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ISSUE 6 | 2021

# INSIGHT

Catch up with the  
team and more:

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- **Promotions & Welcomes**
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## WALDECK AWARDED ISO 19650-2 BIM CERTIFICATION

**We are pleased to announce that Waldeck have received our final report from BRE and associated certificate of approval.**

The certification confirms that Waldeck's information management process capabilities using BIM are in accordance with the requirements of the ISO 19650-2:2018 Building Information Modelling Certification Scheme for Businesses.

BIM is a core part of 'what we do' and drives many of Waldeck's internal processes, procedures and best practice providing the business with a framework to produce deliverables against.

Ben Curtis, BRE BIM Certification Scheme Manager shared: "We are delighted to award Waldeck ISO19650-2:2018 certification. This differentiates Waldeck from competition, demonstrating business wide excellence in delivering BIM projects to this internationally recognised standard and it's UK National Annex. Waldeck have continued to show full commitment to BIM.

"With the certification being subject to regular audits, clients will have confidence that Waldeck's BIM project services will continually perform as expected."

Associate Director, Veronica Ruby-Lewis who led the certification process for Waldeck shares: "Waldeck have been successfully delivering projects in accordance with PAS 1192-2 for many years and have held BIM Level 2 Systems Certification since 2017.

"With the introduction of ISO 19650-2 in 2018, we had been readying ourselves to make the transition, however the acquisition of Waldeck by Morson Group in November 2018 and the integration with their wider



ISO 19650-2:2018 Building  
Information Modelling Certification  
Scheme for Businesses  
**BIM10023**

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

business systems put a slight pause on our transition to ISO 19650-2 certification.

"With the integration and alignment of those business processes across the groups now in place, we are thrilled to have achieved certification across our now wider office and staff base.

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

"I would like to thank the entire Waldeck team as gaining such certification in such a challenging 18 months is a testament to the team's collaborative approach whilst ensuring adherence to the companies processes and protocols is maintained.

"Special thanks go to Head of SHEQ, Warren Monks, who assisted Director, Mark Greatrix, and I behind the scenes in preparation of the audit, and to those who assisted in the audit providing the Auditor with interviews and/or case studies."

The certification covers Waldeck as an 'Appointed Party' (Task Team) operating from our Wellingore, Peterborough, Sheffield and Manchester (Irlam) offices.

**To find out more about Waldeck's BIM capability, please contact Veronica and the team on 08450 990285.**





## WALDECK SECURE PLACE ON £120MILLION FUSION21 FRAMEWORK

**Waldeck have secured a place on Fusion21's £120million national Consultants Framework for the next four years, following a highly competitive tender process.**

A total of 112 specialist firms – including 80% SMEs – have been successfully appointed to the framework which is expected to support more than 100 projects each year.

Offering 12 lots, it has been developed to meet the needs of a wide range of public sector organisations – including housing, education, health, blue light, local authorities and central government.

Waldeck have been successful in securing places on two lots:

- **Lot 3**  
Building Information Modelling (BIM)
- **Lot 8**  
Building Engineering Services

Fusion21 is a national procurement organisation and social enterprise that has delivered savings worth more than £268 million for its public sector members and has won awards for its achievements in procurement and social value.

**For more information about Fusion21's national Consultants Framework or how you can procure through the Framework, please call 08450 990285.**



# WALDECK ANNOUNCED AS SPONSOR AT LINCOLNSHIRE CONSTRUCTION & PROPERTY AWARDS



Having been crowned winners of the 'Consultancy of the Year' Award back in 2020, and having kept hold of the title for a second year running due to the pandemic, we are looking forward to sponsoring this category and announcing the new 'Consultancy of the Year' winner at the awards dinner early next year.

Hannah Cook, Head of Marketing at Waldeck shared: "Waldeck was founded over 25 years ago in the heart of Lincolnshire, since then the business has evolved considerably, moving in many directions service

and location-wise. Regardless of this, our Head Office has remained here in Lincoln, where we continue to recruit, deliver incredible projects and give back to the local community.

"Being crowned 'Consultancy of the Year' in 2020 was a huge highlight for us, culminating years of hard work, growth and innovation. Now we feel it only right to officially pass the crown onto the next worthy business.

"We look forward to joining businesses from across the county to celebrate their achievements with them in February next year."

Every year, businesses across Lincolnshire gather to congratulate the best of the Construction and Property industry.

This annual event organised by the Lincolnshire Chamber of Commerce brings together businesses with vision, innovation and support for industry in Lincolnshire.

**The awards dinner will take place at the DoubleTree by Hilton in Lincoln on 3rd February 2022, with Morgan Sindall Construction as this years headline sponsors.**



# WALDECK ANNOUNCED AS FINALIST FOR CIBSE YOUNG ENGINEER AWARDS — EMPLOYER OF THE YEAR



## Waldeck are delighted to announce that we are finalists for this years' CIBSE Young Engineer Awards in the 'Employer of the year' category.

**The CIBSE Young Engineers Awards recognise and reward the innovative thinking, hard work and skills of graduate engineers, whilst also showcasing employers who are truly committed to developing and encouraging young talent.**

Waldeck was nominated by one of our young Electrical Design Engineers, George Naylor.

We caught up with George to find out more about why he chose to nominate Waldeck.

I joined Waldeck in 2018 as an Assistant Design Engineer, at which time Waldeck offered to support me through a HNC and Degree Apprenticeship.

As an employee I was very impressed with the amount of support which was offered to staff within Waldeck, no matter of their background, age, or experience.

Both part time College / University courses as well as short day CIBSE course have been undertaken by members in my team, which is just one of several ways Waldeck are committed to training their staff and keeping their knowledge / skills up to date.

This year I received First Class Honours in BSc Building Services Engineering at Leeds Beckett University, and as an appreciation of completing my degree qualification I received a gift card as well as having a write up in Waldeck's quarterly magazine on my educational success. These were very rewarding and were a great sign of appreciation however I feel like it should've been me showing appreciation to Waldeck! Which is why I chose to enter them for the CIBSE 'Employer of the Year' Award. Five years ago, I would've never believed someone if they

told me I'd be graduating from university in five years' time and for that reason I can't thank Waldeck enough.

With Waldeck's support (they are fully funding the course) I am now also starting a Master's in Building Services Engineering at Leeds Beckett in September. With this and the work experience I am gaining every day, I will be in a good position to apply for Chartership which is the ultimate aim.

**A few other points I included in my award submission were:**

### My Team

Waldeck's M&E team which I am part of, have several members of staff who have trained up to Incorporate Engineer & Chartered Engineers whilst with Waldeck. This is good for less experienced engineers as they can see how committed Waldeck is to supporting engineers and see how far they can take their own careers. Junior staff have the opportunity to speak with the CEng staff within PDRs to ensure they are on track to where they wish to be within their careers, for myself it was undertaking the Degree apprenticeship which will mean I am soon hopefully IEng ACIBSE.

