time where we are becoming preferred supplier to more and more of our clients!"

Why would you encourage others to pursue professional registration? What are the benefits to them?

"CPD is at the forefront of all levels of professional registration and ensures that you continue to be proficient and competent in your profession whilst also providing you with essential skills that could help progress your career. Over the last 7 years I have taken a very active role within my CPD and I encourage all engineers of any age to consider professional registration and actively pursue all CPD opportunities available to them.

"By pursuing professional registration engineers will become more effective in the workplace, stay up to date with changing trends and maintain and enhance their engineering knowledge. In our ever-diverse list of clients within Morson Projects it is vital that we see and believe in the benefits of CPD within our workplace!"

Jon has also volunteers to host a "Professional Registration" workshop internally across Morson Projects for his peers later this month to explain more about his journey and knowledge surrounding professional registration, having recently been through the process.



To find out more, please visit the IMechE website or contact Jon on 0161 707 1516 who is happy to share his advice and experiences.

"Everyone took it at their own pace and there were loads of people that had never done it before. We all worked together as a team."



#Kiliclimbers

Morson Projects' Graham Eardley and Morson Training's Matthew Leavis are climbing Kilimanjaro alongside Andy Reid this October to raise funds for The Standing Tall Foundation. The funds raised will go towards the free mental health support and drug and alcohol support that the foundation provides.

The trip is also significant as it takes place on the 13th anniversary of the day veteran Andy suffered life-changing injuries in Afghanistan.

Graham recently spoke with Andy about his preparation for the upcoming climb, including a trip to Snowden and a recent trip to Everest Base Camp! Alongside the fundraising aspect of the trip, Graham shared the main reasons he decided to get involved with the expedition: "It's the biggest freestanding mountain in the world, so the challenge is immense. I've always enjoyed walking, so when I met with Andy and the opportunity arose to climb Kilimanjaro for a charity like The Standing Tall foundation, it just seemed like too good an opportunity to miss!"

Graham also discussed how his incredible trip to Everest Base Camp has prepared him for the challenges he'll face when climbing Kilimanjaro: "I recently got back from Everest base camp, so that was my training started. I got through the 13-day trek reasonably well, but it made me realise how much of a challenge Kili's going to be. We reached a peak of 5600 metres, whereas Kili is about 5800/5900 metres. Those extra couple of hundred metres are going to make a big difference!"

He continued: "I was fortunate enough that I didn't suffer with headaches from the altitude, but I did notice the lack of oxygen. The concentration required to walk over some of the big boulders was quite draining. It felt like I'd already done a day's worth of climbing in just a couple of hours."

Part of Matt's preparation for Kili was taking part in the Born Survivor assault course alongside other members of the Morson Training team. It consisted of 30 gruelling obstacles on a 10km muddy course designed by the Royal Marine Commandos: "It was a great event and it was great to see other representatives from the Standing Tall foundation there. Everyone took it at their own pace and there were loads of people that had never done it before. We all worked together as a team. That was one thing that I loved and I can see that transferring over to Kili. You do it together, no matter what challenges you face, you help everybody get over the obstacle."

Working together as a team and having the wider group climbing the mountain as a support system will be key to making the climb as smooth and enjoyable as possible. Graham too highlighted the importance of teamwork and togetherness on a journey like this: "Snowdon was a good day out, meeting the rest of the team and getting to know each other. We learned what we're good at, how to support each other, and things like that. Once everyone's up there, you want to reflect on what you've done. It's going to be an immense feeling. Sensing what you've achieved, seeing the sunrise at the peak and you're going to feel

Continued >

very proud of yourself and what everyone's achieved. Everyone will be hugging each other and will have a real sense of togetherness."

Matt gave an update on where he is in terms of his fundraising for the climb: "We had a minimum requirement that we all have to commit to, we hit that last year. With the event that we held in September, we managed to hit the target in one go. I'm hoping to raise between six and ten thousand pounds personally which is going to be hard work. We've got a few events coming up and Born Survivor has really helped with that"

Andy Reid gave an insight into how his recent walk up Mount Snowdon has prepared him for Kilimanjaro and the challenges it will bring: "As you know I've done it before, so mentally I know where I need to be at, but physically, it's going to be a different challenge. Doing the Snowdon trip, it was hard work and I realised the impact the heat is going to have. I think it was about 16,17 degrees that day, quite a warm day, and I could probably go around 300 metres before I had to stop and take my legs off, give them a wipe to get rid of all the sweat and then go again. So, when we're talking about Kili, one of the days is going to be 5K in one day. There's going to be a lot of stopping and starting. If I don't wipe the sweat off my leg, then I might get sores which could be detrimental to the whole challenge"

We look forward to following Andy, Graham, Matt and the rest of the Kili climbers' preparation ahead of their trip, you can support climbers by donating to Graham and Andy's fundraising pages.



MORSON TEAM TAKE ON TOUGH MUDDER

On Saturday 10th September Jon Callahan, Graham Eardley and Chris Summers from our Aerospace division participated in the North West Tough Mudder at Cholmondeley Castle in Cheshire.

The team were also joined by Natalie Callahan and raced to fundraise for both the Morson Group 2022 chosen charity Teenage Cancer Trust and Deputy Head Teacher Natalie's chosen charity, the NSPCC.

Chris Summers shared: "It was a big challenge which started out as a 10km to get into shape for Jon and Natalie's wedding this summer, later evolving into the full 15km. It was an amazing experience... A few days later and we still ache, but we will absolutely be doing it again!"

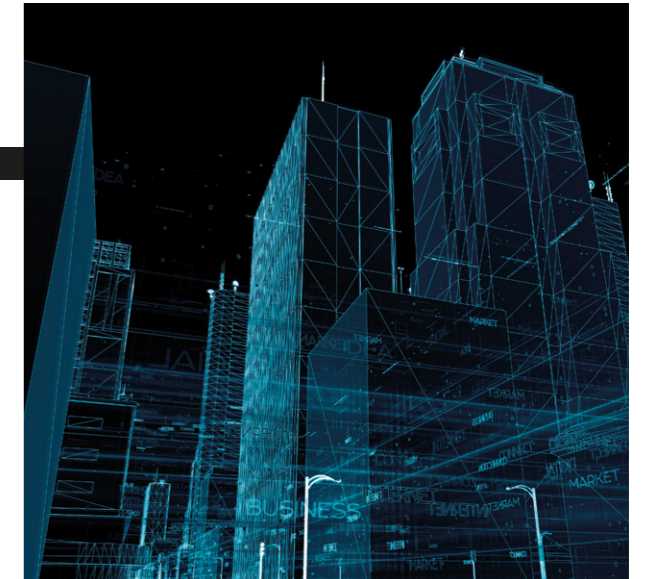
Graham Eardley added: "The course included all different types of terrain, including 30 obstacles, such as swamps up to our necks, ice baths, climbing and electrocution! A lot of the obstacles required teamwork and I think we did a great job of helping each other through."

Well done team and thank you for choosing Morson Projects to sponsor your shirts!



