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Morson Projects  
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ISSUE 3/2021

# INSIGHT

**TECH TRENDS**  
TO WATCH OUT  
FOR IN 2021









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INTRODUCING:  
THE MORSON  
MAKER SPACE  
& MORSON  
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# EXECUTIVE DIRECTOR, CHRIS BURKE CELEBRATES 20 YEARS AT MORSON PROJECTS

Our Executive Director, Chris Burke, has kick-started 2021 by celebrating his 20 years of service at Morson Projects. We caught up with him to find out more about his career so far.

## **CHRIS, CONGRATULATIONS ON 20 YEARS AT MORSON PROJECTS! TELL US, CAN YOU REMEMBER YOUR FIRST DAY?**

Yes, I remember it well! I came to Morson Projects from an executive position in the ceramic industry. My time at Morson Projects was only supposed to be for six months, after which I was supposed to take up an executive position with a different ceramic company.

My initial role at Morson Projects was as a stress engineer on the Nimrod Check-Stress Programme and I enjoyed it so much that after six months I actually withdrew from the ceramic job - I suppose this is where my 20-year journey began.

My previous day job was in factories with noise everywhere and I remember the stress office being so quiet in comparison, at the time it reminded me of a group of medieval monks illuminating manuscripts. My boss at the time, Ken Whitworth, ran a tight ship and within weeks I was in trouble for chatting too much! Safe to say that not much has changed on that front.

## **AS YOU'VE PROGRESSED IN YOUR CAREER, WHAT HAS BEEN YOUR FAVOURITE ROLE SO FAR?**

I really enjoyed the personal technical challenge of being a Stress Engineer. I went into management early in my career and Morson Projects was my first opportunity to work at a technical level.

## **ARE THERE ANY STAND-OUT PROJECTS THAT HAVE BEEN A CAREER HIGHLIGHT FOR YOU?**

Working on the A380 was brilliant and definitely a career highlight for me. It's such a privilege to have been involved in so many aspects of this iconic aircraft from aero-structures design, check-stress, manufacturing tooling and sub-assembly transportation.

There are many more favourite projects, but another stand-out one for me was the Jubilee Line Train overhaul project. It was a project I did completely on my own from an engineering





perspective, with help from Paul Moogan at Morson Talent for the resourcing. We got the 6-year overhaul time-frames down from 6 weeks per train to 1.5 weeks, which was incredible and saved the client a huge amount of time and money.

#### TELL US ONE OF YOUR FAVOURITE MORSON MEMORIES...

There are so many... A lot of them involving flights with Steve Viner and Jon Allday over the North Sea at 1200 ft trying to get out of bad weather on the way to Dounreay!

The key thing that stands out for me is the matrix of involvement the teams have had in so many industries bringing to bear so many different skills; problem solving many diverse problems from nuclear decommissioning, saving weight in an aircraft wing, designing waste to energy plants, overhauling London underground trains, to de-bottlenecking Branstons Pickle's production.

That being said, my favourite memories are of the people I have worked closely with over the years, so many characters with such positive attitudes. It truly is the people that are the magic of Morson Projects.

#### WHAT IS THE BIGGEST CHANGE YOU'VE SEEN ACROSS THE INDUSTRY THROUGHOUT YOUR CAREER?

When I started at Morson Projects there were 247 of us, now we are a workforce that is on the way to 1000 people.

In 2001 there were still drawing boards in the office and CAD was still new. Now Morson Projects is as much a software house as it is an engineering solution provider.

As I look back, the biggest change is the capability of our young people, they are far more capable than most people from my generation were at their age. One of the biggest reasons that Morson Projects' success has accelerated in recent years is down to our very talented 'new generation', and I look forward to seeing where that takes us over the coming years. ●

To find out more about Morson Projects please get in touch with Chris Burke, by calling 0161 707 1516.

## Congratulations to our colleagues across the business who have also recently celebrated a service milestone:

### TWENTY YEARS

**Michael Barr** – Morson Projects  
**Nicola Mulhern** – Morson Projects

### TEN YEARS

**Alison Charles** – Morson Projects  
**Amy Cheeseman** – Waldeck  
**Andrew Daughtrey** – Waldeck  
**Benjamin Cockayne** – Morson Projects  
**Damian Ridgley** – Morson Projects  
**Michael Allan** – Morson Projects  
**Richard Tesseyman** – Morson Projects  
**Rick Cooper** – Morson Projects

### FIVE YEARS

**Alessandro Motta** – Morson Projects  
**Daniel Flinders** – Morson Projects  
**Dario Ciuffreda** – Morson Projects  
**Enrico Bifulco** – Morson Projects  
**Hannah Cook** – Waldeck  
**Hannah Worden** – Morson Projects  
**James Tetley** – Morson Projects  
**Joseph McGuire** – Morson Projects  
**Karthikeyan Gopalakrishnan** – Morson Projects  
**Katie Nesbitt** – Waldeck  
**Lewis Stamper** – Morson Projects  
**Louis Wells** – Waldeck  
**Manoj Kumar Soni** – Morson Projects  
**Marc Crossley** – Waldeck  
**Marcello Cattaneo** – Morson Projects  
**Marco Martino** – Morson Projects  
**Martina Marangoni** – Morson Projects  
**Matthew Barnett** – Waldeck  
**Matthew Bloodworth** – Waldeck  
**Matthew Thompson** – Morson Projects  
**Phillip Walker** – Waldeck  
**Pietro Formato** – Morson Projects  
**Pietro Rossini** – Morson Projects  
**Rebekah Veal** – Morson Projects  
**Richard Sargent** – Waldeck  
**Ruth Scruton** – Morson Projects  
**Ryan Gelder** – Morson Projects  
**Silvia Mezzena** – Morson Projects  
**Stephen Carpenter** – Waldeck  
**Walter D'Arienzo** – Morson Projects  
**Yulei Tian** – Waldeck



CLICK HERE REGISTER  
FOR OUR WEBINAR

## WEBINAR

# FULLY CONTRACTED-OUT SERVICES & IR35:

# PRIVATE SECTOR SOLUTIONS

**Join our 60-minute webinar to find out about the benefits of using experienced providers of fully contracted-out engineering solutions to remove your IR35 burden.**

The clock is ticking towards HMRC's IR35 tax reforms. Private sector organisations who engage contractor populations are turning their attention to ensuring compliance with the legislation, yet few hiring managers, procurement heads and HR professionals consider a fully contracted-out service as a potential option.

Join us on the 27th January for our 60-minute webinar, where our panel will shine a spotlight on a service that Morson Projects have been providing clients throughout our 40 years in operation. A service that now has the additional benefit of removing the IR35 burden from our clients.

### **WHY CHOOSE A FULLY CONTRACTED-OUT SOLUTION?**

A fully contracted-out service – often referred to as a Statement of Work (SOW) or a bought-out service is a flexible, effective and highly successful commercial route which has many benefits and incidentally, can remove off-payroll considerations related to IR35. Already commonplace in engineering, IT and tech sectors, many other industries could benefit from choosing this advantageous and effective way of working.

Whilst there is strictly no prescribed format, a fully

contracted-out service comprises a 'contract for services', which governs the relationship and outputs agreed between the client and service provider.

### **WHY MORSON PROJECTS?**

For more than 40 years, Morson Projects has been delivering fully contracted-out services to clients, long before IR35 legislation was established. However, since the introduction of IR35 in 2000, we have successfully delivered more than 12,000 projects as fully contracted-out solutions, with a value in excess of £750m.

This method of working puts us in the position of the 'End Client' to any relevant Personal Service Company (PSC) engaged. It, therefore, means we are responsible for ensuring reasonable care is exercised correctly by producing and issuing an IR35 Status Determination Statement.

Our panel will explain how they can help guide businesses through the offload process, helping them clearly define their requirements and supporting them in generating SOWs. We will then showcase our robust processes, procedures and tools to ensure IR35 compliance, which are underpinned with a comprehensive insurance policy. ●





## THE PANEL



### **Chris Burke** Executive Director

Chris has a 45-year career history, 20 years of which have been spent at Morson Projects overseeing teams delivering engineering solutions to the Aviation, Power, Manufacturing, Transport and Nuclear sectors through outcome-led statements of work. As a result, Chris has unique knowledge and understanding of delivering the best technical solutions for clients in line with the new IR35 legislation.



### **Gareth Beck** Associate Director

Gareth brings more than 20 years' industry experience and has played a leading role in providing Morson Projects' clients with the right technical support to deliver their complex projects successfully for the past 13 years.

Gareth has extensive experience of constructing and delivering fixed-price work packages, managing the contract for services and assuming responsibility for a project's successful delivery by utilising a talented technical team, which Morson Projects has been doing long before IR35 legislation was established.



### **Devina Ramanah** Compliance Support

Devina worked as legal adviser to Magistrates for HMCTS in the courts across West Yorkshire and Central Manchester for more than 10 years. Devina would advise all parties at court on points of law, practice and procedure, ensuring legal compliance and transparency, and brings a wealth of experience producing and delivering legal training.

Devina has supported Morson since the introduction of the Finance Act 2017. She plays a pivotal role in building knowledge and raising competency in IR35 compliance, the creation of a reliable, insurable Status Determination Statement tool, whilst working closely with leading tax specialists to gain panel member status.

# INTRODUCING: THE MORSON MAKER SPACE & MORSON ENGINE ROOM

**An additive and digital manufacturing hub, upskilling our future talent pipeline of engineers, technologists and technicians.**



**Our long-standing partnership with the University of Salford is delivering significant change as we work collaboratively to attract new talent.**

Following a generous contribution from our parent Company, Morson Group, the University of Salford recently launched two new state-of-the-art facilities on campus. The spaces feature the latest industry-standard manufacturing technologies to enable students to learn real-world engineering skills in relation to design for manufacture, assembly and inspection.

The Morson Maker Space and Morson Engine Room give students the opportunity to develop industry-relevant skillsets integrating Industry 4.0 practices and digital processes to ensure graduates understand the tools of the trade to step confidently into the employment sector, providing employers with future-fit graduates.

Establishing a flagship offering for engineering right in the heart of the University of Salford began back in 2015 with the unveiling of the Gerry Mason Engineering Excellence Scholarship programme created by the late Gerry Mason, founder of the Morson Group. The scholarship programme has supported over 40 scholars to date and is now championed by Morson CEO and Gerry's son, Ged Mason.

## **NUTURING FUTURE TALENT**

The University of Salford is actively addressing the industrial skills gaps of proficient engineering graduates - a major challenge for the UK as set out by the government's Industrial Strategy. The Morson Maker Space and Morson Engine Room have the right facilities, with the right people and industry partners to ensure digital fabrication, engineering and digital science are a key priority at Salford to contribute to the full economic benefit and covid-19 pandemic recovery in our region.