### Memberships & Training

Waldeck fully support the membership with a profession body such as CIBSE and pay for the annual membership no matter what stage of your career you are at. When new staff join, it is encouraged to join CIBSE and as Waldeck have several employees who volunteer for CIBSE we can tell new staff what CIBSE is all about.



Waldeck organise regular CPD events for employees to attend to ensure CPD hours are built up each year. This ensures that all our engineers are kept up to date with the ever-developing building services technologies.

In the past, Waldeck have had engineers who have visited schools and spoken to students to give them a greater understanding into the building services industry, especially the digital engineering side, this has proven difficult over the past 12 months due to Covid but is something myself and the team are extremely excited to support Waldeck with when Covid restrictions allow.

### Projects

The highlight of my career so far has been working on multi-million-pound projects such as a Hyatt Hotel in London as well as flagship store, IKEA Greenwich. The 3D design environment amazed me when I first joined Waldeck and it has been nice to see a few projects from start to finish.

Waldeck work on a broad range of multi-million-pound projects and there are great opportunities for the team to expand their sector and industry knowledge and experience. As Waldeck have offices spread across the UK, staff are often given the opportunity to go work in other offices if projects suit, one example of this is large projects such as Hinkley Point C Power Station for EDF, where staff have been offered opportunities within Waldeck to relocate to work on the incredible project.

**Thanks for the nomination George!**

# Waldeck announced as NCE Techfest Awards finalists in two categories

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

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

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:

- **Best Use of Technology: Digital Engineering**
- **Transport Infrastructure Champion**

Waldeck's digital and technology team are now on their 3rd project working collaboratively with Network Rail and Nottingham Trent University to digitalise the condition monitoring of potentially 29,000+ of Network Rail's assets. Working with key stakeholders, we have developed and actively deployed techniques which offer improvements over the current means of asset condition monitoring and assessments.

The beta development of the solution remains the focus of our latest project, which is also targeting the scalable deployment of the approach overall.

Mark Greatrix, Director at Waldeck, shared: "Being able to support Network Rail with their future aspirations and to take their visions into demonstratable working solutions over the past two years has been a prestigious project for Waldeck. The project has been founded on a strong and collaborative working relationship, which has certainly enabled the teams to deliver the best results.

"We are thrilled to be the finalists in these two categories. The shortlisting's are also testament to the successful and collaborative relationship we've held with the Network Rail team to bring these projects forward"

"Being able to support Network Rail with their future aspirations and to take their visions into demonstratable working solutions over the past two years has been a prestigious project for Waldeck."

Nataliya Aleksieva, Senior Engineer at Network Rail shared: "The trials undertaken by Waldeck and their university partner on 50 masonry bridges in 2020 were not only to demonstrate the capability of the technologies but also to enable Network Rail engineers to holistically evaluate the condition of the structures off-site in their real environment. The project team were able to combine point cloud surveys undertaken by drones and terrestrial laser scanning with sufficient accuracy which provided a complete survey for the structures.

"The team has developed algorithms to create BIM models directly from the surveys to support the automation of the existing processes for determining the condition marking index for the structures and the development of the digital railway twin.

"This development is expected to bring significant benefits to Network Rail by minimising the traffic disruption, reducing boots on ballast, and obtaining richer data on our assets which will enable NR engineers to evaluate their condition more accurately."

The awards ceremony will take place on the 2nd December 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](https://techfest.newcivilengineer.com/shortlist)**







## Case Study —

# PERRY BARR STATION



**A major redevelopment is taking place at the existing Perry Barr 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.**

The station redevelopment is part of a wider £700m+ regeneration of the Perry Barr area, led by Birmingham City Council. It also includes a new road layout, thousands of new homes and the development of a brand-new bus interchange outside the One Stop Shopping Centre.

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

As progress continues on-site, we caught up with our Project Manager, Sam Young, to find out more about Waldeck's involvement in the scheme.

### Hi Sam, tell us more about what services Waldeck are providing?

Our team were the Lead Designer responsible for managing the completion of outstanding GRIP 3 design, we have since taken the scheme forward through the remaining design stages and Galliford Try are making good progress on site as you can see below.

Waldeck were appointed by Galliford Try to carry out the following services:

- **Architecture & Design**
- **Civil and Structural Engineering**
- **Mechanical & Electrical Building Services Design**
- **Principal Designer**
- **Digital Surveying**

We are also managing third party services including:

- **Fire Engineering**
- **Acoustics**
- **Station Security and Information Systems**
- **Earthing & Bonding**
- **Site investigations, CCTV, Jetting & Underground Services Surveys**

### What will the station re-development include?

The station will have improved accessibility with new lifts and stairs providing access from the new concourse at road level down to platform level. The concourse will be staffed for ticketing and fares and facilities such as a toilet and baby changing room are provided as

part of a new internal accommodation block within the concourse. The public realm between the railway station, bus interchange and local shops will also be redeveloped to provide an inviting space for station and bus users.

### What would you say are the key achievements for Waldeck on the project so far?

Waldeck have led the multi-disciplinary team for this complex project which included a range of infrastructure interfaces and complex stakeholder engagement. Some highlights for us so far have been:

- 1 The interfaces include new public open space connecting to the bus interchange, station and platform access, all in accordance with Secure By Design and Safety In Design Of Stations (SIDOS) criteria.
- 2 The scheme followed Network Rail's GRIP process which provided design assurance through the project evolution and has captured the development of the project when we took it on midway through GRIP stage 3.
- 3 The scheme includes publicly accessible concourse areas which include welfare facilities within the station. Waldeck have been responsible for the safety, fire and access strategies; using our in-house pedestrian flow modelling capabilities, which proved extremely valuable.
- 4 The economic design of the new station has included significant value engineering, utilising a hybrid lightweight SFS system, as well as the modifying of the cladding design through the specification of new systems and a redesign of the access strategy.
- 5 We have continued our strong working relationship with our sub-contractors and have also been involved in the introduction of a new SISS system that is being implemented by WMCA with the expectation to include this in their future station developments also.

As a whole, I feel the entire project team (internal and external) has worked together very openly which has enabled us to continue delivering the project, through what has been a challenging 18 months.

**To speak to Sam and the team about how Waldeck could support your next project, please get in touch by calling 08450 990285.**



## DIGITAL CAPTURE – IT'S NOT JUST FOR BUILDINGS!

Over recent years we have seen example after example of how Digital Capture technology can provide valuable data to inform decisions for buildings and facilities.

As technology continues to advance and equipment gets more compact, our team are able to help clients get to those hard-to-reach places, including the exterior and interiors of:

- Ships
- Planes & Helicopters
- Trains
- Cars, Vans & Lorries

During design and fabrication, or when undergoing maintenance and refits, with all modes of transport, it's important to minimise time spent out of service. Deploying digital technologies allows for rich data sets of be quickly captured and shared, reducing the need for multiple visits by different project participants.

No matter the stage of a project, a digital approach can provide vital insights, visualising constraints and planned modifications from the beginning, with problem solving and driving design development, to training environments and vital health & safety information at project handover.