34—35

WALDECK AMONGST THE FIRST IN THE INDUSTRY TO HOLD UKAS ACCREDITED BIM CERTIFICATION



36—37

WALDECK SHORTLISTED IN FIVE CATEGORIES AT BUILDING INNOVATION AWARDS 2022

38—39

WALDECK SHORTLISTED IN FOUR CATEGORIES AT TECHFEST AWARDS



WALDECK AMONGST THE FIRST IN THE INDUSTRY TO HOLD UKAS ACCREDITED BIM CERTIFICATION

The Building Research Establishment (BRE) has announced that its “ISO 19650-2:2018 Information Management Certification for Businesses using BIM” scheme has received accreditation from the United Kingdom Accreditation Service (UKAS).

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The news follows BRE's successful completion of UKAS' BIM Certification pilot programme, which began in 2019.

On the successful completion of the pilot, several of its certificated clients are now among the first in the industry to hold UKAS accredited BIM certification, including Waldeck.

Waldeck Director Neale Stephens shared: “Waldeck have been successfully delivering projects in accordance with PAS 1192-2 for many years and have held BIM Level 2 Business Systems Certification since 2017.

“Following the introduction of ISO 19650-2 and our certification back in 2021 we are proud to be among the first in the industry to hold a UKAS accredited BIM certification.

“Waldeck chose BRE for certification as compared to alternative options it provided a more in depth and rigorous approach, thus enhancing the processes and procedures that underpin Waldeck's BIM delivery.

“As part of our continued learning and improvement in-line with ISO 19650-2, Waldeck continue to work

with BRE to invest in upskilling our employees with the appropriate level of ISO 19650 training to suit their role.”

BRE's accredited BIM certification scheme for businesses is available for organisations within the Architecture, Engineering and Construction (AEC) Industry who wish to demonstrate their ISO 19650-2:2018 compliance and capabilities.

This is the first time globally that Accreditation for BIM certification schemes has been available, with UKAS being the first body to pilot BIM accreditation against the ISO17065:2012 conformity assessment standard and the ISO 19650-2:2018 BIM standard.

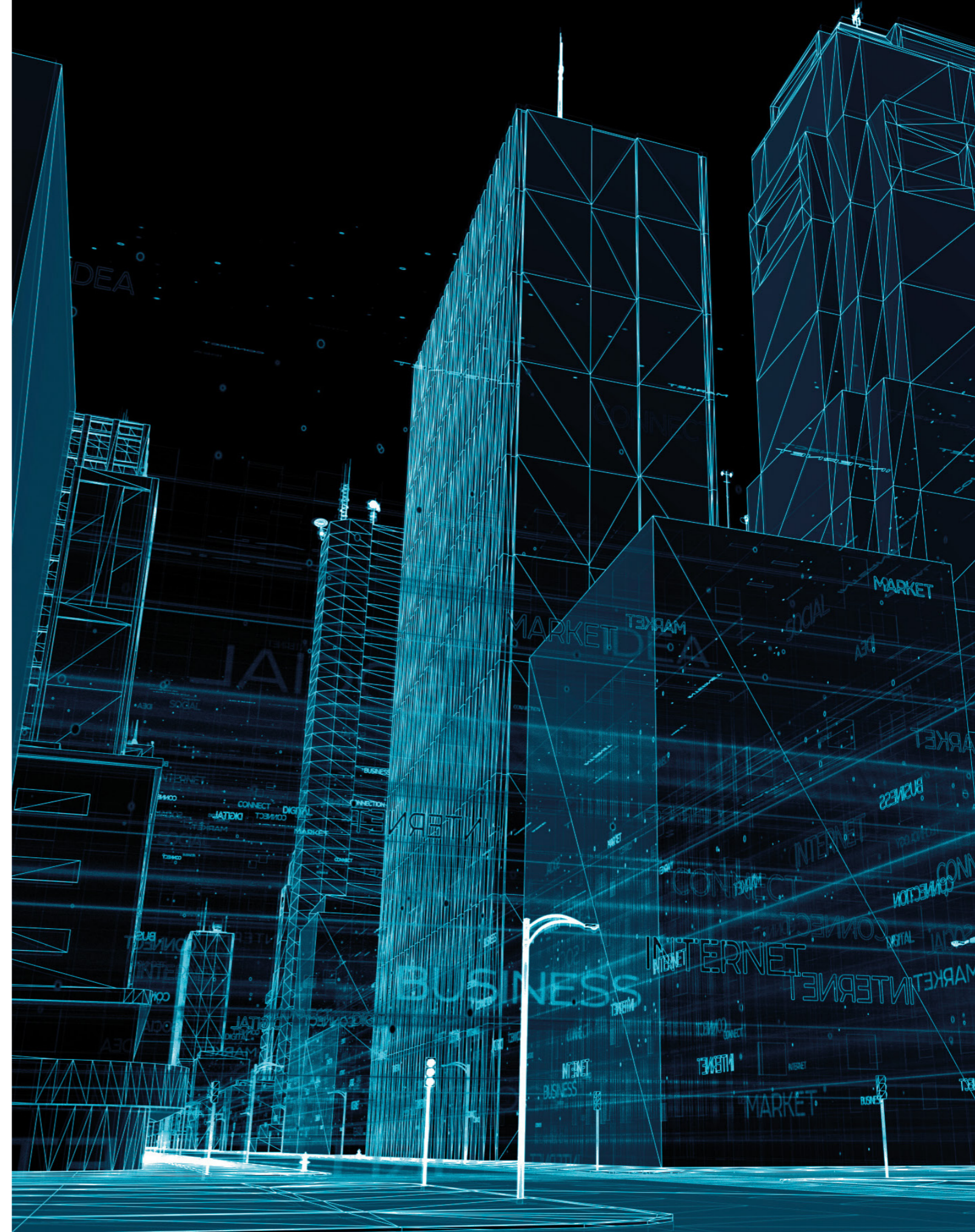
BRE was an early adopter of BIM Certification and says it is proud to be in the first group of Certification Assessment Bodies to receive the accreditation.

Ben Curtis, BIM Certification Scheme manager at BRE, commented: “We're delighted to have our BIM certification scheme accredited by UKAS.

“This is a major step for the wider industry and will help companies in the Information Management space better demonstrate their ISO 19650-2:2018 aligned BIM processes and services to their customers and partners.

“Demand for Accredited BIM certification continues to rise and our hope now is that today's news will drive confidence and accuracy across the industry as more businesses are now able to reap the benefits of this accredited certification which BRE offers.”

“This is a major step for the wider industry and will help companies in the Information Management space better demonstrate their ISO 19650-2:2018 aligned BIM processes and services to their customers and partners.”



WALDECK SHORTLISTED IN FIVE CATEGORIES AT BUILDING INNOVATION AWARDS 2022

The awards recognise and celebrate the pioneering individuals, organisations and partnerships that are embracing emerging technologies and digital transformation in order to take UK construction to the next level.



01 — Best use of information management using BIM

Building Information Modelling is so much more than turning 2D drawings into sleek 3D models. In an industry under intense pressure to improve productivity and efficiency, it can deliver a step-change in design, construction and communication that results in better buildings and a stronger bottom line.

This award category was searching for projects where the creation and management of data through BIM has delivered tangible benefits to the planning, delivery and operation of buildings and infrastructure assets.

