

BRIDGE

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Making Waves

Successful Integration
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Foreword from **Kirsten Donkin**, Editor.

Welcome

Dear reader, welcome to the Autumn edition of Bridge, as we continue to share and highlight the people and businesses who push boundaries, drive innovation and show how collaboration can help the Tees Valley succeed.

The Tees Valley is a place of reinvention. Where once heavy industry lined the banks of the river, the region is now at the forefront of the energy transition and the path to net zero.

Technology and innovation are key to opening up future industries, as is collaboration between businesses and organisations who can each offer their own piece of expertise to the wider jigsaw of growth and success.

UK ports and the wider maritime industry are seen as key to the UK's ambitions to reach net zero by 2050. I'm delighted that this edition includes an article by Maritime Minister Baroness Vere, who encourages us to push the boundaries of our knowledge in tackling emissions through research and the development of technology.

My thanks must also go to Middlesbrough icon and advocate Mackenzie Thorpe, who spoke to Bridge about his enduring love for the town and his hopes for the future as this edition's Local Hero.

Mackenzie's artwork is synonymous with the Tees Valley and I'm delighted that he agreed to share his beautiful work 'Built on the Tees' our front cover, as well as further examples of his craft throughout the magazine.

Elsewhere we offer insight into the increased developments in AI and tech to drive efficiency, reduce risk, enhance health and safety and drive business growth in the maritime industry, including collaboration between two of our contributors SeerBI and Casper Customs.

Despite the growth in automated technology, people remain central to Teesport's success as the UK's northern gateway for international trade, making it more important than ever to recruit and retain the best people. We hear from Neeraj Sharma, CEO of autism support charity Daisy Chain about how inclusion can strengthen a workforce.

We are also extremely pleased to welcome contributions from Andrew Ridley, PD Ports conservancy manager; Sean Sargent, CEO of Green Lithium; Maggie Simpson, Rail Freight Group director general; Jennifer Newton, risk and resilience co-ordinator at PD Ports and Chris Cooke, the new Mayor of Middlesbrough who offers his thoughts on his hometown and the wider Tees Valley.

We hope you enjoy the latest edition of Bridge.





The Government has set out its intentions to lead the UK to net zero by 2050. Maritime Minister, **Baroness Vere**, reflects on the critical role of UK ports in achieving this ambitious target and how the UK Government sees collaboration with industry as key to a greener maritime future.

Making Waves: How UK ports are helping chart a path to net zero

As the UK sets sail on its net zero journey, the role of the maritime sector is undeniable in driving growth and enabling the energy transition. Just as constructing a ship requires careful planning, collaboration and skilled craftsmanship, transitioning to a net zero sector demands a similar approach.

“Every voyage navigates through uncharted waters filled with challenges”

Ports have long been the heartbeat of global trade, facilitating the movement of goods and passengers across borders. For centuries their strategic location has allowed them to act as economic gateways, bringing opportunity and prosperity to our islands, connecting the UK economy with the world. However, this centrality, which makes them hubs of manufacture and transportation, also makes them a prime source of emissions, which needs to be reduced.

Shifting beyond the status quo is never straightforward. It requires us to leave the safety of our ports and harbours to venture out into the unknown, push the boundaries of our knowledge and urges us to fail – but it’s only through leaving our status quo behind that we can reimagine a sector that’s decarbonised.

That’s why the Government launched the UK Shipping Office for Reducing Emissions (UK SHORE programme), which is allocating £206m to push the art of the possible and tackle shipping emissions through research and development into green maritime technologies.

The funding has been used for competitions such as the Clean Maritime Demonstration Competition (CMDc), which is funding innovative projects across the UK, such as the installation of electric charging points across the South coast and the trialling of a mobile hydrogen fuelling station in Scotland. UK SHORE initiatives like the CMDc foster public private partnerships in sustainable port development through industry match funding and ensure the UK is world-leading in green cutting-edge technologies and solutions.

Like a hand on the tiller, the Government has provided direction through a robust regulatory framework that encourages sustainable practices and innovation. Having a pro sustainable development planning framework in place is key to providing port investor and customer certainty to invest for the future.

We are currently reviewing the National Port Statement, which sets the planning policy and delivery for major port development. We are also in the midst of a call for evidence in planning for the freight sector, to seek industry

views in wider improvement opportunities to remove barriers to port growth.