### How we can help

Amy Cheeseman, Head of Digital Capture, shares: Waldeck offer a wide range of surveying methods which allows us to ensure we are always using the right technology for the job. Our experience across multiple industries and design disciplines gives us the knowledge to make sure we meet our client's requirements,

delivering the data they need in the best format to suit their project requirements.

Our digital capture team works with project teams and businesses to understand their specific requirements, enabling them to derive full benefit of the data over its lifecycle use. Our digital capture solutions support multiple use cases, from informed concept and design stage activities to supporting intelligent decision making for owner-operators.

Our team, work with our clients to understand their needs and utilise available technology to the best of its potential. By doing so, our clients see benefits such as:

- **Cost savings due to faster methods of capture and minimum disruption to an asset**
- **Fully co-ordinated outputs for easy project integration**
- **Improved health and safety, minimising the need for specialist access equipment and working at height**
- **Much more information captured than if traditional methods were used, providing wider context**
- **The ability to use the data in a 3D environment**
- **Variety of outputs ranging from 2D drawings to 3D models and virtual tours**

**For more information please call 08450 990285 and ask for Amy Cheeseman.**

"Our digital capture solutions support multiple use cases, from informed concept and design stage activities to supporting intelligent decision making for owner-operators."





"Hinkley Point C is without doubt the most interesting project I have worked on. It is the largest construction scheme in Europe leading the way for a new generation of low carbon electricity production in the UK to help reduce the carbon cost of energy."



## Matthew Bloodworth promoted to Programme Director for Nuclear New Build

**Please join us in congratulating Matthew Bloodworth who has recently been promoted to Programme Director for Nuclear New Build.**

Matthew has over 16 years' experience in the construction industry and is currently seconded into Waldeck's EDF Energy Hinkley Point C team, supporting the next generation of Nuclear New Build in the UK.

Matthew has been working on the Hinkley Point C project for 6 years and is now leading Waldeck's engineering team who are working on the project and is himself embedded within the client team as part of the Joint Design Office.

### **So Matthew tell us a little bit about your new role?**

My new role in Waldeck is taking over from Andrew Daughtrey as head of Nuclear New Build for Waldeck. This means oversight of the team on Hinkley Point C (HPC) as well as looking forwards to other projects where we can apply our extensive experience gained from HPC.

### **What has been the most rewarding project to work on so far, and why?**

Hinkley Point C is without doubt the most interesting project I have worked on. It is the largest construction scheme in Europe leading the way for a new generation of low carbon electricity production in the UK to help reduce the carbon cost of energy. As an engineer it is a fantastic project to be involved in due to its scale and complexity which when combined with the highly regulated nature of nuclear

and the pace of construction mean that there is never a dull moment.

I am also a mentor for a charity called Engineers for Overseas Development (EFOD) who I have volunteered with for many years and been involved in design and site supervision for a number of their projects. Probably the most rewarding is the Soroti Medical Centre in Uganda which opened in 2010 and continues to support the community.

### **What is your favourite part about your job?**

Being able to support the team and recognise their efforts and performance as well as being part of something with wide reaching positive impacts and an enduring legacy. I am an avid supporter of renewable energy and am pleased to be part of the solution to the country's sustainable energy future.

### **What advice would you give someone wanting to start a career in Engineering?**

I love being an engineer and would whole heartedly recommend it to anyone with an aptitude for problem solving. Removing barriers to diversity is a big focus in the industry at the moment so should not be considered a blocking point. There are lots of ways to get started including via academic study and vocational training so there is a route in for everyone.



## MEET THE TEAM



**As part of a series of ‘Meet the Team’ interviews with our Architecture team, we caught up Senior Architectural BIM Co-ordinator, Nick Fell, to find out more about his role at Waldeck.**

Nick started his career back in the 1980's at the age of 17 as a Trainee Surveyor on a Youth Training Scheme with a local estate agent. They had a small drawing office with old fashioned drawing boards (no computers back then), and I was encouraged by their Architect to try his hand at drawing up house extensions which he I really enjoyed.

At the time, Nick did a day release ONC course in Construction, followed by an HNC in Building Studies at Sheffield Hallam University which he completed in 1989.

Throughout his career Nick has worked for several architectural firms, but has also done other jobs including an advertising manager, IT manager, metal stair designer and curtain wall design technician!

In his spare time Nick enjoys listening to live music golf, gardening, socialising with his partner and going on long walks with their Greek rescue dog, Eric!

**So Nick, tell us a little bit about your role as Senior Architectural BIM Co-ordinator?**

I joined Waldeck in December 2018 as a Senior Architectural BIM Co-ordinator and have worked on several rail projects including Holbeck DU, Doncaster DU and currently, Perry Barr Station.

**What is your favourite part about your job?**

I love problem solving, and buildings are generally just a series of problems that require solutions. The co-ordination of several elements into sometimes very confined architectural spaces. without forgetting the human aspect of how the space functions can be a real challenge.

**What has been the most rewarding project to work on so far, and why?**

My favourite project so far has been the first one I worked on, Holbeck DU. This was a conversion of an existing engine shed into offices, storage and welfare facilities and fitting this within an existing envelope made this interesting.

Also, being a very old building with no services, and adding a mezzanine office floor above the storage areas, meant balancing a relatively low ceiling height with vast amounts of ducts and pipework whilst making the offices pleasant to work in for the end users.

**What are your main areas for focus when designing and delivering a project?**

Buildability is key. Being able to create the project in a 3D environment enables potential issues to be seen and remedied more easily, and also helps the client and contractor to see why certain solutions have been picked.

**What's next for you and the architecture team?**

In a technician's role you generally spend half your time looking forward to the current project being completed and the other half looking back at what could have been done better on the last project. I look forward to the architectural team exploring different sectors of work so that all our past experiences can be utilised fully.

**To find out more about Waldeck's Architecture capability, get in touch with the team by calling 08450 990 285 or visit our Architecture page here.**





**We are delighted to have recently welcomed Senior Electrical Design Engineer, Ian Taylor, to our Mechanical & Electrical team, based in Sheffield.**

## MECHANICAL & ELECTRICAL TEAM **WELCOMES NEW MEMBER**

Ian is a degree qualified design engineer with over 15 years' experience in the construction industry and has a specialist interest in lighting, having worked on projects across leisure, accommodation, healthcare, education, defence, and historical sectors.

We caught up with Ian to find out more about him and how he is settling in as part of the team.

### **Hi Ian, welcome to Waldeck!**

#### **How have your first few weeks been?**

My first few weeks have been pretty busy, with plenty of work currently going through the Sheffield Office. This is a pleasant surprise considering the current pandemic and speaks volumes about the flexibility and resilience of the company.

In other respects, it has been a bit quiet with people working from home for much of the week. Many however, have made the extra effort to come in and meet me face-to-face.

#### **What sort of projects are you working on?**

I have been passed the baton on a major prison refurbishment, which was just starting to get going. The project is well on track despite a challenging design programme. I owe much of the credit for this to a very knowledgeable mechanical lead, and to our dedicated CAD team who have assisted with the large number of drawings.