As such, our shortlist is for our involvement in the re-development of Perry Barr Station.

A major redevelopment has taken place at the station, led by Transport for West Midlands and West Midlands Rail Executive. The new station replaces the old, tired building, which suffered from poor access and a lack of facilities.

Waldeck were the lead design organisation providing full multi-disciplinary services for Galliford Try as the main contractor.

02 — Most Innovative Infrastructure Project

With a £60bn pipeline of work over the next decade and the government championing modernisation through initiatives like Transforming Infrastructure Performance, there has never been a better time for infrastructure projects to embrace innovation.

This award category was searching for schemes that are using Modern Methods of Construction, digital tools, advanced manufacturing and smart technologies to revolutionise how we plan, design, build and operate key assets.

As such, our shortlist in this category is also for our involvement in the re-development of Perry Barr Station.

Our in-house multi-disciplinary team utilised digital tools such as 4D visualisation, pedestrian flow analysis, and 3D point cloud surveys to enhance the collaboration, coordination and efficiency of the project.

The overall project has been delivered on time and under budget with our client and the public authority praising the overall quality solution that the completed station provides.



03 — Best Asset Management Innovation

04 — Best Technology Partner

Digitalisation is already shaping the built environment and the potential application of technologies such as BIM, AI, the Internet of Things and robotic automation go far beyond the design and build stage to the long-term management of the asset.

Waldeck work closely with clients to use technologies with a whole lifecycle approach in mind, harnessing data to provide genuine value, better processes and behaviours, and ultimately better outcomes for clients.

These two shortlists follow on from our award win at the last years' Building Innovation Awards for our work with Network Rail, following the continued evolution of our work to digitalise their approach to asset condition inspections.

The solution has been developed to provide holistic and lifecycle benefits, seeing the data supporting informed decision making for asset care over the entirety of its lifecycle, as well as supporting Network Rail's ambition to create a Digital Railway.

05 — Most Innovative Consultancy

Judges for this category were looking for consultants who work with clients and contractors alike to ensure projects meet their technical specifications, come in on time and on budget, and are managed effectively in the long-term.

There was also a strong focus on training and upskilling of the company's workforce and helping employees to bring new ideas to the table.

Our submission detailed how, as a business, we strive for efficiencies, utilise and create digital data daily and continue to work smarter with how we leverage information within our designs to offer both time and resource benefits.

Although within the engineering industry the focus is often on project delivery and getting results for clients, we pride ourselves on looking inwards to our staff and ensuring they are working in an empowered culture where they are valued and nurtured. We work to ensure that Waldeck is a place where people want to work, can progress in their career and can make a difference through new ideas and innovation.



The winners will be announced at The Point, Old Trafford, Manchester on 27th October 2022.

For more information about the awards, or to view the shortlist: buildinginnovationawards.co.uk

WALDECK SHORTLISTED IN FOUR CATEGORIES AT TECHFEST AWARDS

Waldeck are delighted to announce that we are a finalist in four categories at this year's TechFest Awards, organised by the New Civil Engineer (NCE).



Waldeck are delighted to announce that we are a finalist in four categories at this year's TechFest Awards, organised by the New Civil Engineer (NCE).

Firstly, in recognition of our on-going collaboration with Network Rail's Research & Development team and Nottingham Trent University to digitalise masonry bridge condition inspections, the team are shortlisted for three category of awards:

- 01 – Best Use of Technology: Digital Engineering**
- 02 – Best Use of Technology: Artificial Intelligence**
- 03 – Transport Infrastructure Champion**

Working collaboratively with Network Rail's R&D team and Routes, Waldeck's digital team, and University Partner – Nottingham Trent, have been supporting Network Rail's aspirations to digitalise their approach to Masonry Bridge condition monitoring. Thus far, a solution had been developed to leverage digital data to provide informed decision making for asset care over the entirety of its lifecycle, as well as supporting Network Rail's ambition to create a Digital Railway.

Our most recent project, has been to further develop the asset viewing solution, to include the 360-degree navigation of much larger data sets and the development of a condition marking scoring system through the utilisation of the geometry and meta data within the BIM models produced from point cloud data, supporting informed and non-subjective decisions to be made by Network Rail's asset care teams, providing essential insights into the asset conditions, and how it has changed progressively throughout its lifecycle.

And secondly, following our work with Network Plus to undertake a proof-of-concept project, leveraging digital capture technology to aid in the management of vegetation around key power infrastructure, our team are shortlisted for:

04 – Best Use of Technology: Smart Data Collection for Asset Management

Overhead power lines require continuous maintenance to ensure they are clear of vegetation to prevent damage and in turn disruption to power supplies. Currently this is done on a standardised maintenance schedule, with each single span of overhead power line classed as an asset.

On discussing Network Plus' requirements and understanding the large quantity of assets spread across large areas (and the unique environment of each), Waldeck proposed a solution to utilise point cloud surveys to quickly capture detailed data and streamline the management of assets.

The proof-of-concept project demonstrated how using mobile SLAM technology to capture assets, combined with our cloud-based asset management solution, can enable more efficient and targeted maintenance of the power infrastructure network.

The awards ceremony will take place on the 24th November at Leonardo Royal London Tower Bridge and will celebrate the projects, teams and companies embracing the digital revolution and harnessing technology and digital to propel the industry forward.

View the full shortlist here: techfest.newcivilengineer.com/shortlist



CASE STUDY:

OAK TREE CLOSE SUSTAINABLE RESIDENTIAL SCHEME

Waldeck are proud to have been part of the team making sustainable living a reality for the people of Bearley.

Our team provided Pre Contract Employer's Agent, as well as Pre and Post Contract Principal Designer duties for Oak Tree Close, a mix of seven low-energy passivhaus standard properties including houses, bungalows and maisonettes which will be available for affordable rent.

The homes will be offered to people who share a connection to the village, which will be fantastic for local people who are looking to either stay in or return to their cherished community.

Appointed by Orbit Group, Waldeck have been working with stakeholders including New Meaning Group, Beattie Passive and Harper Group to see the scheme through to completion.

Solution

This development will count towards the commitments set by Warwickshire Rural Housing Association (WRHA) to improve the environmental efficiency of their new builds.

In keeping with WRHA's commitment and Stratford's carbon-neutral ambitions, this development used the Beattie Passivhaus system. It's an advanced low energy construction standard which creates buildings with very little environmental impact. It's efficiency also keeps running costs to a minimum for residents.

Each of these low-energy, passivhaus standard homes boast solar panels and air source heat pumps which will help to reduce energy bills for its residents. Additional benefits include a 300mm cavity, filled with a blown insulation to improve the thermal capabilities of the property, whilst also providing vehicle charging points for the residents.

Also providing invaluable contributions to the build were trainees and graduates of New Meaning

Construction's sister organisation, the social enterprise New Meaning Training, which provides opportunities for young people who might otherwise not be in education or employment.

The Results

The support and funding provided by Stratford-on-Avon District Council has been invaluable to the success of this pioneering scheme.