Every voyage navigates through uncharted waters filled with challenges. Just as captains must weather storms and unforeseen circumstances, UK ports face financial, regulatory, and logistical challenges in fulfilling their potential. Energy connectivity is just one of the key challenges ports are facing in achieving their growth potential as well as net zero by 2050.

There is no denying that as ports decarbonise, their energy demands are likely to change and increase, particularly when coupled with the huge growth potential for ports in new energy generation, energy storage and offshore renewable markets.

The Government is aware of the long connection timescales that ports, like many sectors of the economy, are facing when it comes to securing additional electricity capacity from their distribution network operator. That’s why the Government and Ofgem will be publishing a joint connections action plan later this year, which will focus on accelerating grid connections.

We will continue working with industry to identify their current and future energy needs, which for port regions is critical to unlock their full potential in driving growth and the energy transition.

Often seen as symbols of safety from the storms and choppy waters of our oceans and seas, ports can also be testing grounds of their own. They serve as a controlled environment for investigation, evaluation, and development of new ways to create energy and refuel ships, in a sustainable fashion. They play a pivotal role as pioneers, spearheading the adoption of renewable energy and low-carbon technologies.

However, the journey towards net zero is not a solo venture; it demands collaboration and unity – that is why we must continue to engage with industry to overcome these challenges and sail towards a brighter, greener maritime future.





Next summer the River Tees will welcome a new vessel to its waters, the Emerald Duchess, an innovative new dredger that will keep the river moving while minimising its impact on the environment. **Andrew Ridley**, PD Ports conservancy manager, explains why the Duchess represents the company's drive for sustainability and its support for the Tees Valley.

Ready to set sail for a sustainable future

There's an air of excitement at the prospect of the Emerald Duchess arriving on our shores in 2024. The £23m vessel will represent a new era on the river, designed and built with safety and sustainability at her heart.



“The Emerald Duchess will be a stand-out addition to the Tees, supporting our operations to keep the river and its ports running safely and smoothly”

‘The Emerald Duchess is ready for future innovation’

Under construction at a shipyard in Poland by renowned Dutch shipbuilders Neptune, the new vessel signifies a major investment by PD Ports in our conservancy operations and shows the company’s commitment to the environmental and economic well-being of the Tees Valley.

The Duchess will replace the Cleveland County, which has been a familiar sight on the Tees for more than 50 years, working in conjunction with the Heortnesse to maintain a safe and consistent passage for vessels on the river.

The new vessel is a step ahead in its design and technical specification, much of which was influenced by input from our own engineering team to ensure it hit the high specifications we were looking for.

PD Ports has a commitment to achieving carbon neutral operations at our Tees-based landside operations by 2027, which has led to a push to look at our wider investments and operations through the lens of sustainability and carbon neutrality.

The Emerald Duchess has several bespoke design features that will eventually allow carbon neutral operations.

Fitted with an innovative intelligent power management system, the Emerald Duchess can swap between power from a battery pack equivalent to 10 Tesla cars and fuel made from hydrotreated vegetable oil (HVO), also known as renewable diesel.

It is also ready for future innovation. Power units can be adapted to use green methanol or ethanol, or can be swapped out for modern fuel cells as the technology matures, using green hydrogen fuel, which is carbon neutral.

The hull has undergone extensive modelling, using computational fluid dynamics, to ensure it is as refined as possible while moving through the water to minimise fuel consumption.

All of these features together will create a vessel that is at the forefront of sustainable dredging operations.

As Statutory Harbour Authority, PD Ports is the custodian of the river, managing the working ports of Tees and Hartlepool (Teesport). We provide conservancy services to all vessels and private berth operators along the 12 miles of river and three miles of channel to seaward.

Without the maintenance dredging operations carried out by our team, with support from our hydrographic survey team, who gather and process the data to show where dredging is required, the Tees would soon become impassable to the wide variety of vessels that navigate its waters.

The Emerald Duchess – at 71m long and capable of carrying 2,500 tonnes of sediment – will continue to use dredging methods that have been in place for more than 50 years, closely monitored and regulated by the Marine Management Organisation, while supporting our ambitions to be the UK’s most sustainable port operator.

Frans Calje, our CEO, has spoken of his support for the Emerald Duchess, saying: “The new vessel represents a major investment in our conservancy operations as SHA and shows our high level of commitment to the socio-economic development of the River Tees and the wider region.