#### **What particular skills do you bring to the team?**

I have been in the Building Services game for a good while, gathering experience across a broad spectrum of electrical systems and building sectors. Services in buildings are becoming increasingly sophisticated with greater levels of automation and higher standards for quality, safety and environmental performance.

Wires run all around our buildings, carrying power and information between many devices. Whether these are power submains, lighting circuits, alarm wires or data cables, I know a fair bit about what is at either end of all of them.

Every sector has its own specific requirements be it discreet routing of wires around period properties, resilient supplies in hospitals or flood lighting in sports stadiums. Experience is key in successfully meeting a client's success criteria, both written and assumed.

One of the biggest challenges facing the construction industry is continuing to reduce the carbon footprint of new and existing building, for a more sustainable future.

I can approach this with confidence, having worked on everything from LED lighting and heat-pump supplies to large solar panel installations and tri-generation infrastructure across multi-use developments.

#### **What is your favourite part about your job?**

My favourite part of the job is the new challenges each project throws at me, with every scheme presenting a unique set of characteristics and peculiarities.

#### **What're you looking forward to most about the next few months at Waldeck?**

Getting my teeth into some sizable projects and learning more about Waldeck's community and their approach to the industry.

**To find out more about how Waldeck's Mechanical & Electrical team can help you with your next project, please call 08450 990285.**

**Waldeck welcomes University of Sheffield Student**

### **CHRIS WELLS**

We are also pleased to welcome The University of Sheffield student, Chris Wells, to our Sheffield office to complete a one-year placement as part of his Mechanical Engineering degree.

Chris will be supported by our talented team of experienced engineers over the next twelve months, including Director of M&E Adam Machan, and our two M&E Associate Directors, Stephen Rowe and Luke Mitchell, pictured below.

We look forward to catching up with Chris soon to find out more about his experience as part of the Waldeck team!





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## 35 GO BEYOND MENTEE JOINS THE TEAM



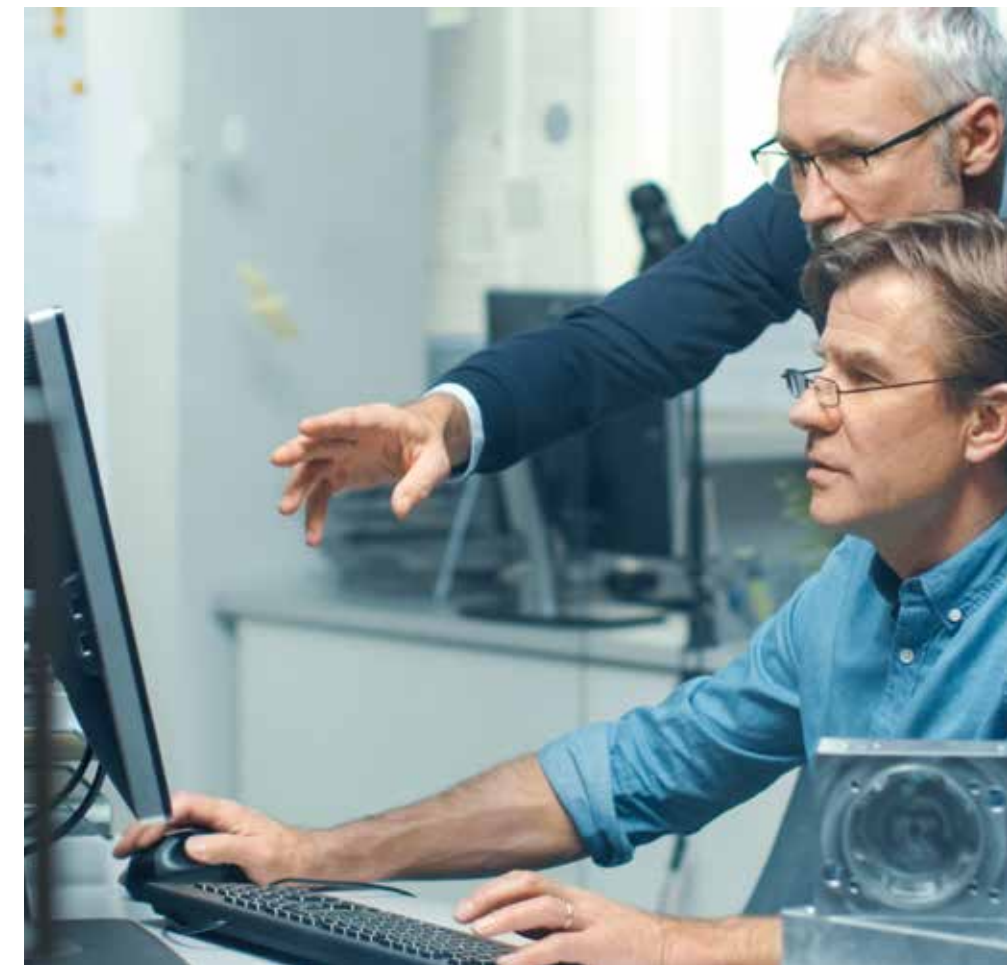
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## 38 CYBER ESSENTIALS PLUS CERTIFICATION RECEIVED