As the University looks ahead, it is vital to inspire young people to take up open opportunities within the STEM sector to fulfil the skill shortages. This is only possible working side-by-side with the support of their industry partners, and together, grow the next generation of tech savvy, industry-ready graduates to provide businesses and clients with the skilled talent needed to succeed. A great example has been Morson Group brand sponsorship of the University's Formula Student team who design, manufacture and race a high-performance race car and compete a high-performance race car in the IMechE Formula Student competition, with graduates now working in the automotive industry.

Working in collaboration with Morson Group ensures that the University stays abreast of industry challenges, can improve and upgrade their technology, which in turn advances a skilled-up talent ecosystem. This knowledge growth is endorsed having offered 10 Morson Maker Space scholarships awarded to students studying cybersecurity, computer sciences and robotics to inspire the next generation of Morson digital talent.

## **MORE ABOUT THE MORSON ENGINE ROOM**

The Morson Engine Room features the latest manufacturing technologies with heavy duty, industrial grade machinery typically found on industry workshop floors. This digital and technical facility is equipped with a waterjet cutter, metal additive manufacturing, a large format 3D printer, state of the art digital microscopes and reverse engineering metrology instrumentation. Students learn how to use and operate these





machines, so much so that we now have a student instructor initiative who take ownership of the workshops, help teach other students to become proficient master users.

Ged Mason OBE, CEO of the Morson Group, said: "Part of our ethos is to safeguard STEM education and to nurture a skilled workforce that drives Industry 4.0 innovation in our region. The Morson Engine Room is a major technical facility providing hands-on training to the next generation of engineers studying at Salford University to be industry-ready with the skills and experience to enable our business to recruit from this talent pool, both today and in the future."

#### **MORE ABOUT THE MORSON MAKER SPACE**

The Morson Maker Space is home to the 'Print Hive' kitted out with 3D printing machines, laser and vinyl cutters, and several clean working spaces for assembling electronics, building drones and robots, with a dedicated computer suite for 3D design (CAD) classes. This is a unique learning space to bring together collaboration with industry partners to innovate, test and prototype products with our students through industry live briefs and coursework projects.

The maker expertise is integrated into the wider curriculum turning traditional teaching methods on its head with tailored workshops developed for many of our science, engineering and built environment courses from Engineering to Architecture, Construction, Computer Sciences to Cybersecurity and Robotics.

Dr. Maria Stukoff, Maker Space Director, said: "Industry collaboration drives everything that we do at the Morson Maker Space. What makes us different to other universities is our exceptional partnership with Morson Group and its subsidiary businesses, through which we are able to invest into a talent pipeline of students with a tangible advantage through links with Morson's recruitment expertise. We do this by providing mentoring programmes, hosting industry live briefs and internships, running career workshops and industry talks to produce job-ready graduates to meet the skill gaps and employment challenges the industry is facing.

The University's aim is to continue to grow our relationship with the wider Morson Group business, and we are already working closely with Morson Projects.

We now also welcome Waldeck to the Morson Maker Space as we look forward to showcasing our facilities, and together, expand the opportunities to foster this talent pipeline through our mentoring and internship programmes, networking and career workshops and professional talk series.

Through the University's work and continued collaboration with Morson Group, they have been able to strengthen their engineering programmes further by creating a robust training framework that has enabled scholars to conduct paid summer work placements with the Morson Group between their second and third year. The calibre of applicants is incredibly high, and we are delighted to be extending our work placement programme and a new internships to the wider Morson Group business.

Ged Mason OBE, CEO of the Morson Group, said: "Our long-standing partnership with the University of Salford is delivering significant change as we work collaboratively to attract new talent. We are recruiting for several major infrastructure projects, including HS2, which will require a skilled workforce that we have never seen before in the UK. Such projects deliver a unique opportunity to provide long-term and sustainable career pathways and bridge the skills gap in sectors worst hit by shortages".

Chris Burke, Executive Director at Morson Projects, added: "Morson Projects are already seeing huge benefit through this ever-evolving relationship with the University of Salford, having recently recruited two of their graduates for our own Power division. We look forward to working more closely with the University and the wider Morson Group over the coming months as we continue to expand the ways in which we can support Maria and the team in up-skilling our future talent pipeline of engineers, technologists and technicians." ●

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**For more information regarding the Morson Maker Space and Morson Engine Room: [www.morson.com](http://www.morson.com)**

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**To contact the Morson Make Space, please email Dr. Maria Stukoff, Maker Space Director: [m.stukoff@salford.ac.uk](mailto:m.stukoff@salford.ac.uk)**

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**The University of Salford's School of Science, Engineering and Environment website: [www.salford.ac.uk](http://www.salford.ac.uk)**





## CASE STUDY

# PRODUCT DESIGN: FACE SHIELDS PERSONAL PROTECTIVE EQUIPMENT

In March 2020, the UK government instructed a nationwide lockdown due to the global COVID-19 pandemic.

Morson Projects supported the Morson Maker Space during this time with additional 3D printers, allowing them to offer immediate provisions to the NHS in essential personal protective equipment (PPE) to fight the COVID-19 spread. The University of Salford also provided donations of significant quantities of PPE, disposable gloves, safety glasses, lab coats, full body suits and sanitiser to Salford Royal NHS Foundation Trust.

As part of this effort, the Morson Maker Space produced over 7000 face shields after widespread reports of PPE shortages.

Dr. Maria Stukoff, Maker Space Director, said at the time: "It is a real testament to the University and the Morson Maker Space to respond so quickly to address the urgent needs of our local community in this health crisis. I highly commend our technician's commitment and goodwill to get stuck in to design and print 3D face shields supporting the NHS when it counts most."

## PRUSA FACE SHIELD TEMPLATE

The Morson Maker Space was given special permission from the University to operate during lockdown to make face shields. The team immediately set to work to print a couple of units of the open-source Prusa design (V3) for clinicians at Salford Royal to test. The Prusa file is universally available and is freely used by the 3D printing community to create face shields for frontline workers.

Feedback from Salford Royal quickly established that making improvements to the Prusa design was vital to attain higher comfort levels for NHS staff. Key areas for redesigning the face shields established;

- Improved comfort when being worn for long shifts (10 hours+)
- Increased visor width for better protection
- Optimised design to meet infection control requirements
- A design that could be sterilised between shifts

## NEW PRODUCT DESIGN

Feedback from the clinicians highlighted a number of comfort and safety issues

with the basic face shield design. The Maker Space team re-designed the face shield to:

- Solve a common comfort issue, the headband incorporated a self-adhesive closed cell foam material attached to the laser-cut PETG to form a comfortable contact point with the forehead.
- Ensure that no gaps existed in the connection of the visor and PETG sheet. This included a 'fold and hook' in the lower part to shape the visor without the need for another 3D printed part (as used in the initial Prusa design) and optimised the efficiency of production.
- Ensure that specified materials were used for their ability to withstand sterilising chemicals. Testing was conducted at Salford Royal to ensure they approved soaking the full units overnight to sterilise.

Chris Chapman, Digital Eco-Systems Lead for Salford Royal, said: "The Morson Maker Space visors are being used in the Intensive Care Unit and are being more widely distributed across the hospital".



The newly designed shields were very effective - not only in reducing the 3D printing time to create a higher volume of units each day, but these units were shared across the NHS for other hospitals to utilise. The visors were fully tested by Salford Royal staff and aim to be 90 per cent sterilisable.

**OVERCOMING NEW CHALLENGES**

During the lockdown, the industry was faced with a worldwide shortage of materials needed for PPE. The desired 0.5mm thickness to fashion the visors was selling out on an hourly basis and it was a significant logistical challenge to procure and have materials delivered to the campus. The University were quick to implement new health and safety procedures to keep the Morson Maker Space open while the Maker team implemented a failsafe testing and production technique while following governments guidance for social distancing.

The PPE production for the NHS was a genuine collaborative effort and Morson Projects have been proud to support the maker team by offering our own 3D printers on loan.

Andy Hassall, Associate Director at Morson Projects, shared: "It has been brilliant working together, sharing equipment and connecting people to solve some difficult challenges and knowing that we're supporting some great causes during the COVID-19 crisis."

Gordon Murphy, Chief Systems Engineer & General Manager at Morson Projects, commented: "The visors are well designed and made and their provision has shown a real spirit of cooperation between the University and Industry to meet a need at a critical and distressing time for NHS patients and staff alike."

Chris Burke, Executive Director at Morson Projects, added: "I've been following additive machining technologies since the late 1990's. The technology had lots of promise but it took a pandemic to make 3D printing "normal", in fact vital to the medical and care frontline. It has been great to see the technology at the centre of many modes of co-operation uniting many sectors and regions. Thank you for everyone's support with this small contribution to fight the virus."

Due to this collaboration, the University were able fulfill additional PPE requirements for the Belfast NHS Trust, The Seashell Trust, Willowbrook Hospice in Merseyside, Morson Forces, The Docs GP practice in Central Manchester, Heathlands Village Care Home, The Fed and a pharmacist at a well-known supermarket.

For the Seashell Trust, a UK national charity supporting children and young adults with complex learning disabilities, we adopted the shield design again to suit specific needs of deaf staff and students.

Kate Duggan, Head of Clinical Services, The Seashell Trust, concluded: "In collaboration with our Lead Nurse, the Maker Space team worked with the Seashell Trust to find solutions to the communications barriers faced by deaf staff and students when wearing face masks. The team were fantastic in coming up with a range of innovative ideas and we have really valued their creative and proactive approach to supporting us at this challenging time." ●



MORSON PROJECTS HELP

# EMPIRE CARTRIDGES

TO IMPROVE THEIR  
PRODUCTIVITY BY 50%

**Having recently sold our Techman TM5 Cobot to local business, Empire Cartridges, we visited them on site to see how they are getting on with their new kit.**

Through "Made Smarter" matched government funding, we have helped Empire Cartridges to upscale their manufacturing output of shotgun cartridge shells by investing in an Industry 4.0 solution that will enable the business to produce and pack in excess of 1million cartridges each year.

The addition of the Cobot to the enhanced manufacturing system which Empire Cartridges have developed themselves, means the task of packing the shotgun cartridge shells into boxes, which was previously done by hand, is now done automatically.

Empire Cartridges had previously invested in a bespoke cartridge manufacturing machine, built a conveyor and now the Techman TM5 Cobot completes the production line by packaging the end product – lifting five cartridge shells at a time then putting them into a box.

Simon Plimbley from Morson Projects, who has been working closely with Empire Cartridges to integrate the Cobot into their manufacturing process, shared: "Having been appointed as one of HMK Robotics' Tier 1 suppliers for deploying the Techman TM5, it has been great to see our first Cobot in action, especially under the current circumstances.