“The vessel is a step ahead in terms of crew safety and sustainability and will strongly support our commitment to becoming a carbon neutral operation, using low emission fuel and an innovative layout to make it more fuel efficient.

“Every investment we make is targeted to keep our environmental impact to a minimum, while also supporting the growth and success of the region and the commercial operators who rely on the river. I look forward to the Duchess’ arrival on our shores next summer.”

The Emerald Duchess will be a stand-out addition to the Tees and our conservancy operations, supporting our commitment to keep the river running safely and smoothly.

Look out for more updates on the progress of the vessel as we eagerly anticipate its arrival next year.

The energy transition is a hot topic on Teesside at the moment – a driving force in this momentum is Green Lithium, which plans to build the UK's first large-scale lithium refinery to produce material for electric vehicle batteries. **Sean Sargent**, the company's CEO, explains more about the refinery proposals and why UK lithium production is vital to the decarbonisation challenge.

Powering up a green future

The energy transition represents one of the singular most important challenges of this century. Without it, global warming is likely to impact everybody's lives.



The energy transition will place a huge demand for new lithium-ion batteries; both in the storage of renewable power and in the electrification of transport.

The latter of these is expected to change the demand on battery metals exponentially; the amount of lithium salt in an Electric Vehicle (EV) is typically between 40 and 50 kilograms, so each vehicle uses the same amount of lithium as thousands of mobile phones.

The electrification of transport is intended to eliminate the burning of fossil fuels to power vehicles, the biggest carbon dioxide emitter in the UK.

However, there is a risk. Batteries require nickel, manganese, cobalt, graphite and lithium; all manufactured to a very high quality.

If the various battery metals are produced as they are today – with high carbon footprints – then much of the benefit of EVs is offset before the first mile is driven.

An unserved market, exposed to China

Currently, 89% of the world's lithium is produced in China, with domestic demand expected to outstrip its production by 2030.

As such, the UK's and EU's reliance on international sources for their refined lithium chemical imports is creating uncertainty over security of supply, sustainability, price and volume.

These factors underline the reasons why the UK Government made lithium a key part of its Critical Minerals Strategy in 2022.

Onshore lithium refining is urgently required to meet the forecast demand of up to 800,000 tonnes per annum in Europe by 2030. Ultimately, without localised supply, Europe's lithium-ion battery industry will fail or be permanently vulnerable to unpredictable global markets.

The electrification of transport is the single most important thing we can do to halt global warming.

To achieve it, the absolute truth is that Europe needs China more than China needs Europe. Our mission is becoming urgent.



“The electrification of transport is the single most important thing we can do to halt global warming”

We are effectively future-proofing our refinery by designing it to be low carbon and sustainable even though, today, not everyone can see the need. The impact of the EU's Battery Regulations and new carbon taxes are yet to be felt.

This is all achievable by locating in Teesside, with its access to critical clean-energy infrastructure and by adopting the latest clean-energy technology – hydrogen gas fuel, carbon capture, and waste-heat recycling.

Supporting the UK economy, driving levelling up

Green Lithium selected the Teesport site because it provides a deepwater bulk handling berth for importing raw materials and a container terminal that will facilitate export of their product.

Teesside has a pedigree in steelmaking and process industries meaning that the human capital available is exceptional.

In PD Ports, Green Lithium found not only a good cargo-handler and a good landlord, but also a culturally-aligned partner who is pursuing its own decarbonisation programme that makes their business complementary to ours.

Green Lithium recently obtained outline planning permission for their proposed refinery at Teesport.

The project will help drive the UK's levelling up agenda as well as introduce local and regional investment.

Development of the facility will drive significant growth into the local area, creating over 1,000 jobs during the construction phase and 250 full-time highly-skilled jobs once in operation.

Backed & championed by the UK government

Green Lithium has been backed financially by the UK Government and completed much of its initial development work using grants from the Automotive Transformation Fund.

Securing European supply

Green Lithium plans to meet this challenge by building the UK's first large-scale lithium refinery, creating a supply of low-carbon, sustainable, battery-grade lithium chemicals to sell into European supply chains. With two lines, the refinery will produce around 50,000 tonnes of battery-grade lithium chemicals per year.

That production represents 6% of Europe's total 2030 downstream demand and is a significant step towards helping the UK and EU meet their goals.

Green Lithium's annual production will enable the production of roughly 1 million EVs each year. The European market is anticipated to have 40 million EVs by 2030, with demand growth set to continue.