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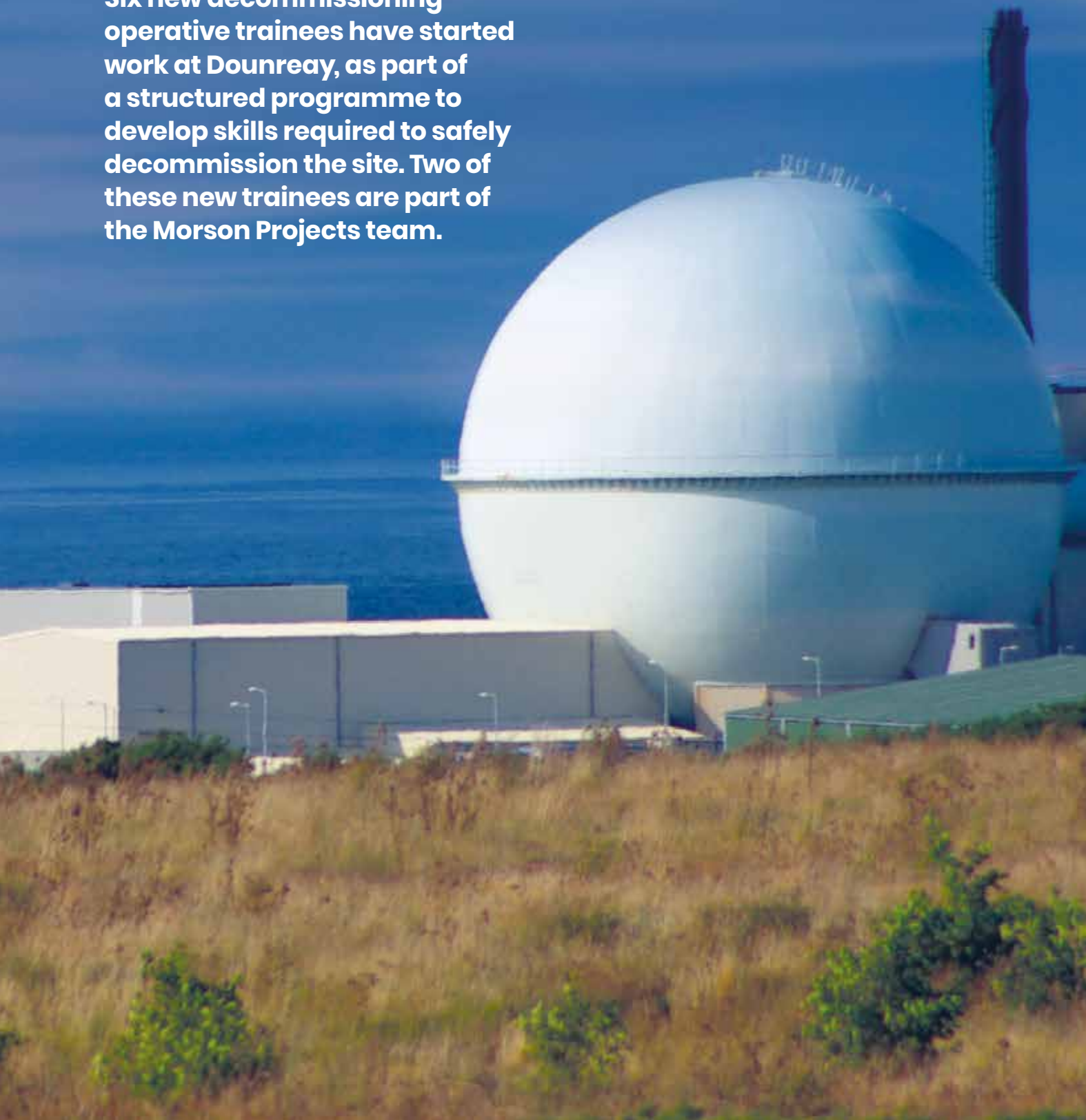
## 42 MEET THE TEAM: ELECTRICAL & AVIONIC DESIGN





# Morson Projects support Dounreay to safeguard future skills with new intake of trainees

Six new decommissioning operative trainees have started work at Dounreay, as part of a structured programme to develop skills required to safely decommission the site. Two of these new trainees are part of the Morson Projects team.



"...it's crucial that we support the supply chain who play such an important part at Dounreay, providing resources to bolster our own workforce."



**Morson Projects are collaborating with DSRL alongside Nuvia, and GDES who have also recruited trainees.**

Over a 4-year period, the trainees will attend North Highland College part-time, where they will complete a selection of training modules covering the wide range of practical skills associated with nuclear decommissioning.

For the remaining time they will gain hands on experience by assisting with a wide range of decommissioning tasks completed at Dounreay. Four of the trainees can be seen above pictured at the site.

The scheme demonstrates the excellent collaboration between DSRL, the supply chain and North Highland College UHI to identify and locally provide a bespoke series of training modules that are relevant to the decommissioning work being completed at Dounreay.

DSRL's Head of Fuel Cycle Area, Becky Ruddy, said: "DSRL recognises the value of a training programme for our trainees as they will play a pivotal role in the decommissioning mission."

"We are pleased to be working with Nuvia, Morson Projects and GDES as it's crucial that we support the supply chain who play such an important part at Dounreay, providing resources to bolster our own workforce."

Morson Projects Labour Allocation Manager at Dounreay, John Dunnett, added: "Morson Projects are delighted to be taking on two young new members within our Dounreay team, who will be training on the job alongside day-release for their courses at North Highland College. Growing our own talent and nurturing the next generation of engineers and technical staff is hugely important to us and following success over previous years, we look forward to welcoming Jack Crowe and Robbie Shepherd to our Decommissioning project delivery team."

"As with previous years, the course will be funded by ourselves and our client DSRL, and we have no doubt that the College will aid us in developing the skills and knowledge required by Jack and Robbie to meet the high standards of work we are proud to continually deliver."

## Andy Hassall raises £1,360 for Seashell Trust

**A huge congratulations to Andy Hassall who recently completed the Great Manchester Run to fund raise for the Seashell Trust, finishing in 48 minutes 52 seconds.**

The Seashell Trust are a charity for children, young people and adults with sensory impairment, learning difficulties and profound communication difficulties. The Trust runs the Royal School Manchester and Royal College Manchester as well as care and residential homes.

Andy raised a fantastic £1,360, with a huge thank you to Ged Mason, on behalf of the Morson team, who matched the original total of £640, pushing the total well over Andy's original target.

Andy shared: "It has been difficult fund raising during Covid! Now charity events have started to get re-organised, it was fantastic to get the chance to run the Great Manchester 10k for the Seashell Trust, a charity which Morson have supported for many years."

Thank you to everyone who showed their support, and well done Andy!





## MORSON MAKER SPACE — A RACE TO THE FINISH LINE

The Morson Maker Space is a state-of-the-art facility on campus at the University of Salford, which is sponsored by the Morson Group.



**We caught up with Dr Maria Stukoff, Director of the Morson Maker Space, to find out more about how the space has been used to support the Salford Racing team in the Institution of Mechanical Engineers (IMechE) Formula Student competition.**

The Maker Space team are passionate about integrating digital fabrication skills into curriculum as well as supporting extra-curricular student activities by societies such as the Salford Racing Team.

The University's ethos is to engage with students to give them an opportunity to apply their learning in tangible ways. The Maker Space helps students to gain a deeper understanding of their study through iteration, testing and prototyping.

The Maker Space provides students with an exceptional facility not found anywhere else on campus where they can:

- Access powerful, industry standard machinery
- Develop technical competency in digital fabrication
- Apply engineering skills from textbook into real-world

### **More about the Salford Racing Team**

The Salford Racing team is a multi-disciplinary student society comprising of engineering, business, project management and media students. In a normal year the society has 25-30 members from a broad range of specialisms, providing both engineering knowledge and business expertise.

Together, the students work on designing and manufacturing a race car to compete in the IMechE Formula Student competition, Europe's most established student automotive event. The team are up against over 100 universities from around the globe, who meet at Silverstone once a year to pit their cars against one another.

Students design the car's chassis, suspension, drivetrain, and aerodynamic features while sticking to a rigid competition rule book. Cars which successfully pass the stringent scrutineering process go on to

compete in a number of dynamic events, including an auto-cross style endurance marathon and sprints.

The competition provides an ideal opportunity for students to demonstrate their engineering knowledge and develop their skills to deliver a complex and integrated product in the demanding environment of a motorsport competition.

### **Supporting Student Success**

The Morson Maker Space has supported the Salford Racing team over the last 4 years, collaborating with the students to introduce concepts of design for manufacturing to speed up turnaround of parts and make the machining process cheaper and easier. Machining parts in-house at the Maker Space ensures that students continually learn new industry relevant skills by getting immediate feedback on their designs.