"The support we have received from HMK, the UK distribution partner of Techman Cobots, has been second-to-none and we look forward to continue building our relationship with them as an innovation partner for future expansions at Empire Cartridges as well as in specific markets that are looking to embrace Industry 4.0 or digitalisation.

"In addition to this, the level of engineering ability that Andrew Bond at Empire Cartridges has shown has been beyond impressive, he has designed all the conveyor system and 3D printed all the components to manipulate the cartridge positioning. After some on-site training with one of our Cobot Engineers, Ana Luketic, he has now successfully finished the project.

"Finally, I would like to thank Andrew and his father, George Bond, for the opportunity and the Made Smarter team for their valued support in helping Empire Cartridges get the necessary funding to embrace digital technology."

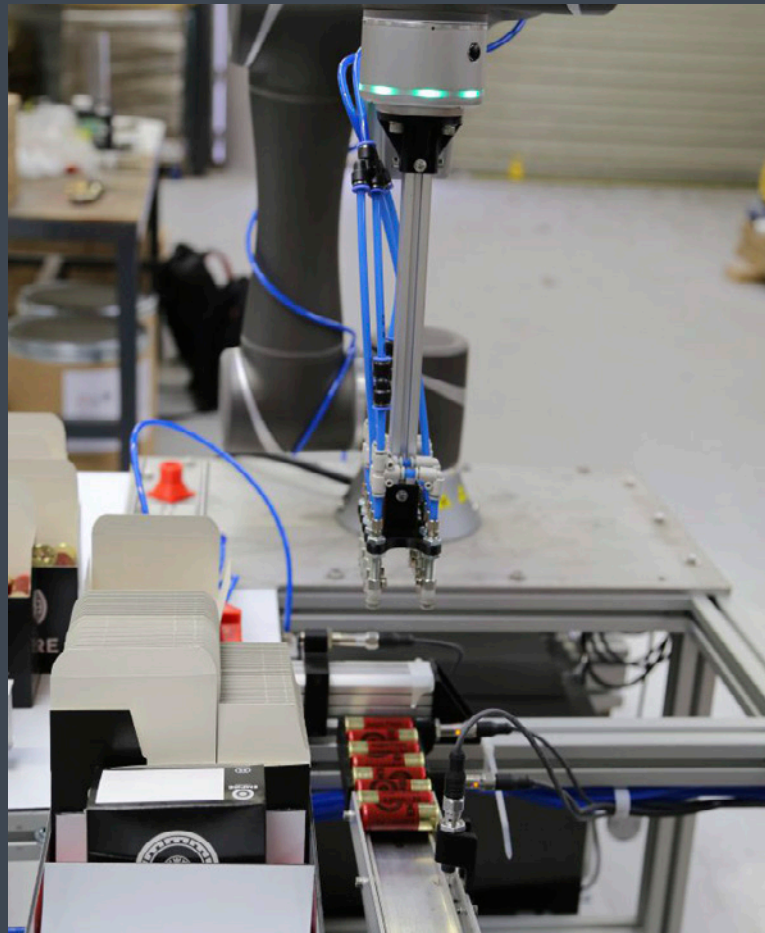
Andrew Bond at Empire Cartridges, added: "The support from Morson Projects was excellent and the interface on the Techman Cobot meant we could get it up and running within a couple of hours of having it delivered, it's been a complete revolution for us and increased productivity by easily 50%.

"I would recommend anyone who has even just an inkling that they might have an automatable operation to get in touch with Morson Projects and to look into a Techman Cobot, it really is the future of modern manufacturing in the UK." ●

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**To find out more about Morson Projects' Cobot capability, please call Simon Plimbley on 0161 707 1516.**







The background of the entire page is a photograph of two fighter jets, likely F-16s, flying in a clear blue sky with scattered white clouds. The jets are positioned diagonally, one in the upper right and one in the lower right, both pointing towards the top left. The text is overlaid on the left side of the image.

MORSON PROJECTS:  
**DELIVERING  
WORLD-CLASS  
AEROSPACE**  
SOLUTIONS FOR 40 YEARS



## For the past 40 years, multi-disciplinary engineering consultancy, Morson Projects, have been supporting some of the world's leading military and commercial Aerospace & Defence organisations.

Morson Projects are a long-term supplier for top industry clients such as BAE Systems, where they have been involved in almost all of their major aircraft programmes in recent history.

Some of the programmes their team have been involved in include the Nimrod, Hawk, Typhoon and F35.

The Morson Projects team is currently 650+ personnel strong, with over 300 of their team members currently deployed on Aerospace & Defence programmes.

From lightweight composite structures to complete systems integration, Morson Projects' engineering teams work independently, or in partnership with their client's existing project delivery teams to provide comprehensive support throughout design, development, manufacturing and into service.

But what are Morson Projects doing that is a cut-above their competitors? We caught up with Associate Director, Gareth Beck, who leads the Aerospace & Defence division, to find out more.

### GARETH SHARES:

At Morson Projects, we continually strive to deliver the best engineering and technical solutions to our client's problems. Across the Aerospace & Defence sector, this is achieved by creating the most robust and efficient ways of designing and analysing aircraft structures, systems and software.

Morson Projects achieve this through three key differentiators:

### INFORMED WAYS OF WORKING

Our engineers and technical staff are constantly exploring new and improved

ways of working, it's not just our job it's in our DNA. Our varied customer base means that we are continually improving and optimising our design and analysis process as we gain new experience and solve new problems for clients.

Due to these broad and ever-evolving solutions, the way that we design and analyse aircraft structures, systems and software is always at the cutting edge, this is one of our key differentiators.

Having tried and tested many working practices throughout our career-history, we are able to work closely with clients to understand and adapt their ways of working to optimise efficiencies, in order to save them time and money.

### CERTIFIABLE DESIGNS

Another key factor which really does stand us apart from our competitors is that, unlike many engineering practices in the Aerospace & Defence industry, Morson Projects are EASA Part 21J approved.

This approval creates a huge benefit to our clients because it means that when we are helping to design their aircraft, we have a strong understanding of what the relevant Regulatory Authorities, such as EASA, are looking for in terms of design justification for an airworthy aircraft.

Our team understand the drivers of the Authorities, and through their experience and familiarity with producing safe designs, are able to incorporate these requirements into the aircraft design from the beginning of a project. Ultimately, we know what the Authorities are looking for in terms of design justification, whereas a lot of our competitors don't have this insight.



As a result, this means that our engineers can design to the correct safety requirements from the outset, which speeds up the design and approval process, saving design costs and also speeding up time-to-market.

### INNOVATIVE TECHNIQUES

We are currently working with a selection of Aerospace & Defence clients on programmes that lend themselves to considering high-tech innovative solutions.

Although it is too early to talk about these in detail, we are continually having more and more conversations about the opportunities that solutions such as CoBots, 3D Printing and Digital Capture can create for the Aerospace & Defence sector, and having seen the success of these solutions in other markets, look forward to exploring these further in the coming months.

### SUMMARY

Over the past 40 years, Morson Projects have worked with most aircraft original equipment manufacturers (OEMs). As a team we have had unrivalled exposure to many different ways of designing aircraft and as a result we are able to harness this experience, bringing it all together to ensure we bring the most advanced, robust and efficient aircraft analysis and design techniques to our clients. ●

**To find out more about Morson Projects CNC Programming team and how they can help you with your next project, please get in touch with David Gray by calling 0161 7070 1516.**

# MORSON PROJECTS ANNOUNCE ENHANCED POWER QUALITY CAPABILITIES

**Morson Projects work with clients to deliver ongoing low-cost power quality monitoring and consumption data to accurately assess and predict the power quality of buildings such as manufacturing facilities, power plants and data centres.**

Morson Projects are pleased to share that we have enhanced our Power Quality offering to clients by partnering with advanced quality power analysis business, RPQ Ltd.

RPQ Ltd have developed an extremely unique Remote Power Quality Analytics Platform that enables power quality data to be harvested to identify problems and ultimately, prevent power outages due to poor quality power infrastructure.

## OUR APPROACH TO POWER QUALITY

Traditional power quality analysis is often time consuming, requiring invasive site visits and the use of expensive portable equipment.

We are able to work with clients to deliver ongoing low-cost power quality monitoring and consumption data to accurately assess and predict the power quality of buildings such as manufacturing facilities, power plants and data centres.

By automating the analysis of the buildings power quality, we are able to help businesses to cut energy costs and reduce the risks of equipment damage and failure, which can have significant impact on the day-to-day operations of a business if not managed correctly.

Our team are able to work with clients to use the data from an ongoing live feed of information, to understand and predict important engineering improvements that can be made to the buildings, such as the implantation of low loss transformers, voltage adjustments, power factor correction equipment, harmonic filters, phase balancing or voltage sag compensator's.

## HOW WE CAN HELP

We understand that businesses face ongoing risk from rising energy costs and problems caused by poor power quality.

The rapid increase in electronic loads has increased instability in the grid and on private distribution networks.

The effects of poor power quality often include:

- **Electrical equipment degradation and failure**
- **Production line stoppages**
- **Increased maintenance and equipment replacement costs**
- **Increased energy use**

As a result, these issues create operating risks and unnecessary business costs, however, power quality problems are rarely identified and treated, often due to the cost and difficulty of acquiring and analysing electrical data.

Our engineers have decades of experience solving complex power quality problems.

A combination of this experience, coupled with our partnership with RPQ Ltd and the use of a unique 'Remote Power Quality Analytics Platform allows us to:

- **Identify existing power quality problems**
- **Identify emerging problems**
- **Provide clear, actionable information to help solve problems**
- **Capture events and seasonal demands**
- **Provide ongoing analysis**
- **Deliver the necessary engineering solutions to fix any issues**

All of which in turn, helps businesses to reduce the risk of a critical incident and protect the associated operational costs.

## WHY CHOOSE THIS SOLUTION?

Proactive power quality monitoring is a great way to identify emerging risks, providing the opportunity for intervention before the risk materialises in an event. The additional benefit of potential energy savings may also be realised using the same equipment.

Our Remote Power Quality Analytics Platform incorporates the analysis of the attributes and resilience of the power being delivered to the load, comparing this information against the system architecture and design capacity.

Power quality studies are frequently employed during Root Cause Analysis exercises, post-incident, for this very reason.

Our Remote Power Quality Analytics Platform enables businesses to make informed decisions throughout the lifecycle of their building. Reports can be generated periodically or on demand, providing businesses with a detailed understanding of their power quality status, electrical consumption and potential savings. This data is transmitted from your local area network to our secure servers and analysed remotely.