Targeting major CO₂ reductions through adopting & integrating leading technologies

The strategic and economic need for more local supply chains and the increasing consumer and regulatory demands for carbon-efficient production are mutually beneficial.

Chinese lithium refineries are environmentally damaging and large emitters of carbon dioxide, typically emitting 16.2 kilograms of carbon dioxide for every kilogram of lithium chemicals produced.

In contrast, Green Lithium will create a secure supply of sustainable lithium, and, under its 'decarbonised' case, emit just 3.3 kilograms of carbon dioxide for every kilogram of lithium – less than 25% of the emission levels typically seen in Chinese refineries.



The power, possibilities and problems of artificial intelligence and machine learning have hit the headlines in recent months as the technology starts to make quantum leaps. Here, **Owain Brennan**, CEO of marine, logistics and industry data specialists SeerBI, explains how AI can transform the maritime industry and help increase safety, security and efficiency across the sector.

Using AI to tackle industry challenges

The term artificial intelligence, or AI, is one that, for many people, conjures up the idea of an all powerful robot or computer system – outwitting humans and threatening humanity until a plucky hero comes along to save the day.

While there are undoubtedly risks if AI is used in the wrong way, or for the wrong reasons, on the whole it's a much more nuanced and data-driven tool.

The phrase 'artificial intelligence' is a general terminology for an approach to computing in which we make computer programs that aim to learn, think and respond like a human.

AI can identify patterns in data and use them to make predictions and decisions.

The technology has been widely publicised recently and we at SeerBI – a Tees Valley-based company which specialises in business intelligence and data development services for the maritime and logistics industry – can see wide applications for it across the sector.

AI is far more than just a general, catch-all term. It is the culmination of multiple technologies all relating to data science, which includes machine learning, computer vision, natural language processing and ultra-fast network speeds, all the way down to baseline mathematics and statistics.

All of these human advancements coming together is what we now collectively refer to as AI.

Applications of this technology are already here in the maritime industry, transforming it for the better.

However, AI also poses some challenges and risks that need to be addressed.

AI requires high-quality data that is accurate, reliable and unbiased. AI also needs ethical and legal frameworks that ensure accountability, transparency and trust.

Moreover, it requires human oversight and collaboration to ensure its proper use and alignment with human values.

There is a lot of work to be done by the industry in conjunction with global governments to

ensure robust checks and safeguards are put in place to prevent misuse of technology that is progressing at astounding speed.

At SeerBI, we can see how AI can help improve efficiency and productivity in the maritime industry by optimising operations, reducing costs and increasing performance.

Systems can analyse substantial amounts of data from various sources, such as weather, traffic, cargo, fuel consumption and maintenance records. This can then be used to provide insights and suggestions for improving routes, schedules, loading, fuel efficiency and maintenance in approachable formats.

We have already delivered multiple solutions using AI and data first technologies for maritime organisations using existing data.

These have helped improve operational efficiency, increased profitability and enhanced communications in areas where either there is a skills shortage or new concepts are tested for viability and impact.

Data integration can help ports become smarter, allowing operators and shipping agents to make data-driven decisions that reduce costs and improve efficiency.

It can also help to reduce the environmental impact of the maritime sector, supporting the industry's goal of achieving net zero emissions.

For organisations that may not have existing data due to organisation age or not introducing robust data storage, we also develop tools and products based on AI that can improve efficiency while also introducing a method for new data collection.

From tools that help you communicate more efficiently across multiple languages to gaining greater insights into the industry working practices, the use of AI in one part of the sector can lead to further development within organisations and the wider maritime industry.

AI is a powerful tool that can help the maritime industry become more efficient and productive.

However, it is not a magic solution that can solve all problems – it's only as good as the data it's given.

As with any technology AI needs to be used responsibly and wisely by humans who understand its capabilities and limitations. By doing so, it can help the maritime industry achieve its goals of safety, security, sustainability and profitability.





Navigating the challenges posed by Brexit and the pandemic is no easy task but, as **Nikki Sayer**, Managing Director of Casper Customs, explains, with targeted investment and training there is a way to get ahead of the changing tides.

Successful integration: how people and technology can make customs operations thrive

With challenges come opportunities. UK customs operations have faced a number of headwinds in recent years and the landscape remains ever-changing.