Councillor Ian Shenton, Climate Change Portfolio Holder, Stratford-on-Avon District Council, explained how the development aligns with the council's aims:

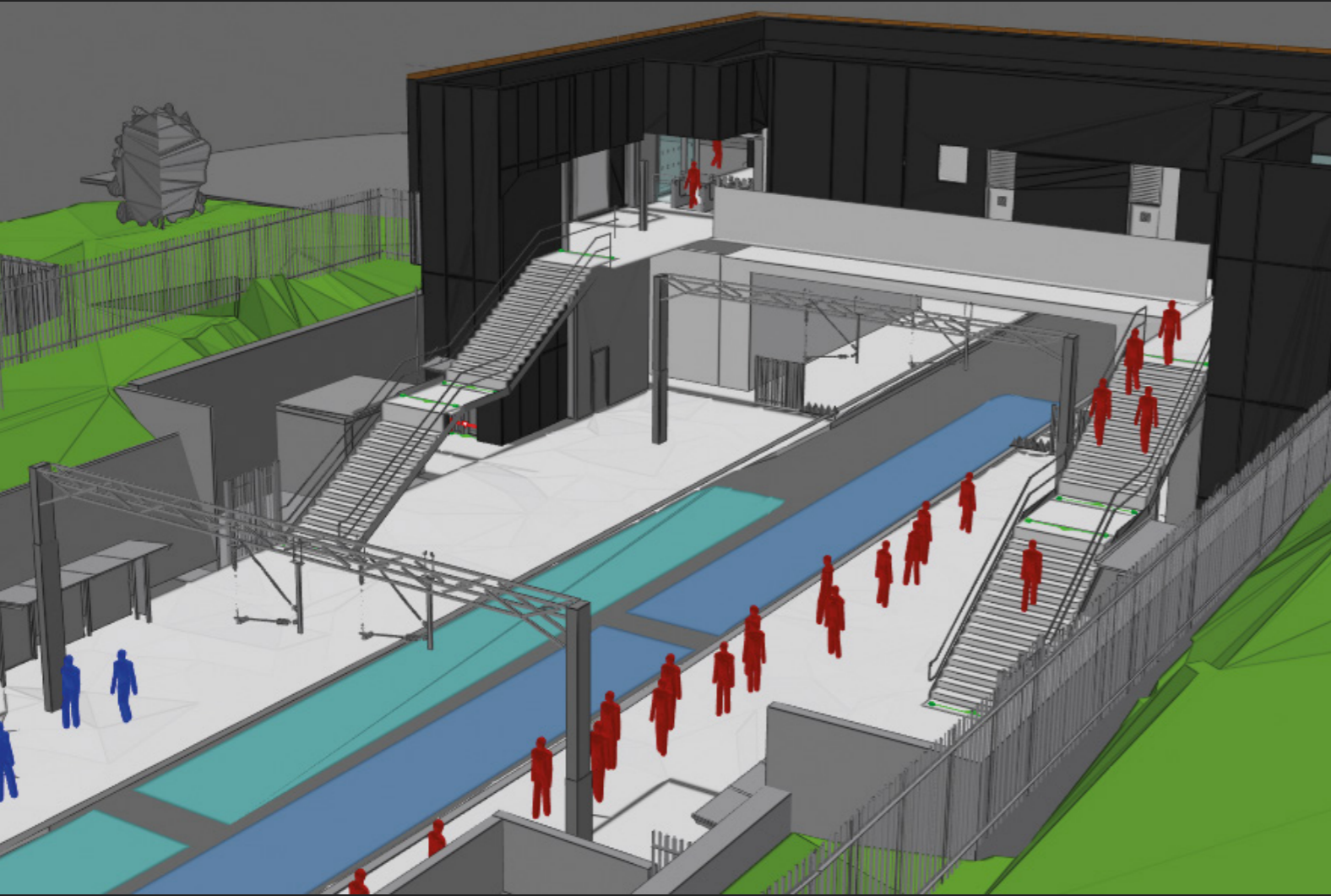
"This PassivHaus development is a great example of how we're working in partnership in Warwickshire to respond to the climate emergency. The low-carbon construction and the innovative energy saving technologies support Stratford-on-Avon's vision to be one of the UK's first carbon-neutral districts."

Councillor Daren Pemberton, Portfolio Holder for Place and Economy, Stratford-on-Avon District Council also shared his support:

"We are so pleased to support Warwickshire Rural Housing Association's innovative development, which will provide high quality, low-carbon, affordable homes for the Bearley community. It demonstrates just what can be achieved by working closely with the community and creating open and honest partnerships that put our residents and communities centre stage."

And Councillor Arslan Erinmez, Chair of Bearley Parish Council, explained what these homes mean for the village:

"Bearley Parish Council is delighted that the affordable housing have been constructed to the latest design and ecological standards. It is exciting to see the efforts and perseverance of the Parish Council over the past decade bringing our 20-year dream to a reality."



PEDESTRIAN FLOW MODELLING HELPS WITH RECORD NUMBER OF PASSENGERS AT NEWLY-DEVELOPED PERRY BARR STATION

West Midlands Railway recently thanked passengers after confirming record-breaking travel numbers during the Birmingham 2022 Commonwealth Games.

Amongst the success, record numbers of passengers visited the newly-redeveloped Perry Barr station during the 12-day event (for the athletics and opening/closing ceremonies) with more than 25,000 passengers passing through.

Malcolm Holmes, Executive Director of West Midlands Rail Executive, said: "With more than one million Games tickets sold, staging this event was a monumental challenge for our rail network but thanks to a lot of hard work from across the industry it is one we have passed with flying colours."

We took a look at how Pedestrian Flow Modelling was used as part of our multi-disciplinary design services at Perry Barr Station, to ensure the successful flow of passengers through the station.



CASE STUDY: PERRY BARR STATION

A major redevelopment has taken place at the existing Perry Barr Station in Birmingham as part of the regeneration of the surrounding area.

Waldeck were the lead design organisation providing full multi-disciplinary services on the scheme for Galliford Try who are the main contractor.

As part of our involvement on the project, our team provided Pedestrian Flow Modelling.

Pedestrian Flow Modelling was used to establish the suitability of the design option for predicted future demand forecast of 1.1 million passengers in 2027, which would see a 58% increase from the base flows.

Our Solution

Our team utilised Oasys Software's MassMotion to create a 3D model from the model created by our architectural team.

Simulations were set up and created to align with Perry Barr's peak train times, with Platform 1 and 2 trains arrival being 3 minutes apart with the passenger boarding and alighting demands taken from peak 3-hour survey data and factored by the 58%.

The model was stress-tested for a number of additional scenarios, including out of hours operations, event traffic, a degraded state such as when an entrance is out of use due to a malfunction or closed for safety reasons, provision of ticket barriers on peak trains and station design stress test determining maximum capacity of pedestrians during peak hours before elements are over stressed.

Pedestrian Flow Modelling has confirmed the suitability of the team's design at each GRIP stage and aided the streamlining of the scheme to suit budget and visual aspirations. In addition, the passive provision of gate lines was simulated aiding future development of the station should these be installed at a later date.

Associate Director, Veronica Ruby-Lewis answers some common questions:

Can Pedestrian Flow Modelling be used going forward for on-going flow management within the Station?