### BENEFITS

Our Remote Power Quality Analytics Platform is the most efficient way to carry out power quality analysis with operating costs typically <math><0.1\%</math> of the annual energy spend. Some key benefits include:

- Accurate metrics for equipment capacity can be determined, assisting in the management of risk mitigation in relation to catastrophic failures
- Business continuity can be impacted positively through energy supply disturbances preventing malfunctioning equipment and a loss of revenue
- Capital equipment can be more closely managed to ensure lifecycle investments are realised or exceeded
- Detects significant upstream supply disturbances and voltage variations
- Identifies energy saving opportunities, calculation of kWh and CO2 reduction
- Plant and equipment degradation can be measured by continuous data analysis
- Proactive power quality studies not only mitigate risk, they can assist in increasing revenue
- The quality and resilience of the power being delivered by the Distribution Network Operator can be ascertained
- Voltage management savings may be realised, further assisting in the reduction of operational costs through the process of efficient utilisation of energy

### WHAT'S NEXT?

If Power Studies, Analysis or Improvements are on your business' agenda, the team at Morson Projects can help. We work closely with our clients to develop an action plan and road map of how to maximise the power quality within their facilities. This is often achieved using the following process:

#### 1 – SITE SURVEYS

We will survey your site and decide on the best place to install the necessary metering to carry out the analysis.

#### 2 – INSTALLATION

We will work with your in-house teams to install the metering using either a SIM Card or Static IP to collect the data.

#### 3 – ON GOING MONITORING

The on going monitoring will create a detailed report of your power quality.

#### 4 – REMEDIAL PLAN

Our experts will break down your report into a digestible executive summary and work with your business to discuss and implement any necessary improvements.

To find out more about how our Power Quality capabilities please get in touch with Simon Plimbley by calling 0161 707 1516.



**As a welcome end to the UK's third lockdown nears, we caught up with Technical Documentation Manager, Ian Woodburn, to find out more about how we've been supporting one of our long-term clients, Sellafield Ltd, since the beginning of the first lockdown in March.**

Whilst the country continued to find its feet with new ways of working during the pandemic, the Morson Projects team have been pleased to help Sellafield Ltd and their supply chain colleagues to keep working during this difficult time.

The Morson Projects team provided essential support to Sellafield Ltd and their supply chain colleagues by welcoming them into Morson Projects' offices at Kelton House on the Westlakes Science Park, in order to access their Sellafield Ltd IT accounts and drives.

The team have opened their project offices whilst following strict social distancing rules, to enable the Sellafield Ltd secure network to be accessed and vital work to continue.

Ian Woodburn, who manages the Sellafield Ltd account for Morson

Projects shared: "When the lockdown was announced back in March, along with the obvious health and safety concerns that were going through everyone's minds, we were also concerned with the possible financial impact on our workforce. Coming up with our appointment-based Sellafield Ltd IT hub for uploading and downloading information provided many of our personnel with the means to access information and continue with productive work. An unforeseen, but welcome benefit was that a number of Sellafield Ltd staff and other workers have since made use of the facilities to help continue with their work whilst predominantly working from home.

"With some quick thinking and able assistance from our IT colleagues we were up and running from day one of lockdown. We introduced and continue to develop strict social distancing measures, including an electronic appointment system which is organised to minimise the amount of people in the office at any one time, and therefore reduce any risks. The main focus is to enable individuals to book in and

download and upload necessary files to their secure Sellafield Ltd IT accounts and then carry out their work safely from home."

Travelling to Kelton House provided a much safer and more practical option for workers, rather than travelling to site and avoids adding to the logistics of keeping the Sellafield Ltd site safe and secure.

Many Sellafield Ltd managers and supply chain colleagues have made their appreciation known to Morson Projects for being able to make this opportunity to keep working effectively available to them.

The Morson Projects Management team would like to add their thanks to everyone at Kelton House who have provided technical support with equipment, providing access to our secure offices and keeping up the enhanced cleaning regime. ●

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**To find out more about Morson Projects capabilities, please get in touch with Ian Woodburn by calling 0161 707 1516.**



## MORSON PROJECTS PROVIDE INNOVATIVE IT HUB FOR SELLAFIELD LTD





## MORSON PROJECTS EXPAND AEROSPACE OFFERING FOLLOWING EASA PART21J AUDIT

We are delighted to share that our Aerospace division have successfully completed their annual audit with EASA for our Part21J Design Organisation Approval (DOA).

Our team have significant experience in delivering innovation and excellence in Part 21J engineering, support solutions and services within the aerospace and defence industry.

Having previously been approved to generate design for fixed wing (CS23 & CS25), one of the key additions from our recent audit, is that we are now also approved to work on small and large rotorcraft (CS27 & CS29). Our Terms of Approval have been updated to add Structural Minor Changes and Repairs for the following areas on Rotorcraft:

- Fuselage & Doors
- Empennage
- Support for External Equipment

Glyn Williams, who is Head of Design for Morson Project's EASA Part 21J Division, shares: "Our EASA DOA with Morson Projects has developed and grown each year since 2017, with the addition of new projects and clients. "Through the Morson Projects EASA DOA we can now offer Service Bulletins (for minor structural changes and repairs) on Rotorcraft. This is a new capability for MPL DOA and gives our clients the option of another DOA to use, in order to deliver a cost-effective solution.

"Adding Rotorcraft to our Terms of Approval allows us to continue this growth and develop new approved design solutions with new clients. We will be looking to expand this approval as we gain more experience in the future."

As part of our Part 21J approval, we have to complete a Continued Surveillance Plan. We are audited every year by EASA and an annual report is generated on our performance, outputs and ability to continue as an approved DOA with privileges.

The EASA Part 21J details the elements required of a design organisation in order to hold an EASA Design Organisation Approval (DOA). The DOA grants privileges for the organisation to design new products, product modifications or repairs and may include approval for these designs. ●

To find out more about our Aerospace capability, please don't hesitate to call Glyn on 0161 707 1516.



# MEET THE TEAM: MORSON PROJECTS CNC PROGRAMMING



**For over 25 years, Morson Projects CNC Programming team have been supporting clients with a diverse range of CNC Programming and Machine Process Optimisation/Improvement projects.**

From Flexible Manufacturing System (FMS) machining cells to long bed multi-axis mill-turn, multi-spindle machines, 3,4+5 axis milling, advanced turning cells, CNC turning, producing a wide variety of simple to complex components in the machining environment, our team of engineers and programmers are able to support our client's varying requirements.

We caught up with Morson Projects Head of Marine, David Gray, to find out more about how the CNC Programming team can support clients across a broad range of sectors:

"Our CNC Programming and Process Improvement team have a breadth of experience across the automotive, aerospace, industrial gas turbine, marine, nuclear, motorsport, oil and gas, medical and other manufacturing sectors.

With specialist tooling, work holding and machining process knowledge our team is able to advise and implement various cost savings to the machining of your components." Our team retain the services of specialists in:

#### **CAM SOFTWARE**

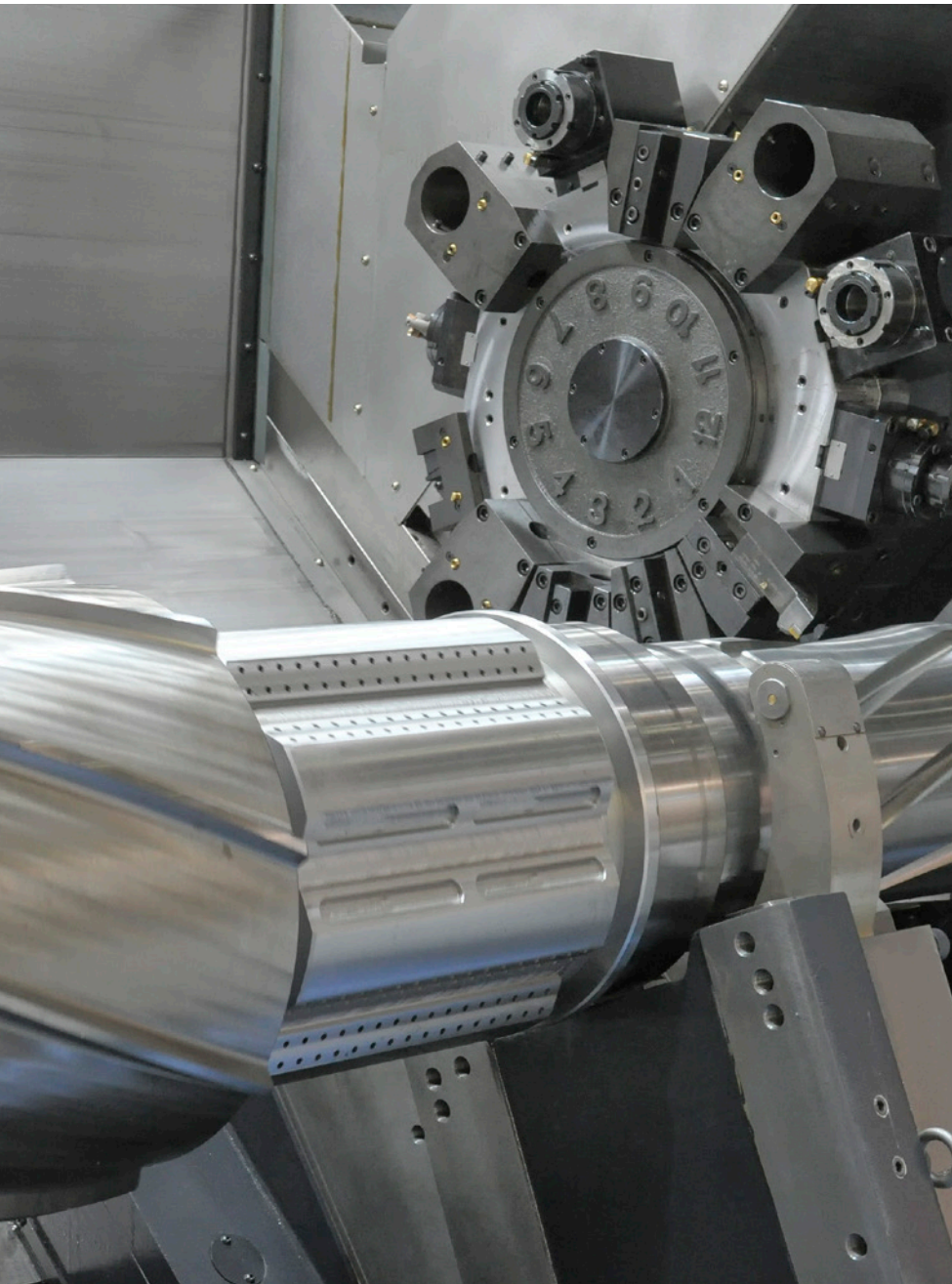
- OpenMind Hypermill
- MasterCam
- SolidCAM
- CAMWorks
- GibbsCam
- Catia V5
- Unigraphics (NX)
- ALPHACAM
- PowerMill
- EDGE CAM

#### **NC CODE VERIFICATION SOFTWARE**

- Vericut
- NC Simul

Morson Projects are also able to provide an environment ensuring client confidentiality with separate offices and stand-alone secure computer networks where required. ●

**To find out more about Morson Projects CNC Programming team and how they can help you with your next project, please get in touch with David Gray by calling 0161 707 1516.**





Working to tight schedules and fixed prices, Morson Projects' Marine team undertake engineering and consultancy activities to support 1st Tier defence contractors, alleviating the burden and risk of maintaining the headcount required to keep all design and build tasks in-house.