The roll-out of Brexit-related customs controls and the impact of Covid-19 and the Ukraine war on the rise and fall on demand for imports have all required changes both material and technical for businesses and individuals involved in the movement of goods.

At Casper Shipping, we made the decision to take the initiative and handle these challenges through a strategic combination of upskilling both people and technology.

With more than 150 years of maritime heritage, Casper Shipping has the knowledge and experience to adapt and react to periods of upheaval.

Faced with a 2000 per cent increase in the number of customs declarations in the period since Brexit we took the decision to establish Casper Customs, based at our Middlesbrough head office, as a division focused on customs services and consultancy.

Offering efficient and effective customs clearances from all major ports in the UK and internationally, we're on hand to provide guidance to businesses in the ever-shifting regulatory terrain.

We're proud to be a Teesside company and we make it our mission to work with businesses in the region where possible, including Yarm-based HR Alchemy and HSE provider Kaizen Safety in Stockton.

When it came to tackling the rise in demand, we adopted a blended approach – we needed extra customs operators who could work in tandem with new, integrated customs clearance processes.

We teamed up with Sedgefield-based maritime recruitment specialists Elite Consult to source a new intake of staff from the local area with no previous customs experience and trained up a cohort who now offer a 24/7, 365-day customs service, ensuring business and trade continuity for our customers.

Our updated technology was created in collaboration with HMRC-trusted software suppliers ASM Sequoia, which allowed us to automate customs clearance processes, resulting in a consistent turnaround time of one hour.

Looking ahead, with further change on the horizon, we recognised the need for cross-functional collaboration between our team at Casper Customs and our wider organisation's digital teams as a way to achieve further productivity and efficiency gains.

We identified a shift in the role of customs operatives from traditional customs agents to becoming more like data scientists and analysts and we've taken a pioneering approach that has created future job opportunities in the sector.

The development of automation within Casper Customs moved at such pace that it soon became obvious that a division focused on developing innovative solutions, tailored to the industry's needs, was needed and so, Casper Digital was born.

By collaborating with partners such as SeerBI, another Teesside born company which is a specialist in maritime business intelligence and AI, Casper Customs has harnessed cutting-edge technologies to better understand the data we receive and produce and use the learning to streamline workflows.

We have deployed automated operational analytics and implemented machine learning and natural language processing to offer efficient customer solutions.

There are undoubted challenges ahead for all businesses and organisations involved in the movement of goods. But despite that, we at Casper Customs see opportunities for customs agents to collaborate with other stakeholders in the wider trade and technology ecosystem.

By staying informed, by collaborating effectively and by building solid relationships, customs agents can play a crucial role in ensuring the efficient movement of goods and compliance with changing regulations.

As a founding member of the North East School of Shipping, we're committed to supporting and promoting this industry; seeing successful students pass through and gain employment is hugely rewarding and can only be a positive for the region and the wider maritime sector.

We are open to working in partnership with like-minded organisations, with a continuing commitment to digitisation and automations; improvements to process efficiencies and maintaining and improving service levels for our customer base.

“We've taken a pioneering approach that has created future job opportunities in the sector”



An inclusive approach is often high on the agenda in many workplaces, but neurodivergence – often described as a non-visible disability – can go unrecognised, with consequences for job seekers and employers alike. Here, **Neeraj Sharma**, CEO of Stockton-based Daisy Chain, explains how his charity supports autistic people aiming to find a job and why their successes can be a springboard for the wider region.

How to be inclusive for every kind of mind

It's a stark statistic - if you are neurodivergent you currently have the highest rate of unemployment of any disability group in the UK. The reasons for that are many and varied, but essentially it boils down to a lack of understanding of non-visible disabilities such as autism or ADHD and the adaptations that need to be made by recruiters and employers to allow individuals to work.



This leads to a vast number of highly skilled and employable people being overlooked in the recruitment process.

The potential impact of work-ready individuals being unable to overcome barriers to work is heavy on both the individual and wider society. On a personal level, this increases loneliness and isolation, creates a loss of autonomy and an increased likelihood of mental health decline.

This in turn increases the potential for a greater need for support from NHS and other responsible bodies who have a duty of care to support social care, health and housing.

There is also an impact on businesses – employers are missing out on a workforce who are creative, productive, skilled and reliable and who can bring a different viewpoint and set of skills to their workforce.