The station is in close proximity to Aston Villa Football Ground and anecdotal evidence identified a noticeable impact on the passenger flow at such times despite only a number of trains being affected by this. An initial event train scenario was run as part of the project determining stress points, this could be built upon with further scenarios and flow options run to aid station management for such frequent events and for special events taking place, such as the Commonwealth Games 2022.

In addition, should the station undergo future design changes, then it could be used to inform design, but also temporary station environment as a result of construction work.

Would you recommend Pedestrian Flow Modelling to clients?

Yes definitely. The algorithm behind the agent profile mimics that of a person in terms of behaviour and decision making to suit surroundings and scenarios. This therefore can translate and be utilised to benefit many different types of projects where mass movement of pedestrians is key to the design outcome.

The MassMotion software would be ideal for transport projects such as airports, bus depots, train stations, port terminals and so on, as well as event management for sporting and music events and large entertainment venues, such as stadiums, arenas, concert halls etc.

To find out more about how Pedestrian Flow Modelling can enhance your next project, please get in touch with Veronica and the team by calling 08450 990 285 or send Veronica an email here.

WALDECK ANNOUNCED AS PREMIER PETERBOROUGH PHANTOMS SPONSOR



Waldeck are delighted to announce that we are the Peterborough Phantoms ice hockey team's new premier sponsor going into the 2022-23 season.

Following the announcement, we were pleased to welcome some of the Peterborough Phantoms across to our new Peterborough Office as they handed over two sets of their Waldeck sponsored kit for us to display in our new space.

We've moved!

Our new office address
Northminster House
Northminster
Peterborough
PE1 1YN

The team have moved into a recently modernised office space on the third floor of Northminster House, just a short walk from the city centre.

Director of Civil & Structural Engineering, Tim Leach shared: "Waldeck have had an office in Peterborough since 2007 and as we continue to grow our engineering team in the local area, there has never been a better time for us to support such a great local team. Having met with them earlier this week, it is clear that the Peterborough Phantoms have a passion for not only their sport but also their local community.

"We look forward to growing our relationship with the Phantoms over coming months and supporting them throughout the 2022-23 season, starting with our Peterborough team attending tonight's home game against Bracknell Bees!"

Phantoms Director Lee Thomas shared: "We're delighted to welcome Waldeck as our premier sponsor. The knowledge and expertise on hand at the company is superb, and with a track record of sponsoring sporting talent we're really excited to partner with them and deliver results on the ice."

Speaking of the partnership with the Phantoms, Ged Mason, CEO of Waldeck's parent Company, the Morson Group said:

"Morson Group has a proud history of sponsoring some of the best high profile sporting talent, from grassroots level to the very top, across many sports. We're excited to be sponsoring Peterborough Phantoms, our first ever partnership with an ice hockey team, and we wish them all the best for the upcoming season!"

More about the Peterborough Phantoms...

Founded in 1982, the team play in the National Ice Hockey League and are led by Head Coach Slava Koulikov.

The Phantoms team is made up of two imports, established players, and locally trained players who have progressed through the excellent Peterborough Youth Development System. In recent seasons, a number of Peterborough Players have represented the Great Britain Junior and Senior sides at the IIHF World Championships and Olympic Qualification tournaments.

During the season, Phantoms will be both hosting and visiting teams from Hull, Bracknell, Milton Keynes, Basingstoke, Leeds, Bristol, Swindon, Telford, London and Sheffield.

www.gophantoms.co.uk

"I will maintain Waldeck's P6 Project Planning tool to allow Directors, Associate Directors and Project Managers to have a holistic and detailed view of current, future and completed projects."

MARTIN GOODWIN:

FROM 40-YEAR RAF CAREER TO WALDECK TRAINEE PROJECT PLANNER

Following a brief chat with Trainee Project Planner, Martin Goodwin, at an Ex-forces Career Transition Partnership event in Salford recently, we caught up with him to find out more about his career history and how he is settling into his new role at Waldeck.

Martin joined Waldeck's Civil & Structural Engineering team in Lincoln earlier this year after a 40-year career working with the Royal Air Force (RAF).

We recognise that although there are many transferable skills and experiences that can add significant value to the UK's construction industry, leaving the forces and starting a civilian role can be extremely challenging. Martin sheds some light on his experience so far.

Hi Martin! Tell us a bit about your career history, and how it led you to your role today?

I had a very rewarding, fulfilling and interesting 40-year Royal Air Force career having joined as a Boy Entrant in 1975. As an aircraft propulsion engineer I mostly worked directly with fighter aircraft but also completed tours building and testing jet engines. Moving location every 2 to 3 years, spending over 8 years abroad in both Germany and Kuwait, I learnt new skills and expanded my



horizons with each tour. I travelled around the world with the RAF and was lucky enough to fly, as a passenger, in many fast jets and other aircraft types over the years.

In the early 2000's I became a 'Train the Trainer' RAF Instructor, entailing giving a new Service Instructors knowledge of delivery techniques; extremely challenging and equally rewarding. I finished in 2005 at RAF Waddington on Sentry (AWACS) surveillance aircraft as the Training Supervisor. I then spent the next 16 years in various RAF training and support roles, leaving in Jan 2022.

I updated my CV and forwarded it to several recruitment specialists. One of the returns 'matching my profile' was for a Trainee Project Planner with Waldeck. I applied for the role, had an interview with Tim Leach and Will Green and was offered the job!

How have you found the transition into your new role?

Interesting, very challenging, dynamic, exciting. Utterly terrifying in one respect until you realise you



have the skills to overcome the challenges; one at a time.

What does your new day-to-day role entail?

At this moment in time, learning and lots of it! I am new to the industry, new to the role, new to the main software I use in my primary role and new to a pure civilian environment.

When I become proficient I will maintain Waldeck's P6 Project Planning tool to allow Directors, Associate Directors and Project Managers to have a holistic and detailed view of current, future and completed projects. This will include resource loading for Waldeck Civil & Structural team and direct liaison with our internal Commercial team.

I'm also responsible for supporting the accurate input of data into the PQL, a high level project tracker, and production of a Microsoft Power BI dashboard for Director use.



What are you enjoying most about your role / working at Waldeck?

The people, the people and the people. I work with very understanding and empathetic superiors. I remain extremely impressed by the work ethic and professionalism of all team members I have come into contact with thus far. Being the 'wrong' side of 60 years of age I have had to fully engage (and to a certain degree kickstart) my aging brain cells. This, whilst wearing, is hugely exciting. I sleep well at the moment.

What advice would you give to someone looking to leave the forces and continue their career in a civilian role?

Be brave. Don't hide your light under a bushel. You have hard earned experience. You possess many transferable skills, talents, successes and ideas. 'Transferable skills' is an oft bandied around term. You have 'stuff' industry needs and/or wants. You may not know it. You may not realise it. But you do. Without being arrogant firmly look someone in

the eyes and politely inform them so. If you are of a more mature disposition look at any interview as a professional meeting; though do carry out meticulous preparation. Talk to peers and superiors, do your research. Don't try and be an expert or you run the risk of falling on your face but do relate anything of relevance back to your own experience whilst serving in the forces.

What's next for you?

To learn my job and become an active, integral, and proficient team member. To then work with the management team to understand, and if necessary challenge, process and procedure to drive efficiencies into project support processes.