We caught up with Head of Marine, David Gray, to find out more about how the Marine team can support clients across the sector:

"Our Marine Team engage with owners to develop designs from concept, through to build, whether whole-ship or modification.

"Morson Projects Marine maintain established relationships with many of the world's leading classification societies and governmental agencies and are a trusted partner in delivering safe ships and safe seas. Our international presence in Europe, North America and Australia allows us to extend our effectiveness worldwide.

"While respecting the incremental nature of marine design and development, we also have the advantage of sharing space with the wider family of Morson Projects engineers. This gives us access to the technological advances being made in other disciplines such as Aerospace, Artificial Intelligence and Electric Vehicles. With Morson Projects, you get the bigger picture."

Our team are able to support clients across a wide range of services including:

- **Concept Ship Design**
- **Data Translation**
- **Detail Ship Design**
- **Digital Surveys**
- **Electrical Design**
- **Fabrication & Build Engineering**
- **Hull Modelling & Fairing**
- **Marine & Naval Architecture**
- **Owners Representative**
- **Piping & HVAC**
- **Powering Prediction & Tank Testing**
- **Project & Programme Management**
- **Resource Capability**
- **Software Development**
- **Stability Analysis**
- **Structural Design & Analysis**
- **Systems Engineering & Integration**
- **Through-life Support**
- **Tooling Design & Manufacture**

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To find out more about Morson Projects Marine capability, get in touch with David by calling 0161 707 1516.

## MEET THE TEAM: MORSON PROJECTS' MARINE CAPABILITY

**For over 20 years Morson Projects' Marine team have been supporting some of the world's leading Defence, Commercial and Offshore operators with a range of services.**





## MORSON PROJECTS DONATE HEADPHONES TO LOCAL SCHOOL TO BOOST PUPIL'S LEARNING

**Morson Projects are delighted to have been able to support local Salford school, Light Oak Infants, with the provision of new headphones for their pupils.**



The 65 sets of headphones will be used to provide children with 1-1 learning support outside of the classroom environment...

The headphones are an essential piece of kit, which will be used to help children who are in need of additional support during lessons.

Executive Director at Morson Projects, Chris Burke shares: "The 65 sets of headphones will be used to provide children with 1-1 learning support outside of the classroom environment, where they will be used alongside the school iPads to help children catch up on their Maths and English, using online educational resources such as the 'Lexia Reading Programme' to help the children get back up to speed with their learning.

"Due to the restrictions around Covid, Light Oak Infants have been unable to carry out their usual fundraising in order to supply the headphones for their pupils. When we were approached by one of our colleagues, Jodie Groom, whose Mum works at the school, we were pleased to be able to help out such a fantastic cause.

"Thank you Jodie for bringing this to our attention and help making it happen!" ●



# MORSON PROJECTS PLEDGE SUPPORT TO LOCAL CHARITY, MILK AID, TO HELP FEED FAMILIES IN IRLAM AND CADISHEAD

**Morson Projects are proud to be supporting local charity, 'Milk Aid.'**

Milk Aid is ran by a lady in Cadishead, who set up at the start of lockdown in March, providing food hampers for those struggling with closed schools, wage cuts, isolating and so on.

Since then, the need for support has grown and in one week alone Milk Aid help feed around 86 children in over 40 families who are needing support.

As part of their work, Milk Aid are planning to team up with the schools in Irlam and Cadishead to provide two-weekly food hampers during the Christmas holidays for those who need it most.

Christmas is an expensive time for everyone and while many people in the local community are expecting to be on 67% salary or facing redundancy, Milk Aid are hoping that one of the worries during the festive period need not be whether or not parents can feed their children.

#### **MILK AID'S MISSION IS TO:**

Work with schools and groups to identify as many local children who need extra support and in partnership with local eateries delivered a free food hamper for each week of the Christmas break.

One eatery per day, throughout the festival period.

This shares the load between the community businesses and gives extra support to the children we may have missed.

This is a big wish – for each family who they support. They would like to also provide a Christmas Eve gift to each of the children in the household.

Executive Director at Morson Projects, Chris Burke shares: "We have all seen the headlines over the past week, and with Christmas just around the corner, we were eager to do our bit to help our local communities feed their children, especially over the looming festive period.

"Milk Aid already have the backing of several local businesses, but more food is needed to help more families in need. We plan to continue supporting Milk Aid over the coming months and if you would like to do the same, please get in touch with Claire Timmins at Morson Projects who has been working closely with Milk Aid on our behalf." ●

**To find out more about how you can support Milk Aid during these challenging times, please contact Claire Timmins by calling 0161 707 1516.**









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WALDECK'S  
'INNOVATE UK'  
PROJECT RECEIVES  
HIGHEST GRADE



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**← 38**  
MEET THE TEAM:  
ARCHITECTURE

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**34 →**  
THE UK'S LARGEST  
SPECIALIST  
REHABILITATION  
HOSPITAL OPENS  
IN BIRMINGHAM





**This work has been fundamental in us securing large and challenging commissions with major clients such as Network Rail**



## **WALDECK'S 'INNOVATE UK' PROJECT RECEIVES HIGHEST GRADE**



We are excited to share that Waldeck have recently received notification that our Innovate UK funded project, focusing on the automation of Building Information Modelling (BIM) objects from survey data sets, has been awarded the highest grade 'A' – Outstanding.

Since its inception in 2017, this project has had a retained focus on the knowledge gaps within the Architecture, Engineering & Construction (AEC) industry.

In collaboration with The University of Huddersfield, our combined team of in-house developers, BIM Experts, Knowledge Transfer and Academic partners have produced Machine Learning Algorithms which detect and automate intelligent BIM objects of complex assets and structural components from point cloud data sets.

As a result, our work has yielded a huge reduction in the time taken, which would traditionally see valuable project time required to manually extract and model the geometry prior to adding the applicable metadata.

We have since been presented with a certificate of excellence for the work undertaken during the project.

Director of Digital and Technologies, Mark Greatrix shared: "This work has been fundamental in us securing large and challenging commissions with major clients such as Network Rail.

The developments and advancements made have been deployed to aid organisation's digitalisation strategies and construction project workflows. This now sees us closing out several exciting projects, with ongoing pipeline opportunities also in discussion." ●

**To find out more about our Pedestrian Flow Modelling capabilities, please get in touch with Mark Greatrix by calling 08450 990 285.**



# WALDECK CERTIFIED BY CYBER ESSENTIALS FOR THE FOURTH YEAR RUNNING

As businesses continue to evolve and adapt to a more flexible approach to working in a digital space, whether this be employees working from home or out on the road, Waldeck are committed to ensuring our IT infrastructure is robust and secure, to keep our own data, and that of our clients, secure.

## WHY CYBER ESSENTIALS?

By having Cyber Essentials certification, our clients can rest assured that cyber security is taken seriously at Waldeck and has met the standard as defined by governments National Cyber Security Centre (NCSC). Clients can work with us having the knowledge that any data they share with us is protected and that we have policies and procedures in place to ensure cyber security.

To obtain the qualification, we were assessed on areas of our IT infrastructure such as:

- Password policies
- Access rights
- Cyber policies and procedures
- Data control

Head of IT and Business Improvement, Neil Gallagher, shares: "I am pleased to share that once again the security that Waldeck have put in place has been tested against the Government standard and have been found to meet all the criteria needed to obtain the Cyber Essentials certification.

"Cyber Security is a keen interest of mine, it is always rewarding to be able to use this interest in my working day to help ensure that Waldeck has a robust security policy in place." ●

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To find out more about our Cyber Security capability please call Neil Gallagher on 08450 990285.



The background of the page is an abstract composition of numerous vertical, slightly blurred lines. These lines vary in color from deep navy blue to bright white, creating a sense of depth and movement. The lines appear to be glowing or reflecting light, giving the overall image a futuristic and high-tech aesthetic.

# TECH TRENDS TO WATCH OUT FOR IN 2021



**Whilst none of us could have predicted the reliance that the UK (and the whole world) would have on technology in 2020, in many ways the global pandemic rapidly evolved our ability to 'do things digitally'.**

During 2020 we saw considerable change to the way digital technology was adopted across the construction industry. Whilst notably this change in parts was forced by the pandemic, these changes are widely anticipated to become more commonly adopted as part of our 'new normal' during 2021 and beyond.

We caught up with Director of Digital & Technologies, Mark Greatrix, to find out more about his predictions for what he feels are the two most significant trends across construction and asset management in the coming 12 months.

## 1 — Artificial Intelligence (AI) and its utilisation to drive towards net zero:

### WHAT'S HAPPENING?

With the UK government's commitment to reach net zero emissions by 2050, coupled with the acceleration of major UK infrastructure projects, we will see a shift towards a more circular economy which will mitigate material waste and its impact on the environment. To aid this, and moving forward during 2021, we will see an even greater emphasis placed upon machine learning and artificial intelligence, and more specifically the roles they can play from a technology perspective to substantially reduce emissions.

Throughout 2021 and beyond we will also see an increased drive for predictive and scenario analysis of embodied carbon. This will undoubtedly be supported by artificial intelligence, where it will be key to facilitating the carbon-based decision-making processes through from project concept and into our designs.

### WHAT ARE WALDECK DOING ABOUT IT?

Working collectively with leading academic institutes over recent years, Waldeck have been actively expanding our capability in the use of machine learning and artificial intelligence.

Coupled with an internal drive within our disciplines and service offerings, this has already seen us achieve fantastic results for clients such as IKEA, where we supported their Flag-ship Eco Store in Greenwich which scored exceedingly well within all areas in BREEAM (90.4%), with significantly good scores achieved in areas such as Low and Zero Carbon Technologies, Water Consumption and NOx Emissions.

## 2 — Digital Capture Data Visualisation:

### WHAT'S HAPPENING?

Whilst the COVID-19 pandemic brought considerable downsides, there have been some significant step-changes and ultimate positives to the way the construction industry has been forced to collaborate across projects. Through the adoption of a more remote workforce during 2020, there has been increased utilisation of digital capture technologies to support construction projects across the industry. These solutions bring accurate 'As-is' data to the project teams to enable improved design coordination. Further still, the high-resolution imagery facilitated remote site and progress reviews, bringing the site to the teams for what would have normally seen the team physically walking the site.