“Inclusivity around neurodivergence is not just a tick box exercise”

At Daisy Chain our approach to employability is to work with employers to create work-based placements meeting the needs of a neurodivergent workforce.

This involves working with the job seeker and the employer to increase the understanding of the needs of the employee and the adjustments that can easily be made.

We offer neurodivergence and autism awareness training together with HR inclusive recruitment and manager training.

The support we provide is bespoke to the individuals and the work-based environment, inclusive of the provision of a communication passport and sensory audit designed to keep the individual in employment.

Currently, in the Tees Valley, and most likely across the UK, there are a huge number of vacant posts.

But employers are missing out a whole tier of talent – neurodivergent people who have an incredible amount of passion and drive to work but who are facing barriers to finding and gaining employment.

By making low-cost adjustments, such as rethinking your recruitment processes and the support that you provide for your whole workforce, you could turn the current tide and move to a position where your current vacancies are filled.

These changes do not need to be costly for business but do require a rethink of the approach that you take. This is where organisations and subject experts such as Daisy Chain are positioned to assist.

It can be summed up by a word – thoughtful.

Just be thoughtful and ask the applicant if there is anything you can do for them to take part effectively in the process. It could be offering a zoom interview instead of insisting on a face to face interview in the office – it offers people the security of their surroundings and removes a barrier to participation.



Other adaptations could include sharing the interview questions in advance, sharing pictures of the panel or the room where the interview will take place – these are all simple, low-level things but the impact can be phenomenal.

The recruiting process at many employers will assess people on how they meet ‘company values’ and who ‘will fit’ in their employee group.

Some neurodivergent people are capable individuals but will simply not hit those hidden targets and fulfill neurotypical ideals, such as eye contact or answering opaque questions.

It means companies are missing out on the unique, strategic and creative thinking and some really diverse perspectives that can drive a company forward.

There is still a huge gap in the general public’s knowledge about autism and neurodiversity.

At Daisy Chain we can work with companies to review their policies and strategies around recruitment and retention. We

can audit current processes and make practical suggestions about ways to support neurodiverse applicants and autistic people in their workforce.

Inclusivity around neurodivergence is not just a tick box exercise.

Putting processes in place to support autistic people will improve staff retention, result in less sick leave and make people more productive – there are numerous positive knock-on effects.

Daisy Chain can really make a difference to individuals and organisations alike. If companies are truly committed to equality and diversity, it is important to ensure this extends to include neurodivergence.

We are here to help any business, of any size and in any sector.

If we want the Tees Valley to succeed, we need to look at inclusivity from every angle, and make sure we open up opportunities for every kind of mind.



In the push for decarbonisation, rail freight can provide an effective alternative to road haulage. But the shift from road to rail isn't always smooth. Here, **Maggie Simpson**, director general of industry body the Rail Freight Group, explains how moving goods on to rail can help in the push for net zero and reflects on the challenges – and the potential solutions – for national infrastructure.

Keeping the push for decarbonisation on the right track

For over 200 years the River Tees and the railway have been intertwined. The first trains on the Stockton and Darlington Railway brought coal to the river at Middlesbrough, and before long a network of lines spanned the country moving coal, ore, steel and eventually even passengers, creating the railways as we know them today.

Rail emits only a quarter of the carbon emissions of road freight on average – even less where we can use electrically hauled trains – and has advantages in air quality, road congestion and productivity. It's no surprise that companies want to make more use of it.

And it isn't only businesses who have been noticing the potential of rail freight. Governments too have set targets to grow rail freight by 7.5 per cent in the next five years in England and Wales and 8.7 per cent in Scotland.

There are many opportunities for delivering growth. Containerised products already move in significant volumes on rail, from ports such as Teesport, Southampton, London, Felixstowe, Liverpool and elsewhere.

These trains connect to a country-wide network of terminals serving major cities and distribution hubs, with several new locations opening in the last few years.

Two centuries on and, ironically, it is decarbonisation, not coal transport, driving a new railway revolution.

Across the globe, businesses are looking to rail freight as an important element of decarbonised supply chains.

“With the right investment and collaboration across supply chains, rail can truly help reduce carbon emissions and drive to net zero”

Many of these new sites also include rail-linked warehousing, enabling goods to come straight from the train into distribution centres. This creates new opportunities for retailers and manufacturers to come on to rail – for example, Tesco has a number of daily rail services, including from Teesport, and Highland Spring, who are now operating from a new railhead adjacent to their factory in Scotland.