Aidan Dunbar, Maker Space Lead Technician has taken on an additional role as Faculty Advisor providing technical, administrative as well as coaching support to the team. He said: "This summer we ran three days of Formula Student specific workshop sessions offering input from project management specialists, university technicians, machinists, and management staff specifically to boost skills and promote a holistic approach to the design and engineering challenge. One outcome of these workshops is that four students are now fully certified in the independent use of the Maker Space's powerful waterjet cutter."

### **How the Morson Group are contributing**

The University's longstanding relationship with the Morson Group has enabled Salford Racing to secure sponsorship, advice, resources and equipment from engineers at Morson Projects.

This unique collaboration allows the students to work closely with industry experts to help innovate and test ideas, with an opportunity for students to work on real industry briefs.

Oliver Kanjoo-Parsons, Team President 2021-2022, shared: "As a relatively new team, Salford Racing feel privileged to have the support of Morson Group. Their sponsorship has allowed the team to improve its position in the Formula Student competition year-on-year and gives the opportunity for students to develop our professional experience and thus creating more competent engineers." **Continued »**

"Morson's sponsorship has allowed the team to improve its position in the Formula Student competition year-on-year and gives the opportunity for students to develop our professional experience and thus creating more competent engineers."





### Morson Engine Room: Machine Tools

Like all other students at the University, the team have free access to the broad technical capabilities and machinery at the Morson Maker Space.

The team have 3D printed parts of the steering assembly from carbon-fibre reinforced Nylon, waterjet countless sheets of steel and aluminium for both structural and aesthetic parts. A number of key parts were machined on the Maker Space's 5-axis CNC mill, meaning parts can be turned around more quickly and with fewer setups.

Support of the Salford Racing Team wouldn't have been possible without the heavy duty, industry grade machinery that sits in the Morson Engine Room.

Aidan Dunbar, Maker Space Lead Technician, shared: "Having access to such a wide range of manufacturing technologies at the Morson Maker Space has really helped the Salford Racing team. Students gain valuable experience designing their parts for manufacture, ensuring their car can be made as quickly and as cost effectively as possible."

"Our Haas UMC-500 5-axis CNC mill gives students the opportunity to create designs that would otherwise be cost prohibitive or time consuming to produce on a traditional 3-axis machine, especially if it was sent to an external contract manufacturer. Reducing the number of setups required to complete parts means that manufacturing is much more straightforward. We are excited to incorporate training for this machine ready for the next competition."

Dr Maria Stukoff added: "Simply designing and specifying parts for manufacture teaches students a lot about working in the real world – actually getting hands on during the manufacturing process, receiving one-to-one feedback from machinists and technicians, and constructing the final assembly really drives home the effect design decisions have on production efficiency and design ease. The students are learning by making the mistakes that would normally happen during the first few years of their career and will graduate as more effective engineers."

Find out more about the Maker Space here:

[www.salford.ac.uk/our-facilities/maker-space](http://www.salford.ac.uk/our-facilities/maker-space)

## Student Profile: CORIN WILLIAMS

We caught up with Corin Williams, who studied Mechanical Engineering at the University of Salford between 2016 – 2020.

Corin worked as the Salford Racing Director for the 2019-2020 competition. Since graduating from his BEng (Hons) in Mechanical Engineering, Corin found immediate employment as Head Design Engineer at SW Motorsports and now acts as an 'Alumni Advisor' sharing his industry insights and valuable design skills back into Salford Racing.

Corin shared: "I graduated last summer and I'm now working in a dream role as head design engineer for SW Motorsports, one of the UK's leading roll cage and safety device manufacturers. I know for a fact that I wouldn't have been able to get this job without the help and guidance of staff and industry partners at the University of Salford."

"During my time at university, I had the chance to work closely with the Morson Maker Space, which is an amazing facility that provides industry-standard facilities across 3D printing, computer-aided manufacturing (CAM) and computer-aided design (CAD). Students can use the facilities, access expert mentoring and work alongside the team on live briefs and projects with industry."

"Being able to work in the Maker Space and be a part of Salford Racing really did set me up for life after university. Not only did I benefit from dedicated support from industry professionals, but I was able to practice honing my technical skills using the state-of-the-art equipment. This was alongside my day-to-day studies which gave me the academic know how across a curriculum that has been designed with students' future careers in mind."

"I graduated last summer and I'm now working in a dream role as head design engineer for SW Motorsports, one of the UK's leading roll cage and safety device manufacturers."





"Our Digital Capture team support ships, yards and owners with highly detailed and accurate 3D full colour digital laser scans of their assets."

## A — Z OF SERVICES

# DIGITAL CAPTURE FOR MARINE

### INTRODUCTION

Our Marine department is supported by our in-house digital capture team. The team are able to offer a wide range of surveying methods which allows us to ensure we are always using the right technology for the job no matter the size of vessel.

### HOW WE CAN HELP

Our Digital Capture team support ships, yards and owners with highly detailed and accurate 3D full colour digital laser scans of their assets.

The resulting 3D data helps owners rapidly record geometry and surface condition. Ideal for on/off hire surveys, assessment of repair or maintenance scope, or as a starting point to develop plans for modification.

The detailed digital record of the asset can support intelligent remote decision making for owners, provide a training environment for new crew, and be a valuable tool for health & safety information during vessel handover.

### BENEFITS

The benefits of utilising Digital Capture include:

- **Reduced dry dock time (and cost)**
- **Digital capture of the asset prior to arrival**
- **Pre-planning of repair or modification**
- **Pre-design and fabrication ready for vessel arrival**
- **Fully co-ordinated internal and external vessel captures for year-on-year asset condition monitoring**
- **Improved health and safety, minimising the need for specialist access equipment and working at height**
- **Highly detailed information captured than if traditional methods were used, providing wider context, and minimising the need repeated visits to a vessel**
- **The ability to use the data in a 3D environment**
- **Variety of outputs ranging from 2D drawings to 3D point clouds**

### OUR SERVICES

Our Digital Capture team offer solutions including:

- **360 Photography**
- **3D Immersive Digital Condition Reports**
- **Digital Survey of Draft Marks & Load Lines**
- **Mobile Mapping**
- **Photogrammetry**
- **Production of Topographic Drawings**
- **Progressive Monitoring of Construction Progress**
- **Scan to Digital Twin**
- **Terrestrial Laser Scanning**
- **UAV Aerial Surveys & Inspections**





## Case Study — DIGITAL CAPTURE OF TWO PILOT BOATS

**Morson Projects were appointed by Dales Marine Services Ltd to produce accurate 3D layouts of two pilot boats to support their upcoming engine refits.**

### Project Overview

Our team were appointed by Dales Marine to undertake a laser measurement survey and produce accurate layouts of two pilot boats in dry dock.

On discussing the clients requirements and understanding the complexity of the boats, Morson Projects proposed to undertake a point cloud survey to efficiently and accurately capture the existing environment.

As an added benefit for the client, the full and detailed model would enable accurate 3D measurements and spatial analysis to be conducted when the client may be looking into future plant and equipment changes.