This step-change has brought many improvements, reducing travel and the associated carbon emissions, reducing risks through site-based health and safety, as well as enhancing project collaboration and decision making. Moving forward and into 2021 we are likely to see increased adoption of these tools and their possible unification as they become more widely adopted and standardised as a 'new normal'.

### WHAT ARE WALDECK DOING ABOUT IT?

Growing our own digital capture and surveying capability has been something which Waldeck have been focussing on over the last few years now.

This in-house capability proved to be hugely advantageous for our clients and in-house project teams during 2020 where we supported a broad spread of projects ranging across several sectors. This enabled them to leverage accurate and 'As-is' data to support their projects which continued to run during the height of the COVID-19 lockdown restrictions. We continue to push forward with our innovative solutions and welcome their wider adoption during 2021 and beyond. ●

**To find out more about Waldeck's Digital & Technologies capability, please call Mark on 08450 990285.**

# EVOLUTION OF RETAIL

**With consumers expecting a wide variety of on-demand options, how can the logistics sector respond to the evolution of the retail sector?**

It is no surprise that the current global pandemic has further impacted on our retail behaviour and continues to rapidly accelerate the move from the high street to online shopping.

We, as consumers, continue to grow our expectations preferring a variety of options at our finger-tips and wanting a local presence. We are influenced by retailers offering an easy solution including fast delivery times, click and collect, easy returns as well as a wide product choice and availability.

The challenge for both retailers and logistics providers is how to join up all of these demands to ensure they provide an attractive offer for the consumer, whilst maintaining a sustainable and cost-effective solution.

The market forecasts predict that £92msq.ft of Grade A logistics space is required over the next 3 years in order to accommodate this continued demand. We can also expect to see more urban logistics facilities supporting the retailers to improve efficiencies on the local delivery model and what is known as the 'Last Mile'.

We caught up with Director Tim Leach, who heads up the Civil & Structural team at Waldeck and has a vast experience across the Logistics sector, to find out more:

"Delivery plays a vital role in attracting and retaining customers for retailers across the UK, with an

enormous 79% of people switching retailer due to delivery method. To highlight the importance of fast delivery, 52% of consumers list 'quick delivery' as their top or second most important priority.

"This 'Last Mile' has a significant impact for retailers, putting huge demand on availability of products and reliability of service, as well as providing an effective cost model.

"In order to support the UK's economy and help the logistics sector meet these challenging demands, Waldeck recognise that design of existing and new facilities needs to address more and more factors in order to deliver a space that accommodates:

- **MORE activities and products**
- **MORE people**
- **MORE technology and automation**
- **MORE data**
- **MORE sophistication and higher specifications**
- **MORE tailored solutions**
- **MORE sustainability**
- **MORE efficient energy solutions**

"There will also be the need for greater flexibility when it comes to warehouse capacity requirements, including:

- **FLEXIBLE capacity**
- **FLEXIBLE locations**
- **FLEXIBLE workforce**
- **FLEXIBLE leases**
- **FLEXIBLE multimodal options**

"The advantage we have at Waldeck is that we understand the logistics market and having an internal multi-disciplinary team means we have specialists that can consider all of the above requirements and bring them into the design.

"This can start from the Commercial team being involved with the developer at the early stage of site finding, ground surveys and investigations, digital concept integrated with the engineering design, through to contractor procurement and full project management. We also consider the lifecycle of the facility in what we call our Cradle-to-Grave approach.

"Having worked in other sectors including Automotive, Data Centres, Rail & Ports and Renewable Energy we have transferable knowledge around planning restrictions, security, legislation and asset management that are an integral part of any facility design." ●

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**If you have any questions about how Waldeck could assist your next project, we welcome the opportunity to discuss this with you further. Please don't hesitate to get in touch with Tim Leach by calling 08450 990285.**





The advantage we have at Waldeck is that we understand the logistics market and having an internal multi-disciplinary team means we have specialists that can consider all of the above requirements and bring them into the design.





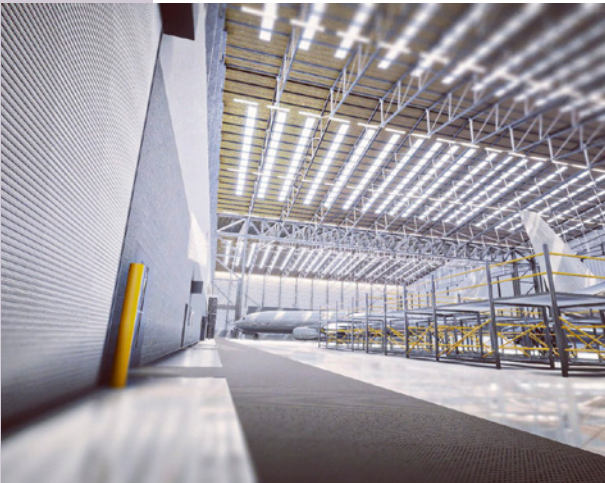


WALDECK  
COLLABORATE  
WITH MORSON  
PROJECTS TO  
**DELIVER DIGITAL  
CAPTURE &  
MODELLING FOR  
BIRMINGHAM  
AIRCRAFT  
HANGAR**

The teams at Waldeck and sister company, Morson Projects, have recently worked collaboratively to assist our client, STS Aviation Services, in understanding the operational capacity of one of their aircraft hangars.



Through a considered approach to this technical solution and a combination of engineering knowledge and modern digital capture techniques...



#### PROJECT OVERVIEW

As part of STS Aviation Services' acquisition of a 12,000sq ft aircraft maintenance facility in Birmingham, Morson Projects and Waldeck were tasked with facilitating the development and optimisation of the hangar.

#### OUR SOLUTION

To provide a true representation of the hangar, our Digital Capture team utilised terrestrial laser scanning to comprehensively capture the internal layout and produce a fully coloured point cloud of the existing space.

The point cloud and our accompanying free-to-use viewer, enabled STS Aviation to navigate their existing environment and understand its accurate dimensional constraints. This supported their scenario analysis for spatial optimisation.

#### THE RESULTS

Our team leveraged the 3D data to create an accurate BIM model utilising inter-operable authoring tools and standards, further allowing STS Aviation Services' design team to quickly start on the detailed design for their new developments. This overall process also de-risked any issues which may have arose through the utilisation of legacy information, which wouldn't accurately reflect the final constructed state.

Gareth Beck, Associate Director at Morson Projects shared: "This project was a fantastic opportunity for Morson Projects and Waldeck to showcase our joint in-house capability and how our two businesses can work hand-in-hand to reap real benefits for our clients.

"Through a considered approach to this technical solution and a combination of engineering knowledge and modern digital capture techniques, we have been able to produce a High-End 3D Visualisation and 3D Application which has allowed STS to make 'intelligent', informed decisions to optimise their hangar utilisation."

Damion Barnes, Programme Manager at STS Aviation Services added: "When the team came to scan the site, they were very proficient and autonomous. They moved around the site with ultimate professionalism and agility. The results of the scan and modelling helped us present and visualise our 3D environment to our customer. This exercise was greatly received and "on point" to our requirements." ●

To find out more about our Digital Capture & Modelling capabilities, please contact Waldeck's Director of Digital & Technologies, Mark Greatrix by calling 08450 990285.







# THE UK'S LARGEST SPECIALIST REHABILITATION HOSPITAL 'CIRCLE REHABILITATION' OPENS IN BIRMINGHAM

Following our initial appointment on the project in 2017, the UK's largest specialist rehabilitation hospital has now opened for patients. The hospital will treat patients recovering from a range of conditions, including Covid-19, stroke, sporting injuries and joint replacements.

Circle Rehabilitation, Birmingham, is built on the site of the former BBC Pebble Mill studios in the heart of the city's renowned medical quarter. It brings a wash of innovation and investment to the West Midlands, including the creation of more than 200 jobs.

Waldeck were appointed by engineering contractor, Imtech, in 2017 to support Circle Health with their vision and provided a range of Mechanical and Electrical Building Services Design work for the new-build private hospital.

The multi-million-pound development includes a significant investment in new technologies, including specialist rehabilitation equipment, virtual reality and virtual monitoring, real-time recovery measurements and new apps and software to support people in returning to their normal lives.

Adam Machan, Director of Mechanical & Electrical Building Services Design at Waldeck, shared: "We were delighted to be appointed by long-term client Imtech, to work on this exceptional project alongside them. Through a collaborative approach, our team supported Imtech with the RIBA Stage 4 Design of the facility, including the design of elements such as:

- **Car Park Areas**
- **Cold-water Storage Rooms**
- **Lighting throughout the Hospital**
- **Natural Gas Systems**
- **Operating Theatres**
- **Plantroom Ventilation Systems**

"We held regular workshops with the client and methodically worked through the designs, providing commentary and design solutions on items to ensure compliance requirements were met.

"Co-ordination and compliance of the Mechanical & Electrical Building Services was a major driver behind this project as well as ensuring that the design was to a high quality, especially due to the critical nature of some areas within the hospital."

The hospital has 120 patient bedrooms, individual and group treatment areas and will work closely with consultants and hospitals across the West Midlands, including Wolverhampton, Coventry, Dudley, Stoke and Shrewsbury to deliver high-end care. ●

To find out more about our Mechanical & Electrical Building Services Design please contact Adam Machan by calling 08450 990285











## WALDECK RAIL TEAM BOLSTERED WITH NEW CRE APPOINTMENT

**Please join us in welcoming Steve McCormick to Waldeck's Rail team. Steve will be working closely with our Civil & Structural Engineering team as Principal Engineer and Contractors Responsible Engineer (CRE) on several of Waldeck's current rail projects.**



I am looking forward to working closely with the multi-disciplinary engineering teams to deliver some fantastic rail projects and with my experience, feel confident that I can contribute to their success."

Steve brings with him 27 years' experience in providing chartered civil engineering services on numerous large-scale rail and infrastructure projects.

During his career, Steve has worked on projects such as Thameslink and London Bridge Station Redevelopment, Redevelopment of Euston Conventional Station and HS2 Enabling Works at Euston, Mersey Rail Power Supply Upgrade, North West Electrification Project and Great Eastern and Horsham Area Re-signalling Projects.

Steve commented: "I am grateful for the opportunity to join Waldeck at what is a very exciting time for the Company. I am looking forward to working closely with the multi-disciplinary engineering teams to deliver some fantastic rail projects and with my experience, feel confident that I can contribute to their success."

Tim Leach, Director of Civil & Structural Engineering, added: "Steve is an extremely welcome addition to our team during a busy period of delivery across several projects. Most importantly for our clients, Steve has a breadth of experience of working as part of Client, Contractor and Design organisations, undertaking roles as Lead Design Engineering (LDE), Contractor's Engineering Manager (CEM), Contractor's Responsible Engineer (CRE), Designated Project Engineer (DPE), Project Engineer (PE) and, Designer & Checker in accordance with Network Rail standards.