Bulk products also have good potential to grow. Although little coal now moves, high volumes of construction materials have replaced it and more quarries and terminals are being connected to rail. In the future products such as liquid hydrogen could also be moved in bulk by rail, supporting industrial decarbonisation.

There are, however, some challenges. Bringing new customers on to rail is not always easy, particularly where they do not have enough traffic for an entire train. Collaboration is key here, working together to fill trains including the backloads, and sharing the risk between parties.

The rail infrastructure can also be a challenge. In some parts of the country there is insufficient capacity for new services, and the network paths offered to freight may not always offer adequate journey times for customers, with too much time spent waiting for passenger trains to pass by.



Network Rail and Government need to work with the industry to find new paths, including overnight and at weekends, and to help improve the productivity of freight, using new technology and better planning tools.

In some cases, Government also needs to invest in the rail network to remove bottlenecks and deliver new capacity. One such scheme is improving the Transpennine rail routes for freight, linking the east and west coast ports with the major conurbations across the north of England.

Funding is committed to do this, but we are pressing Government to deliver the scheme more quickly, allowing vital rail freight services to start operating sooner.

Another major bottleneck, Ely Junction in East Anglia however has yet to receive funding despite its excellent business case which shows a benefit of almost £5 for every £1 spent and is essential for freight services linking the ports of Felixstowe and London to destinations across the UK.

There is significant uncertainty over Government future funding for rail enhancements, but schemes like this are top priority for rail freight.

Rail freight also needs help to increase its use of electric locomotives to replace diesel trains. Electric locomotives are more carbon efficient and can also perform better on the railway but today they can only operate in very limited parts of the network.

Investing in the electrification of what are often very short sections of route, such as between the East Coast Main Line and the Teesside ports, could unlock significant benefits for rail freight, and indeed the environment.

With strong interest from business and cross-party political support for growth, a rail freight renaissance is happening. With the right investment, from the private sector and Government, and collaboration across supply chains, rail can truly help reduce carbon emissions and drive to net zero.

Rail freight's moment is now.

As the world becomes increasingly interconnected, damage to just one link in the chain can throw a business into deep water. Here, **Jennifer Newton**, PD Ports' risk and resilience co-ordinator, explains why businesses of all shapes and sizes need to prepare for the unexpected.

Sink or Swim - why risk management is more important than ever

'Proper preparation and planning prevents poor performance'. It's an old military saying, but in an increasingly volatile world, with shocks and surprises happening ever more frequently, it holds water.

Resilience in the face of upheaval is key. Communities, people and businesses must all be mindful to risk and how they would return to 'normal' in the face of a major incident.

As risk and resilience co-ordinator for PD Ports, it is my role to identify and support preparations for the myriad of problems and emergencies that could befall the organisation.

Ports, by their very nature, have a catalogue of things that could go wrong on any given day – but with 90% of global trade coming through ports across the world, ensuring the industry is resilient is crucial.

But resilience planning isn't just about eye-catching emergencies. For every explosion there's a straightforward power cut that switches off all your refrigeration units. For every global pandemic, there's a key parts shortage that stifles the supply chain.

And what about the aftermath? Business continuity management is the less fashionable sibling of emergency planning – you might be prepared for the initial explosion (literal or metaphorical) but do you have a plan in place that will see your operations back up and running in the fastest possible time?

As a result of the changing landscape, especially in the wake of Covid-19 and the geopolitical issues around the world, business continuity planning is getting more time in the spotlight than ever before.

Teesside has the highest density of COMAH sites in the UK – that is businesses regulated by the Health and Safety Executive to prevent major accidents involving dangerous substances.





“Risk management is a vital aspect of ensuring the efficient and secure operation of any business”

Along the Tees there are businesses and organisations that deal with intrinsic risk every day.

Managing business continuity at such complex sites isn't an easy task. It involves detailed planning and a co-ordinated effort by the many different stakeholders involved to ensure that, even after disruption, key facilities and operations can continue.

Ports, for example, don't operate in isolation; they are part of a broader network that includes marine traffic, shipping companies, tenants and legal regulators. Every stakeholder adds to the levels of complexities that must be understood and managed when planning for worst case scenarios.

Effective risk management involves the collaboration and information sharing with all stakeholders. On the Tees, this means working with neighbours and tenants to understand shared risk factors and to ensure emergency planning considers people and vehicle movements at nearby sites and the potential impacts of hazardous substances.