With each boat made up of several small compartments, our team utilised a terrestrial laser scanning approach to obtain and provide high accuracy data (<2mm). By taking multiple scans below deck, paying close attention to key elements such as engine mounts and exhaust ductwork, a 3D point cloud of the target areas was produced. The 3D point cloud enabled the design team to model directly in a 3D environment, ensuring the new engine tied in with the existing mounts, and that a new exhaust and scrubbers could be easily routed through the boat.

To aid in repositioning the exhausts, scans were also taken externally around the external hull of each pilot boat, with rigorous survey control used to tie each data set together.

A key challenge faced was working within the small compartments below deck. Although the existing engines had been removed, the working space was tight which meant taking scans in more locations to ensure all the key details of the retained equipment and hull structure were fully captured.

### Results

The project deliverable provided the client with a fully navigable visual and point cloud model of the two pilot boats, which could be readily accessed and interrogated with an intuitive free view software solution. As such, the 3D point cloud was utilised directly by the design teams software to ensure full 3D coordination of the refit within each boat.

To provide the client and design team with further insight, a virtual tour was created of each pilot boat to provide a navigable visual environment which added further context to the project. This in conjunction with the 3D point cloud mitigated the need for re-visit to obtain addition measurements or information.

"Dales Marine were contracted to re-engine two pilot boats with four MAN Units. Our approach to the client was to offer a turn key package for the upgrade. We reached out to David Gray, Head of Marine at Morson Projects to have the vessels 3D scanned to ensure we eliminated and addressed any design and installation issues of the new engines, cooling and exhaust tier 3 systems.

"I have to say that we were very impressed with the timely and professional service we received from the Morson Projects team and of course the quality of information and images received from the 3D scan process."

— **Andrew Malcolm**  
Business Development,  
Dales Marine Services Ltd

**To find out more about our Digital Capture or Marine capability, get in touch with David Gray, Head of Marine by calling 0161 707 1516.**



Scan the QR Code:  
**VIRTUAL TOUR**

Navigate and explore your way around one of the pilot boats by scanning the QR code to the left on your smart phone.





University of  
Salford

University of  
Salford

# University of Salford student joins team following 'Go Beyond' Mentoring Programme

**Earlier this year, Lead Design Engineer, Maria Williamson, volunteered to join the Morson Maker Space's 'Go Beyond' Mentoring Programme as a mentor.**

**We are delighted to share that after Maria's successful mentoring of student, Chloe Hughes, she has since been offered full time employment at Morson Projects within Maria's team.**

The new initiative aimed to cater for female students in their last year of study in engineering subjects in the School of Science, Engineering and Environment (SSEE) at the University of Salford and support them to:

- Gain greater insights of the industries of their chosen subjects
- Obtain greater knowledge about their career prospects and have focus on the future
- Acquire broader skills for personal and/or career development
- Build understanding for communication and a range of interpersonal skills
- Discover good practices and understand how to enter the industry with confidence

We caught up with Chloe to find out more about her journey so far.

**Hi Chloe, tell us a bit more about what you studied at University?**

I went back to University to study my Master's degree in Aerospace Engineering after re-evaluating my work situation (I had been working in hospitality since starting my Bachelor's degree) and to do something I am truly passionate about!

**What made you get involved in the Go Beyond Mentoring Programme?**

Since returning from Sweden, I found it difficult to find a job within the engineering industry, so when I decided to do my Master's degree, I wanted to take full advantage of everything the University of Salford had on offer to get my career off the ground.

The Go Beyond Mentoring Programme was an amazing opportunity to speak to someone who has experience of the industry from a female point of view. During the time spent at university, it was difficult to get a feeling of what the day-to-day activities will entail, therefore the programme was a great steppingstone from education to employment.

**How did Maria's mentoring help you?**

I was keen to develop my interview skills and Maria helped me a lot! We were only supposed to meet once a month but ended up meeting once a week to work on these skills. During this time I also got to see her insight into what the industry is like as a woman.

I feel Maria knew how passionate I was about engineering and saw the amount of experience I had in many engineering disciplines (electronics, robotics and aerospace), therefore showing my adaptability and determination which has now resulted in me achieving my first full-time position at Morson Projects.

**What are you hoping for the next steps in your career?**

Since handing in my thesis at the end of September, I have gone full time as a Design Engineer on a high-profile marine project and I am thoroughly enjoying every minute of it. I am focusing my efforts on the design-side, and I am keen to gather as much knowledge as I can from the experienced engineers I am now working with.

**What advice would you give to women considering or currently pursuing a career in engineering?**

It is a competitive industry but if you are determined and love what you do, someone will take notice and believe in you.





# Head of Marine, David Gray, highlights simple to use EEXI tool for ship owners

**Morson Projects' independent emissions verification team operates across the transport sector (aviation, defence, marine and shipping). We have developed our own tool to calculate EEXI for ship owners.**



We know that accurate calculation of the International Maritime Organisation's (IMO) new Energy Efficiency Existing Ship Index (EEXI) relies on inputting the correct data. Head of Marine, David Gray explains: Although this may seem obvious, it has become apparent that the industry is currently still unclear on the technical parameters required to meet compliance.

However, as part of our Green shipping initiative, Morson Projects have developed a simple tool to simplify the technical parameters required to meet compliance.

As agreed at MEPC 76, the EEXI must be calculated for ships of 400 gt and above, in accordance with the different values set for ship types and size categories.

## Our Tool

- 1** The first stage of Morson Projects' process requires shipping companies to populate the simple to use online form with basic technical data for their ship.
- 2** Conservative statistical estimates are used by default to check if the vessel passes EEXI, with the calculation result provided live while parameters are input.
- 3** If the vessel passes, then the user can simply proceed to receive the detailed technical file.
- 4** If the vessel does not pass, then the user can input known parameters such as actual Specific Fuel Consumption or Auxiliary Power Loads.
- 5** Evidence supporting these values can also be uploaded into the tool to be used later when creating the Technical File.

## What if the ship fails to meet the required EEXI value?

The first thing to examine is whether Engine or Shaft Power limitation (EPL or SPL) will allow the vessel to pass requirements. Power Limitation has been found to help Bulk Carriers, Container ships and Tankers. Morson Projects' EEXI tool allows the user to input an EPL value and see in real time if a pass can be found. For cruise ships and other vessels where the Auxiliary Power requirement is high this technique can result in a worse result. Here other solutions to reduce power loadings must be considered.

By inputting correct and accurate data into the tool, the attained EEXI is calculated and compared with the required EEXI. Any ship that does not comply must make the necessary modifications to improve energy efficiency or face market barriers.

From January 2023, there will be a mandatory certification survey undertaken by the relevant class society, which will then provide an updated International Energy Efficiency Certificate (IEEC). Without this, the vessel will not be EEXI compliant and eventually can lose its licence to operate.

With the long-term financial implications and negotiation process with charterers front of mind, some forward-thinking shipping companies are starting the process now.

Understanding which vessels will comply and which will need an Engine Power Limitation plan or design changes at a later stage ensures that any modifications can be made at a time that suits the

vessel's schedule. However, making an accurate calculation and reliable recommendations for any necessary technical adjustments relies upon assessing the correct information at the outset.