"His wealth of knowledge consolidates our existing strengths across the industry as we look ahead to a robust pipeline of rail and infrastructure projects over the next twelve months.

"We are excited to have Steve onboard and I look forward to working closely with him to deliver some of our fantastic projects over the coming weeks and months." ●

**To find out more about Waldeck's Rail offering, please contact Tim or Steve by calling 08450 990285.**



# MEET THE TEAM

## ARCHITECTURE

As part of a series of 'Meet the Team' interviews with our Architecture team, we caught up Architectural Assistant, Jerome Brook; Architect, David Foster and Associate Architect, Sue Eyre to find out more about their roles at Waldeck.

### **JEROME (J):**

Jerome joined Waldeck in 2019 and has been an integral part of our Newark office ever since. He has been working within our multi-disciplinary team on a range of projects for clients including Harrods, Network Rail, Teva, GlaxoSmithKline, Galliford Try, Buckingham Group Contracting, Vastint, Autocraft, Bassetlaw District Council, East Lindsey District Council and Lindum Group.

Jerome is a valued member of our team with over 9 years' experience across the retail, pharmaceutical, transport and residential sectors. In his spare time, Jerome enjoys going to the cinema with his Odeon limitless membership, listening to all genres of music, attending live comedy and music gigs, watching sport, and playing english pool.

### **DAVID (D):**

David joined Waldeck at the start of 2020 as an Architect based in our Newark office and has been working on several projects for clients including Network Rail and Bassetlaw District Council. In his spare time, David enjoys going to the cinema and is a big fan of Lego. The latter combined with stories from his grandfather – who worked in the industry, influenced his decision to go into architecture as a career.

### **SUE (S):**

Sue joined Waldeck in 2019 as an Associate Architect based in our Sheffield office and has been working on a broad range of projects for clients including Harrods, Network Rail and the NHS Trust.

Sue is an experienced Associate Architect RIBA ARB and team leader with over 20 years' experience across a wide variety of projects in the public, healthcare, hospitality, education, transport, leisure and residential sectors.

In her spare time, Sue enjoys an active outdoors lifestyle and has challenged herself to complete the 214 Alfred Wainwright Lake District fells within a 2-year time frame.

### **TELL US A LITTLE BIT MORE ABOUT YOUR ROLE?**

**J:** My role encompasses working across a variety of work stages within a project, from inception and feasibility, right the way through to technical design and construction drawings. My role varies from working independently on smaller projects, to being part of a large multi-disciplinary team on complex multi-million-pound projects. I also liaise directly with clients, planners, contractors, and consultants.

**D:** Depending on who you ask it is either creating pretty pictures or causing problems.

All joking aside, the role as an Architect involves taking into consideration a wide range of factors and issues that result around the building process from inception to completion. As a result, an architect draws upon their knowledge and experience to take on these challenges to ensure that the client is satisfied with the end result.

**S:** In my mind working as an Architect is the perfect job, it combines creativity with buildability, demands excellent communication and team working skills, requires you to be self-assured in delivering a design solution and have good management and planning skills to take the project through its stages from inception to completion successfully. It also needs you to be a problem solver as things rarely go to plan.

### **WHAT IS YOUR FAVOURITE PART ABOUT YOUR JOB?**

**J:** Seeing something you have designed and worked on come to life is definitely very rewarding. Experiencing a building or space start out as an initial idea and sketch on a piece of paper, and progress to a digital set of computer generated architectural drawings, finally culminating in a physical building on site in the real world for people to inhabit and interact with is a fascinating process to be part of.

**D:** The two favourite parts of my job are seeing projects come to life on site, and when clients or end-users get to enjoy their new built environment. So, I suppose it comes down to the power of a line, be it drawn by hand or on a computer which will cause a result that will last for many years to come. Good design can help improve and transform the lives of people that will use the building during its lifetime.





**JEROME BROOK**  
Architectural Assistant

**S:** My favourite part of my job is definitely working as part of the wider multi-disciplinary team to deliver projects. It is very rewarding to work alongside the client, wider stakeholders involved on the projects, fellow consultants and contractors, I meet some amazing people, all of whom contribute in their own way to make a building a success.

**WHAT HAS BEEN THE MOST REWARDING PROJECT TO WORK ON SO FAR, AND WHY?**

**J:** It's always satisfying to deliver a project from concept through to completion, but for me, the most rewarding projects are where the different disciplines come together as a team to deliver a project; architecture working alongside civils, structures, mechanical and electrical, and digital capture.

**D:** The two main projects that I have worked on during my short time with Waldeck have been rewarding in different ways. The station project is the largest project to date that I have worked on in terms of scale and as part of a wider multi-disciplinary team, whereas the Independent living refurbishment is set out to hopefully reshape the existing building to bring it up to contemporary standards of living, but also as a new hub for the local community.

**S:** All projects are rewarding in their own way, but the station project I am working on at the moment is particularly as it involves a large team and stakeholder group which is great to be a part of.

Hopefully it is a project we will be able to talk about in more detail soon! It's particularly satisfying to work alongside our digital team, structural and civils and building services engineers as a unit to deliver the project and to manage the project working from home via Teams has been a positive experience under the current Covid situation.

**WHAT ARE YOUR MAIN AREAS FOR FOCUS WHEN DESIGNING AND DELIVERING A PROJECT?**

**J:** Thinking outside the box and providing the client with designs and solutions they may not have considered in order to meet the client's brief. Creating architecture that is both functional and aesthetically pleasing, whilst taking into consideration the importance of impact on the environment, cost, time and quality.



**DAVID FOSTER**  
Architect

**D:** The main area of focus would be to meet and exceed the clients' brief and aspirations. In addition, there is a social obligation and responsibility that architecture has on the wider community and the environment. The latter lies in the belief that architecture can create better places for everyone.

One such area which has become more apparent certainly during my time in practice is sustainability and having responsibility. Here sustainability is used twofold, one focusing on materials and integration of renewable technology into a project and secondly, as how the project reacts to its surrounding environment to ensure the needs of both current end-users and future generations.

**S:** The main objective is to ensure that the building meets the client's brief and then some. That is, it does what its required to do in terms of the space allocation, but it is the way the spaces work together, how they feel in the 3-dimensional environment and how the building makes you feel when it is visited; worked in; seeing that really adds excellence to the design. It is possible to deliver more than is asked for, or expected in good design.

**WHAT'S NEXT FOR YOU?**

**J:** Alongside my role at Waldeck, I will be working towards gaining my Part 3 qualification in order to become a fully qualified Architect. The work I am undertaking at Waldeck will form part of my logbooks and case study to facilitate this. I look forward to continuing delivering great projects with the team at Waldeck as we continue to build our client base and deliver projects for repeat clients who trust us time and time again to deliver their projects.

**D:** We have a great team at Waldeck and a number of interesting projects currently in the pipeline for 2021, I'm looking forward to seeing where the next year takes us!

**S:** We have an amazing architectural team which is supported by our multi-disciplinary colleagues, it's a very exciting time as we look to take on more large projects and carry out new projects with our key clients. We are looking forward to building on our existing relationships and forming new partnerships. ●



**SUE EYRE**  
Associate Architect



# IMPLEMENTING DIGITAL INNOVATION IN A NUCLEAR ENVIRONMENT

**Our Director of Digital & Technologies, Mark Greatrix, was recently invited back as a panellist for the Nuclear Institutes 'Go Digital' Conference for a second year running.**

Bringing nuclear professionals from across the nuclear lifecycle together with digital experts and technology providers, the Conference, which was held virtually this year, discussed the latest insights on the practical application of cutting-edge digital technology and techniques in support of decommissioning, operations, new-build and research in a highly regulated environment.

The Conference provided both practical advice and inspiration to enable delegates to improve digital utilisation and adoption now, and in their future operations, wherever they sit across the nuclear lifecycle.

## PANEL SESSION 1

### **APPLYING DIGITAL TWIN AND LEARNING FROM OTHER SECTORS**

Mark was invited as a 'non-nuclear sector representative' to discuss Digital Twins and the many lifecycle considerations which organisations face.

#### PANEL CHAIR:

##### **NEIL THOMPSON**

Director  
Digital Construction at Atkins

#### PANELLISTS:

##### **JOHN NORTON**

Head of Technical Strategy  
Magnox Ltd

##### **IONEL NISTOR**

Head of Nuclear R&D  
EDF Energy UK

##### **NIGEL HART**

Head of Digital UK SMR Programme  
Rolls-Royce

##### **MARK GREATRIX**

Director, Head of Digital & Technologies  
Waldeck Consulting

## PANEL SESSION 2

### **DIGITAL SOLUTIONS ADDRESSING THE CURRENT PANDEMIC**

Mark was invited to discuss cross-sector challenges which COVID-19 has presented, and the various Digital themes which have been utilised to retain both safety and productivity.

#### PANEL CHAIR:

##### **DIANE DAW**

Business Development Manager  
Altran

#### PANELLISTS:

##### **SAM STEPHENS**

Chief Engineer  
Atkins

##### **MARK GREATRIX**

Director, Head of Digital & Technologies  
Waldeck Consulting

##### **KURT METCALFE**

Lead Consultant, BIM and Digital  
Cavendish Nuclear

##### **NEIL PICTHALL**

Enterprise Asset Management  
Sellafield Ltd



Following the Conference, Mark has shared with us his top three themes of the Conference:

### **1. DIGITAL SOLUTIONS WHICH HAVE BEEN MORE COMMONLY ADOPTED DURING THE COVID-19 PANDEMIC**

It was clear from conversations and presentation themes on the day, that whilst COVID-19 had clearly impacted the industry, a plethora of tools have been utilised to mitigate the severity of the impact.

Digital capture and surveying tools were widely discussed and had been utilised to limit site visits, enabling the client and project teams to navigate the sites and their work areas remotely, enhancing project collaboration and coordination. The same tools had also been utilised to facilitate pedestrian flow modelling and analysis activities to support the 2 metre rule.

### **2. DIGITAL TWINS**

With examples of the progression of Digital Twin aspirations outside of the Nuclear industry heard over the sessions, the presentations also delved into Digital Twins for Nuclear.

Two distinct threads of conversation are becoming increasingly apparent within the Nuclear industry; where Digital Twins are being explored for both new-build projects and for projects which are entering their decommissioning phase. Although common themes are present in both directions, the new-build twins will progress from design models and ultimately real time data to support



their lifecycle, the decommissioning twins will focus more on the retrospective capture and modelling of that data to inform decommissioning activities as they progress.

### 3. DIGITAL CULTURE

This theme has been discussed and touched upon at several Nuclear Industry events, however never more so than during the impact of the COVID-19 pandemic.

It was clear from conversations and presentations during that the day that COVID-19 had forced a step-change in thinking, one which had forced a change to normal operating practices. Like other industries, the adoption of digital tools which supported remote working and collaboration had very much come to the fore.