Martin recently represented Waldeck and our parent company the Morson Group at an Ex-Forces Recruitment Fair. Find out more about the day in the video below:



JOE BAKER PROMOTED TO ASSISTANT CIVIL ENGINEER

Please join us in congratulating Joe Baker on his promotion to Assistant Civil Engineer! We caught up with Joe following his news, to find out a bit more about his career journey so far.

Joe joined Waldeck in 2017, where at the age of 18 we welcomed him as a Trainee Technician as part of our Apprenticeship Scheme.

Joe began his Apprenticeship with a Level 3 Construction Technical and Professional: Construction Contracting Operations course and has now just completed his HNC in Construction and the Built Environment – Civil Engineering at Lincoln College.

Congratulations on your promotion Joe! Tell us about your experience of studying alongside your role?

Thank you! During my apprenticeship and continued learning, I have been balancing my one day of study through Lincoln College and college work, with working at Waldeck on live multi-disciplinary projects for a variety of clients.

The main projects I have been involved with are large new-build infrastructure schemes for clients across city regeneration and rail.

My main roles have been to work within the Civil Engineering team, carrying out drawing work from engineering designs, document control, carrying out variations, responding to RFI's and TQ's and keeping our



document management systems up to date; I have been using software such as AutoCAD, Microdrainage, Civils 3D and Revit. I have also been involved in many project meetings with our clients, and more recently have led these meetings too.

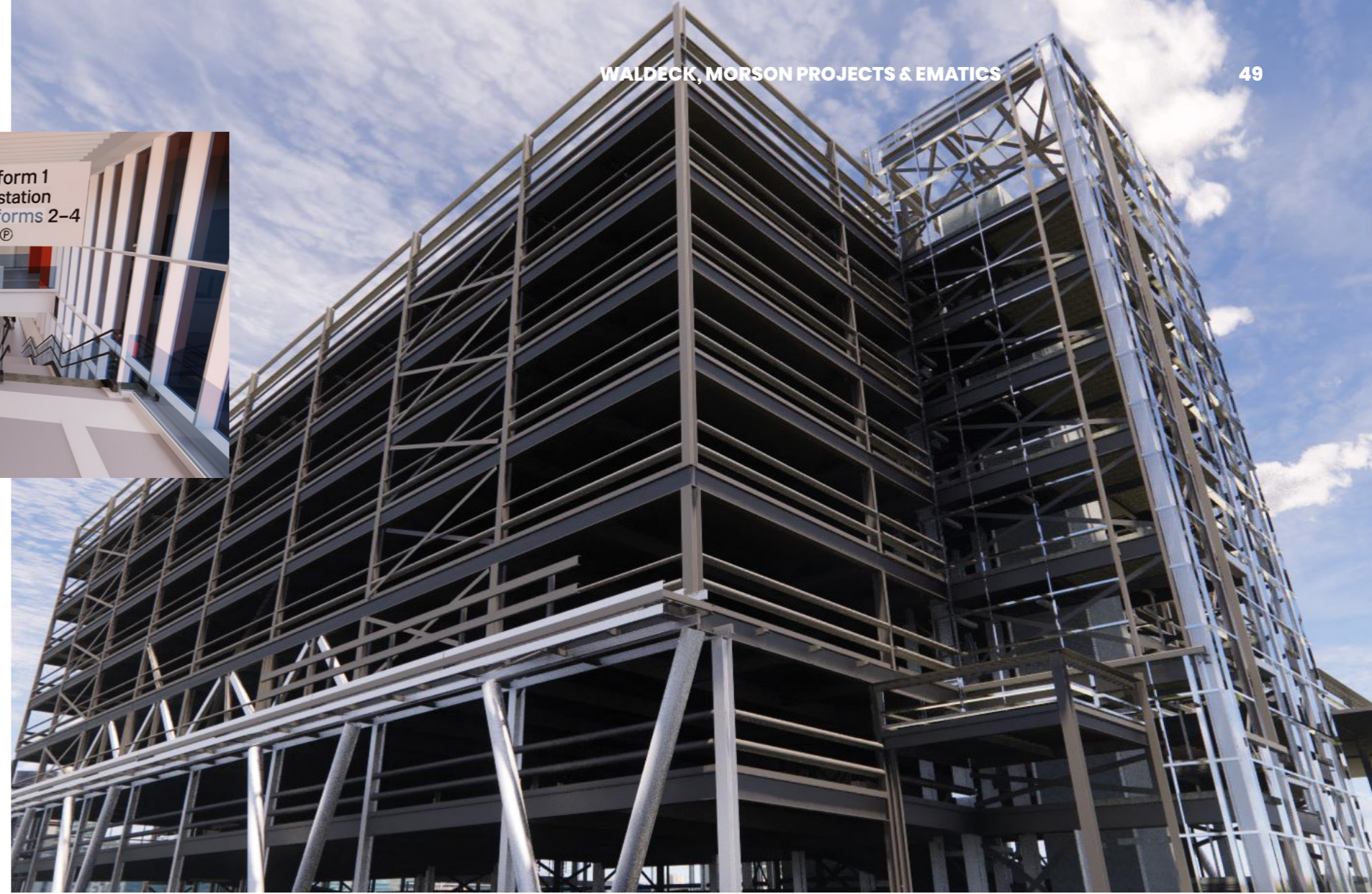
What first interested you in a career in construction?

My Dad owns a local construction business, so it is something I have grown up around. I used to work with him at the weekends when I was at school, and really enjoyed it, so decided to take BTEC construction subjects at Sixth Form, before I then considered my routes into a career within the industry and chose to pursue this through an apprenticeship.

What has been your personal career highlight so far?

I have really enjoyed my time at Waldeck so far, working as part of a strong team to achieve tight deadlines and deliver quality work.

I have surprised myself with how quickly I am learning and progressing. I feel very settled in my role and am positive about my future prospects. It is great to feel like I have achieved something at the end of each working day, especially as each project we work



on is so different. Obviously, the last two years have been different due to the pandemic, but I continued to produce quality work and communicate well with the team throughout the time we spent working from home. Since coming back into the office, I have collaborated with team members even more allowing me to improve and develop my skills even further, which has definitely helped me to progress to the position I am in now.

What are your plans for the future?

For now, I want to keep doing what I am doing, stay focused on my education and develop my role at work. Having the support of my mentor, and other experts in the business is helping me to pick up new skills and expand my knowledge. This has allowed me to develop my design capabilities to take on more responsibilities at work.

I was also recently given the opportunity to complete my BIM Essentials course, and train on niche software relevant to different projects I have been working on. After completing my HNC, I plan to complete a HND, starting this September and then go on to completing a degree, and perhaps become Chartered at some point in the future!

In the face of a skills gap and lack of people choosing a career in STEM subjects, how would you inspire someone to take a similar route into the workplace?

I would say if you were considering taking a route into construction or any other STEM subject, it is important to think about what interests you the most. I have seen first-hand how the roles can be so varied, creative and rewarding.