David Gray concludes: "At the first annual or special survey after January 2023, a ship's efficiency will be compared against the EEXI benchmark which has been set by the IMO.

"If the vessel passes, the owner will receive an International Energy Efficiency Certificate. If it fails, there are two options: make modifications to improve efficiency or risk an operating ban. If the technical files submitted to class are incorrect, the vessel risks losing its licence to operate.

"It is essential to understand any gaps in meeting the requirements, plus the potential solutions needed to bridge any gap, sooner rather than later. Several ship owners, operators and managers are working with Morson Projects to assess the scale of the challenge they are facing. They recognise that if vessels do not meet the requirements, an Engine Power Limitation plan can be created and actioned, or energy efficiency technology installed against a timeline that they can control."

Morson Projects are an EEXI expert and remain committed to independently supporting the industry through complex environmental regulations to enable efficient compliance.

**To find out more, please contact David by calling the office on 01617071516.**



Scan the QR Code:  
**TRY OUR CALCULATOR**

Populate our easy to use calculation tool to determine your ships EEXI.



# Morson Projects Cyber Essentials Plus Certified for the fifth year running

Having first received Cyber Essentials Plus certification in 2016, we are pleased to share that following our recent assessment, we have passed for the fifth year running.



"Cyber Security is increasingly important to our business and that of our clients, who work within highly regulated and sensitive sectors such as nuclear, aerospace and defence."

As businesses continue to evolve and adapt to a more flexible approach to working in a digital space, whether this may be employees working from home or out on the road, Morson Projects 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 Plus?

By having Cyber Essentials Plus certification, our clients can rest assured that cyber security is taken seriously at Morson Projects and has met the standard as defined by Government's 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 Information Systems, Chris Hill, shares: "I am pleased to share that once again the security that Morson Projects 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 Plus certification.

"Cyber Security is increasingly important to our business and that of our clients, who work within highly regulated and sensitive sectors such as nuclear, aerospace and defence."

To find out more about our Cyber Security capability please call Chris Hill on 0161 707 1516.







Game On –

# MORSON FEATURE IN NEW EDITION OF MONOPOLY

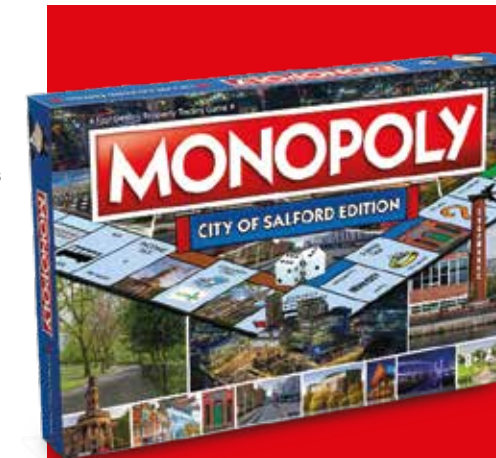
**An official Salford version of the world's most popular and famous family gaming brand Monopoly has hit the shops this morning this October, and we're delighted to announce it features Morson Group!**

The new game sees Salford's very finest 'Pass GO' from MediaCity – which gets to land on the game's most prestigious square – to Ordsall Hall, the University of Salford and both of the city's professional rugby league and football clubs.

And we get to star in the game too, alongside a mix of famous city landmarks and key local charities. As well as appearing on the front cover and the game board, we also appear as one of the utility companies and feature on a Community Chest card.

Paul Dennett, the elected City Mayor of Salford, adds: "We're delighted to see Salford get the global recognition it deserves in this way. The 'Monopoly: City of Salford Edition' game squares span our long and proud history, from Ordsall Hall built 750 years ago to the ultra-modern and still expanding MediaCity, which is home to the largest cluster of digital and technology companies outside London.

The board also shows the real heart of Salford – our people – through local charities, Salford Lads Club and two of our great



"The 'Monopoly: City of Salford Edition' game squares span our long and proud history, from Ordsall Hall built 750 years ago to the ultra-modern and still expanding MediaCity, which is home to the largest cluster of digital and technology companies outside London."

sports teams also being featured. I know people will thoroughly enjoy playing this version of the MONOPOLY game."

The makers have largely themed the famous MONOPOLY multi-coloured property sets around different genres, from heritage to shopping, to culture and sport. The four train stations from the London original game each take on a 'travel' theme, as Salford doesn't have four mainline train stations to select from.

The very recently re-branded MediaCity – formerly MediaCityUK up to last month (September) – gets to land on the top-ranked square. It replaces glitzy Mayfair from the game's classic London original.

Whilst the rules, money denomination, playing tokens and above all the spirit of the MONOPOLY game stay the same, all the property spaces become Salford landmarks. Chance and Community Chest cards are customised too. One rewards players with enough money for a shopping spree at Quayside, whilst another fines players for littering at the historic Clifton Country Park.

**The board is available now at Asda, Ryman, Selfridges, Waterstones, The Works and WH Smith – as well as extensively online, including on Amazon.**



## MEET THE TEAM – ELECTRICAL & AVIONIC DESIGN

**Morson Projects are a CAA approved Part 21 Design Organisation and has a team of professional Electrical & Avionic Designers and Engineers with considerable experience in the civil and military aircraft industry, where accuracy and quality of work are essential.**

We caught up with Head of Design, Glyn Williams, to find out more about how our team can support clients: "Operating from our offices across Hawarden Airport, Manchester, Bristol and Yeovil, our team specialise in avionic and electrical system design, development and testing of flight deck and mission systems.

"Our team includes Compliance Verification Engineers (CVEs) and are approved to generate design data which consists of Service Bulletins, Supplementary Type Certificates, Minor Changes and Repairs for small and large aircraft (Part 23 and 25)."

Morson projects have a broad range of experience and capabilities within our team, including the following specialist areas:

- Avionics & Electrical System Design, Development & Certification
- Cabin & IFE Services System Design, Development & Certification
- Define Aircraft Upgrade Strategy for Design & Certification Tasks to Meet Mandates
- Experienced in Defining & Demonstrating Compliance with Airworthiness Requirements
- Generate Certification Documentation Including Certification Plans, System Descriptions, Ground & Flight Test Schedules & Compliance Reports
- Ground, Flight & EMC Test on Aircraft Systems
- Generate Electrical Load Analysis Documentation for Specific Operational & Aircraft Build Configurations
- Produce Schematics, Wiring Diagrams & Installation Drawings
- Provide specialist RF, EMC & WiFi Support
- Special Mission Systems – Intelligence, Surveillance & Reconnaissance (ISR) Capability

We also have experience in the designing of architectures on various special mission systems, including:

- Search Radars
- Camera Systems (Optical & Infra-Red)
- Secure Communications
- Satellite Communications
- Mission Systems Control/Interface

**To find out more about how our Electrical & Avionic Design team can support your next project, please don't hesitate to get in touch with Glyn Williams by calling 01244 207191.**

"Operating from our offices across Hawarden Airport, Manchester, Bristol and Yeovil, our team specialise in avionic and electrical system design, development and testing of flight deck and mission systems."