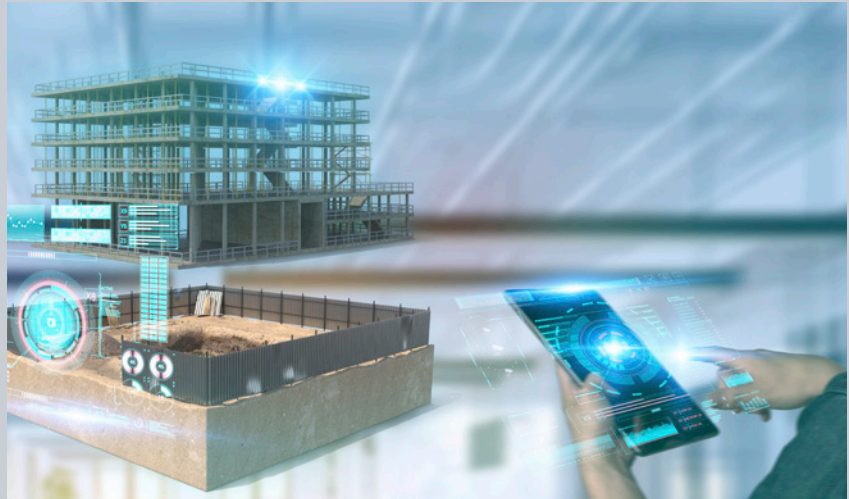
Even with the restrictions of sensitive and secure information to accommodate, the teams and industry have shifted to enable works to continue to be undertaken in line with requirements. This was very much hailed as a huge positive of the pandemic, whereby having no other option, had forced a change for the better and several steps forward to embedding a digital culture and mindset. ●

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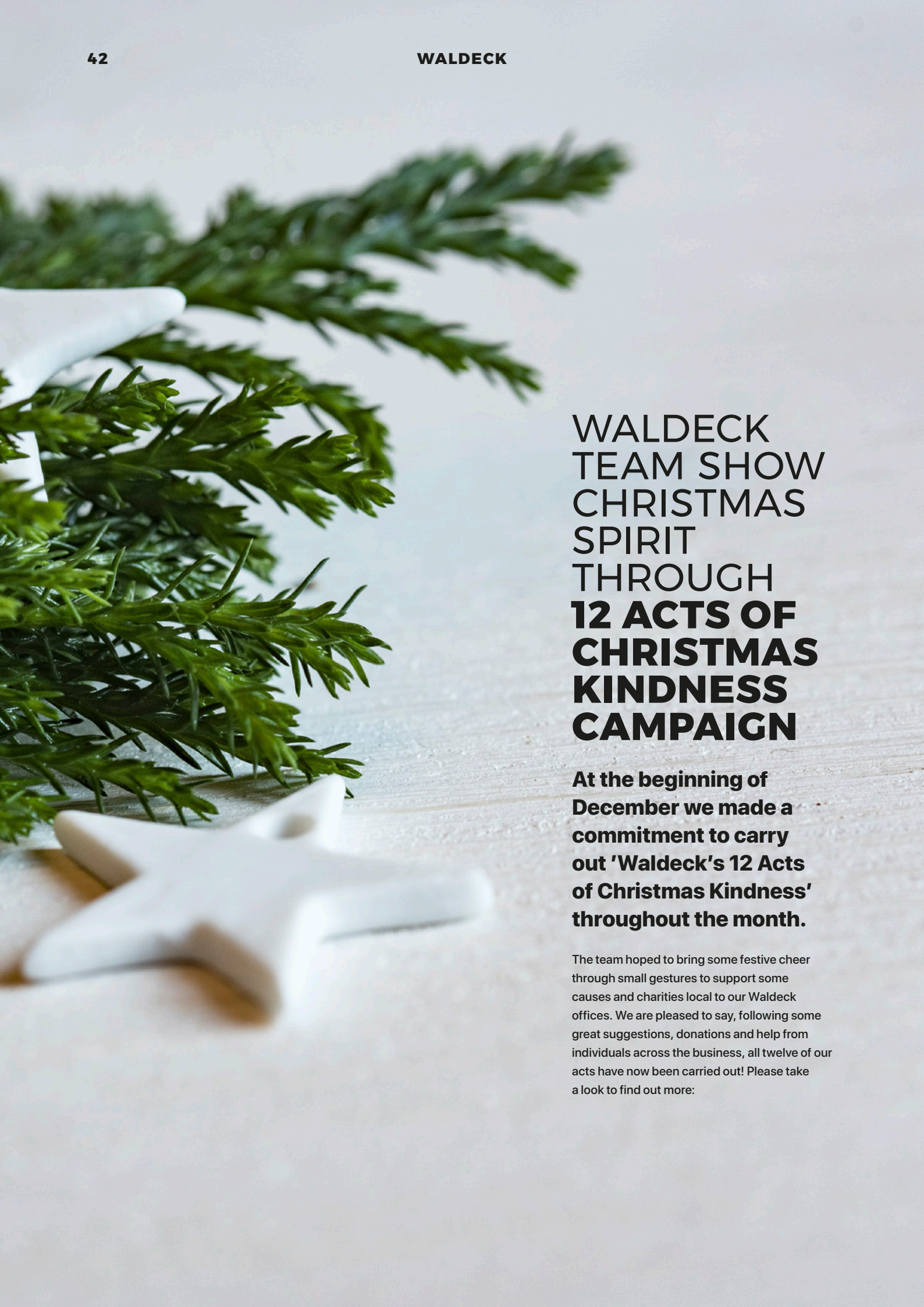
To find out more about how Mark and his team can support your business with the implementation of digital technology, please get in touch with him by calling 08450 990285.



**You can be involved in great projects that make a real difference to how we live and have a long and rewarding career that is never ever boring.**







WALDECK  
TEAM SHOW  
CHRISTMAS  
SPIRIT  
THROUGH  
**12 ACTS OF  
CHRISTMAS  
KINDNESS  
CAMPAIGN**

**At the beginning of December we made a commitment to carry out 'Waldeck's 12 Acts of Christmas Kindness' throughout the month.**

The team hoped to bring some festive cheer through small gestures to support some causes and charities local to our Waldeck offices. We are pleased to say, following some great suggestions, donations and help from individuals across the business, all twelve of our acts have now been carried out! Please take a look to find out more:





01

## Lincoln Food Bank

Our Head Office team, based at Wellingore, have generously donated a selection of food and festive treats to a local Lincoln Foodbank. ●

Find out more about this important cause:  
[www.lincoln.foodbank.org.uk](http://www.lincoln.foodbank.org.uk)



02

## Lincoln Christmas Sack Appeal

We are pleased to have contributed a selection of children's toys and games as presents for the Bridge Church's Lincoln Christmas Sack Appeal.

The appeal receives referrals for people who are struggling financially to provide for themselves and/or their families this Christmas. These families are then able to select presents and treats donated by people from all across the City.

Find out more about this important cause:  
[www.wearebridge.org/christmas-sack-appeal](http://www.wearebridge.org/christmas-sack-appeal)



03

## Beaumont House Hospice Care

We have provided Christmas Puddings and Christmas Cakes for 45 patients to enjoy on Christmas Day at Beaumont House Hospice Care in Newark.

Beaumont House Hospice Care is committed to providing supportive palliative care to patients with life-limiting or terminal illnesses and their families living in and around Newark. ●

Find out more about this important cause:  
[www.beaumonthouse.co.uk](http://www.beaumonthouse.co.uk)



04

## Smethwick Food Bank

We ordered and dropped off 91 food items at a food bank local to our Birmingham office in Smethwick. Thank you to Zoe Jones for the suggestion and for dropping off the food order, to help those who need it most. ●

Find out more about this important cause:  
[www.smethwick.foodbank.org.uk](http://www.smethwick.foodbank.org.uk)





## Bridge Church FiSH Appeal

We have donated £50 to the Bridge Church FiSH (Food in School Holidays) appeal, in Lincoln to help them buy fresh items to feed children over the festive period. ●

Find out more about this important cause:  
[www.wearebridge.org/the-fish-project](http://www.wearebridge.org/the-fish-project)



## Christmas Jumper Day

We took our Christmas Jumper Day online with a virtual lunch-time Christmas Quiz, where we raised £87 for Save the Children UK. Thank you to all the team who took part and donated! ●

Find out more about this important cause:  
[www.savethechildren.org.uk/christmas-jumper-day](http://www.savethechildren.org.uk/christmas-jumper-day)



## Deeping Men's Group Charities Fund Ltd

As part of our Christmas Quiz, we have also made a £50 donation to the Deeping Men's Group Charities Fund Ltd who loan mobility aids free of charge to local people in need. Thank you to Andrew Dent for your suggestion and for hosting a great quiz! ●

Find out more about this important cause:  
[www.thedeepingmensgroup.wixsite.com](http://www.thedeepingmensgroup.wixsite.com)



## Stannington Food Bank

We are pleased to have been able to make a £50 donation to Stannington Church's Food Bank. They requested a cash donation as their cupboards are well stocked but they were in need of fresh produce such as milk, eggs, bread and fruit. Thank you to Craig Harrison for your suggestion and helping us make this donation. ●

Find out more about this important cause:  
[www.facebook.com/Stannington-Foodbank](https://www.facebook.com/Stannington-Foodbank)





## Rainbow Stars Charity

Our Wellingore team were able to make a £200 contribution from collecting their 'Dress Down Friday' donations for their chosen charity, Rainbow Stars.

Rainbow Stars is a support and activity group for parents/carers, siblings and anyone with a disability or seeking a diagnosis. They are based out of the ground floor of our old Sleaford Head Office. ●

Find out more about this important cause:  
[www.rainbowstarssleaford.com](http://www.rainbowstarssleaford.com)



## Connecting with the Elderly

Becky Hicks got her 'Mary Berry' on and made a selection of delicious looking mince pies and a Christmas cake to bring some festive cheer to some of the elderly who live in her area. ●

Find out more about how you can help the elderly local to you:  
[ageuk.org.uk](http://ageuk.org.uk)



## Weston Park Cancer Charity

We are pleased to have been able to donate a 'Mrs Hinch' style hamper to the Weston Park Cancer Charity auction. Weston Park is based in Sheffield and helps support people of all ages that have developed cancer. ●

Find out more about this important cause:  
[www.westonpark.org.uk](http://www.westonpark.org.uk)



## Shiloh Homeless Charity

We are also pleased to have been able to donate a 'Mrs Hinch' style hamper to Oakwood High School in Rotherham, for their raffle in support of the Shiloh Rotherham homeless charity. Shiloh offer a safe place where homeless people are accepted and supported. ●

Find out more about this important cause:  
[www.shilohrotherham.org.uk](http://www.shilohrotherham.org.uk)