For me, an apprenticeship was the best option, it was a great way to get into the workplace and has allowed me to progress at a quick pace into my new role of Assistant Civil Engineer. Combining education with hands-on learning and transferable skills that I wouldn't necessarily have learnt at University has been really beneficial, such as liaising with clients and working within a design team. The social aspects have been great too!

To find out more about our Civil & Structural Engineering capability, please visit:
www.waldeckconsulting.com

CONNOR PENLINGTON RECEIVES 'STUDENT OF THE YEAR' FOR HNC COURSE



Lincoln / Newark / Gainsborough



In February 2022, our RIBA Chartered Architecture team welcomed Trainee Architectural Technician Connor Penlington to the team.

Following the successful completion of his HNC course last week, we are delighted to share that Connor received 'Student of the Year' from Lincoln College!

We caught up with Connor to congratulate him and find out more about his journey so far.

Congratulations Connor! How does it feel to receive this award?

To be honest, to even get to the end of the course is an achievement in itself, but to win an award highlighting my dedication and hard work is a great feeling!

It isn't everyday that people get noticed for doing good work, so for that I am grateful to have received that acknowledgement.

What was the award for?

Before realising that Architecture / Digital Capture were my preferred disciplines and joining Waldeck, I was part-way through studying a HNC in Mechanical Engineering. So my award was for my hard work towards completing this.

The award was for 'Student of the Year' within the Engineering Department at Lincoln College.

How did you find the course?

The course was great, though I'm glad it's over. The course really helped broaden my knowledge, as well as challenge what I know. The math's side of the course did test me, but I managed to pull through. I managed to achieve a distinction, so I think it was well taken within my stride.

Although the course was a HNC in Mechanical Engineering and I moved to an Architectural / Digital Capture role at Waldeck from a previous employer mid-way through, I have already been able to make use of a great deal of transferable skills.

What does your role at Waldeck entail?

My role is split between the Architecture team & the Digital Capture team. Within the Architecture team, I'm developing my skills to become more involved in projects by working closely with and learning from the rest of the team, as well as developing my skills individually.

Within my Digital Capture role I am tasked with going to site and collecting information. Once this is done, it is my job to process this and produce a point cloud, drawing of site or similar output, depending on the clients requirements, which can then be handed to the client or used by an Architect to help them make informed decisions.

What advice would you give to anyone looking to get into a similar role?

Don't be afraid to take a risk! I took a risk back in February taking on this role, and I've not looked back. I was surprised as to how much of my skills were transferrable, and the same thing might just happen to you!

Also, don't be afraid to fail. It's how we learn, and the people within the team will help you if you do get things wrong and what can be done in the future to improve/ make sure it doesn't happen again.

What are your career aspirations?

I'm planning to go to University later this year and study an Architecture related course. This will hopefully allow me to integrate even more with the Architecture team and broaden my knowledge further. Beyond that, I would like to get into a management role, but I'm under no illusion I need to get a great amount of experience before that!

CHRIS WELLS: PLACEMENT YEAR ROUND-UP



As Placement Mechanical Engineer, Chris Wells, comes to the end of his year in industry with us at our Sheffield office, we would like to wish him farewell and good luck as he returns to The University of Sheffield to continue his studies in Engineering.

Before he left, we caught up with Chris to see how he got on.

Hi Chris, how have you found your placement year?

I have found my placement year to be an interesting and enjoyable experience that I believe will massively benefit me going into my final year of university and for my future career. I've managed to meet some very skilled and interesting people – my team and within the wider company and the building services industry as a whole which has been a really great experience.

I've felt like I have been a contributing and respected member of the M&E team which has been very rewarding. Through the support and direction of Adam and other more senior engineers within my team, I have had an active and significant impact on a variety of projects, and it has been exciting to see my skills develop from when I started.

What made you decide to choose Waldeck for your placement?

As a student from an interdisciplinary degree, I was really attracted to the fact that the mechanical and electrical engineers work so close and collaboratively. My specialism in mechanical and the location of the M&E team in Sheffield seemed like the perfect opportunity. Looking through past projects on the Waldeck website I was excited at the prospect of being involved in similar work should I join and so was delighted when the teams Director, Adam Machan, offered me the position.

What did you get up to during your time with us?

As a Placement Mechanical Engineer, I have been assisting Senior Engineers in the team, completing mechanical calculations, and designing the services. I've been involved in a range of services' design – natural gas, heating and cooling, and ventilation as well as some of the electrical services. Most of my role has involved becoming proficient at using Revit to create service designs and coordination between services.

What has been your favourite part?

From day one, I feel like I've been involved in work that has direct real-world consequences which is an exciting change from work completed for degree and as such, I've really enjoyed getting involved in work from the beginning. The M&E team have been very friendly and helpful in getting me involved in a wide range of tasks and feeling like a valued member of the team.

What was the hardest part?

Adjusting to having a regular work routine after three years of being a student and the disruption caused by the pandemic. Having the structure has been refreshing and hopefully something I can keep up next year with my studies.

What projects have you been working on?

I completed work for the electrical services involved in a prison refurbishment job when I joined. Since then, I've mainly been involved in the mechanical



services designing for various school projects we have on the go. This have ranged in size and services provided but I have completed various mechanical services across these projects.

Would you recommend a placement to other students? If so, why?

Definitely. I have really enjoyed my placement and I would strongly recommend Waldeck as a placement host.

The team are friendly, approachable, and knowledgeable and I feel like I've learnt a lot whilst still having a meaningful contribution to the work the team produces.

Being able to see some concepts I've learnt at university in a job-related setting has helped those skills develop further and the placement has also helped my ability to work in a professional manner and be more conscious of my professional development. I think for other students gaining this experience is invaluable and if you have the chance, it's definitely worth going for it.

To find out more about placements at Waldeck, please contact Group HR Advisor, Becky Hicks for more information by calling 08450 990285.



SHEFFIELD TEAM HAND OVER £1,738 CHEQUE TO ST LUKE'S HOSPICE

A huge thank you to St Luke's Hospice for visiting at our Sheffield office so we could hand over our fundraising cheque following the teams recent Yorkshire Three Peaks challenge!

A huge thank you to St Luke's Hospice for visiting at our Sheffield office so we could hand over our fundraising cheque following the teams recent Yorkshire Three Peaks challenge!

The team completed the trek in an impressive 10 and a half hours, and raised a fantastic £1,738 for the charity.

Adam Machan, Luke Mitchell, Craig Harrison, Stephen Rowe, George Naylor, James Baillie, Angus Knowlson, Robert Lancaster and Ian Taylor from our Sheffield Mechanical & Electrical Building Services Design team used their 'charity leave day', which all staff are given by the company each year, to take on the Yorkshire Three Peaks.

The 26-mile Yorkshire Three Peaks Challenge saw the group hiking, walking and climbing through the stunning Yorkshire scenery of the Dales National Park, starting with smallest of the peak, Pen-y-ghent, before going tackling the peaks of Ingleborough and Whernside, climbing a final total of 1585 metres.

Waldeck Director, Adam Machan, shared: "We walked the Yorkshire Three Peaks in July in memory of our friend and former Director, Ged Smith. I'd like to thank all those who donated and took part in the event which surpassed our £1000 target raised on behalf of St Luke's considerably, with a final total of £1,738 – and counting!"

St Luke's Hospice Fundraising Account Manager, Matthew Sheridan, added:

"This was a fantastic effort by the Waldeck team and one that really will make an enormous difference to the lives of all St Luke's patients and their families."

St Luke's is an independent charity caring for terminally ill adults and their loved ones across Sheffield. Each year, they care for around 1,900 patients most of whom are cared for in their own home by their Specialist Palliative Care Community team.

Find out more about St Luke's Hospice:

www.stlukeshospice.org.uk

HOW WILL THE METaverse SHAPE THE FUTURE OF CONSTRUCTION?



It's almost a year since the 'Metaverse' became a hot topic of conversation after Facebook Inc.'s name change to 'Meta Platforms' was introduced at the Facebook Connect conference on October 28, 2021.

However, the term was first coined in Neil Stevenson's 1982 novel 'Snow Crash' and it was only after Meta Platforms announcement that we saw a rapid rise of interest, with the whole of the internet wanting to know more.

Many were curious as to what the Metaverse was, and how it would affect their regular internet browsing. In Meta Platforms announcement, they call it the "next chapter for the internet", emphasising the power of connection. But what is this new way of connecting...

What is the Metaverse?

Oxford Dictionary defines the Metaverse as "a virtual-reality space in which users can interact with a computer-generated environment and other users."

In Stevenson's novel, the Metaverse was a virtual place where characters could go to escape their own reality.

The word "Metaverse" is a portmanteau of the prefix "meta" (meaning beyond) and "universe"; combining them together means "beyond the universe".

Escaping into a different or 'virtual' reality is something which has always peaked human interest. However, the construction industry has also been intrigued by how the Metaverse can

shape its future, how it enables connection and collaboration, and how it can enhance efficiencies and communication across the workplace.

Will it reduce costs? Will it enhance work-output? Will we become fully immersed in a Metaverse way of working?

We caught up with Head of Digital Capture, Amy Cheeseman, to immerse ourselves into the relationship between the Metaverse and construction industry, looking at how AR and VR can be used to drive added value for projects. Amy shares:

Currently, you can only really experience the Internet when you 'go' to it, looking at it through your phone or monitor. As Mark Zuckerberg famously quoted, when asked what's the difference between "the Internet" and "the Metaverse":

"It's the difference between peering through a window and actually being there right in the moment together." – Mark Zuckerberg

This is much the same with construction, where most of the design and technical process is done through a screen and drawings. You can pan around a 3D model of the project, but on a 2D monitor or TV, it's not an immersive 3D experience. The Metaverse is

the solution to more immersive and interactive experiences within virtual environments. For example...

Augmented Reality

Oxford Languages defines Augmented Reality (AR) as "a technology that superimposes a computer-generated image on a user's view of the real world, thus providing a composite view."

Simply put, AR enhances the real world through digital means. For instance, the 'IKEA Place' app allows customers to visualise a piece of furniture within their home using their phone's camera to overlay a 3D scaled model of an item in a room – trying the furniture out for size, style etc.

In a similar way, AR is becoming more commonplace within the construction industry, as apps for phones and AR products (such as Microsoft HoloLens 2) continue to be developed.

As such, uses range from overlaying buried services onto a floor slab to understand where alterations can be made without impacting pipework, to visualising Mechanical & Electrical models on a site to validate that they have been installed as per the design. This technology brings many benefits to construction as it enables the user to see models/designs in context with the space and its surroundings.

For example, on projects the designers can see if there are any initial issues to work around, the builders can get a better insight into what they are working towards, the investors can see if they believe it is an investable project and the general public can get an insight into how their local spaces might look in the future.

This being said, AR also has limitations and it is common that a build site can't always be accessed. As such, it is always a better option to be proactive and prevent an issue on-site than relying on technology such as AR to detect issues and develop reactive solutions. This is where Virtual

Reality (VR) technology can be extremely valuable and take users deeper into the Metaverse.

Virtual Reality

Virtual Reality (VR) can be defined as "the use of computer modelling and simulation that enables a person to interact with an artificial three-dimensional (3D) visual or other sensory environment."

VR is typically experienced through wearable interactive devices such as headsets or goggles which contain stereoscopic screens. Additional accessories such as gloves, controllers or even full body suits allows the user to interact with the VR environment.

VR is already extremely accessible in mainstream internet spaces, used for chatting, games, art and education. Some examples include VR Chat, Half-Life: Alyx, Sketchfab and Meta Platforms own technology.

The AEC sector can see the benefits of VR, with solutions for market leading software such as Autodesk BIM 360, Solid Edge and Trimble SketchUp to name a few being developed to integrate VR.

Whilst the predominant function of VR is experiencing a 3D environment, there are many more functions and benefits for the construction industry such as:

- **Reviewing a design live and collaboratively for faster approvals**
- **Holding meetings in a shared digital space, regardless of where everyone is**
- **Optioning various designs to see their impact**
- **Holding virtual conferences with a global audience that can attend without the need to travel.**
- **The move away from full time office-based working since the global pandemic has highlighted the potential for VR to facilitate alternative ways of working whilst maintaining a collaborative approach to projects.**



However, VR is not just for designing in construction. VR can be used across all stages of an environment's lifecycle such as:

- **Completing training in a VR environment to ensure operatives understand the complexities of a specific task or project before setting foot on site**
- **Running a selection of repair scenarios to understand which would be most effective so a repair can quickly be implemented**
- **Understanding how people with different impairments may experience a space to ensure it is accessible for all**
- **Facilitating asset management with virtual clipboards to full technical schematics being hosted within the VR asset**

As with all technologies, there are disadvantages to consider as well. Firstly, as with all new technology, there is a cost to invest in the hardware and any necessary software or upgrades need to run it perfectly, as well as a learning curve during adoption. With some construction projects having a large number of stakeholders of different sizes, not all companies are able to make the investment, resulting in a disjointed and ineffective workflow.

Considerations by business discussing significant investment in AR and VR should include that: 3D modelling projects in a virtual environment opens up the industry to other sectors such as software and gaming design. Whilst this may benefit the industry, deepening the talent pool, there is also the potential to blur the lines between developers and the roles of architects. Make sure you engage with trusted experts to support you through your Metaverse journey.

Construction projects should adhere to specific standards such as ISO19650 and ensuring those are met by all project standards

can be an uphill battle as companies interpret requirements in different ways. Developing standards for cohesive working in VR adds another layer of compliance to implement and police. Again, engaging with the right consultants is crucial to ensure a compliant and efficient use of AR and VR.

Whilst the global pandemic highlighted the potential for new ways of working remotely, it also highlighted the human need for social interactions and how endless Zoom and Teams meetings were not a full-time replacement for physical meetings. Don't get carried away, balance is key!

In conclusion

As we enter into web 3.0, the Metaverse provides a new platform for companies, employees and clients to interact with and experience their projects in a new way. Already, we are reaping the benefits with more collaborative projects, creating better work environments, faster approvals, and more efficient collaboration. Like with all new technologies though, there will be roadblocks along the way to fully integrate VR into the construction industry.

To find out more about how your next project could benefit from utilising some of the latest digital technologies and methodologies, please get in touch with Amy and the team by calling 08450 990285.



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