Business continuity has three key elements – analysis, plans and exercises.

Analysis involves working with all areas of an organisation to understand how long it could withstand different types of disruption until it couldn't effectively continue its operations.

This is known as the 'maximum tolerable period of disruption'.

Using data collected from that analysis, alongside understanding of the systems and processes used in the business, a business continuity plan can be created.

These plans consist of all the critical information that is needed to keep the company, or a specific function within the business, working to a pre-defined level.

The final step is validating your business continuity plans through exercises, such a live play crisis simulation, table top exercise or a simple plan run throughs.

For me, exercising is one of the more exciting parts of the role. Playing make believe and acting out a scenario is something we all did when we were young, pretending to be everything from teachers to superheroes.

It's a little different in this role, but the fundamentals stay the same. Putting yourself in that situation, imagining what it would be like to really live that scenario is the number one principle of a good exercise.

When looking to exercise our plans, we try to create a no-fail atmosphere, so everyone involved can ask questions and make the decisions they feel are correct. The result of all of this is to give everyone the confidence that in the unfortunate event that we need to live this for real, we are ready.

Risk management is a vital aspect of ensuring the efficient and secure operation of any business.

The diverse range of risks that a commercial landscape in an industrial area like the Tees faces requires a holistic approach that involves identifying, assessing, mitigating and planning for potential disruptions.

By prioritising risk management, the wide variety of businesses making key contributions from Teesside can continue to fulfil their critical roles in the global economy and, at the same time, safeguard the wellbeing of people, assets and communities.



Mayor of Middlesbrough, **Chris Cooke**, reflects on his new role and his favourite parts of his hometown.

My Tees Valley

I feel an immense sense of pride and responsibility that the people of Middlesbrough have entrusted me as their newly elected Mayor. Leading with integrity will be the bedrock of my approach, a value which is important now more than ever.

As Mayor I have a number of priorities, commitments and ambitions for Middlesbrough.

A window into my life is a window into my political priorities. Growing up in the care system, I appreciate how investing in the youth of Middlesbrough can have a long lasting positive impact on both young people and the generations to follow.

No child should have their ambition dampened by the family, postcode or finances they were born into. Children of Middlesbrough should be given the opportunities and environment to thrive, in every area of their life.

It is a value that is intrinsically embedded in me both personally and professionally. I am committed to investing back into youth clubs to provide children with an outlet and community. I want to equally ensure that there are free family events and activities across the town to support parents during the difficulties of the living crisis.

Another commitment as Mayor is to... listen. Listening is often a quality overlooked by those in politics. I want to be a representative and pillar for those who feel abandoned by those in politics, as indeed I have, during points in my life.

As Mayor I am invested in every single individual in Middlesbrough. I do not want there to be a cavity between local politics and local people.

For Middlesbrough to succeed, and for me to succeed for Middlesbrough, I want there to be a positive, candid and trustworthy relationship between local people and me.

To create this relationship, one of my priorities is to create mayoral surgeries in every ward to ensure that there is a direct link of communication between locals and me. I also seek to create a 'parent forum' which provides a safe non-judgemental space for parents to raise their struggles and access relevant support services.



“The spirit, grit and resilience of the Middlesbrough community is what drives the town forward”

As your Mayor, I am acutely aware that Middlesbrough faces a number of challenges.

However, I do not want this to take away from the incredible town that it is already. I have outlined my three favourite parts of Middlesbrough: its people, heritage and food.

People

Growing up in the area it is abundantly clear that it is the people that make Middlesbrough. I have felt first-hand the warmth and generosity of others.

The spirit, grit and resilience of the Middlesbrough community is what drives the town forward.

Whether that be the Boro legend that is Chris Kamara, the small business owner or young apprentice, each person plays a special part in this vibrant community.

It is the people of Middlesbrough who have elected me to this post and it is the people of Middlesbrough I will serve. Every decision that I make will be anchored in the welfare of the community.

Heritage

Middlesbrough has a rich heritage that I am incredibly proud of. The legacy of the iron and steel industry will continue to live on in the town.

For me, the Transporter, is and will continue to be a constant reminder of Middlesbrough's strong and proud industrial roots.

However, I am equally excited in what the future of Middlesbrough holds.

Teesside University continues to attract and produce exceptionally talented graduates with the University regarded in high esteem particularly in the design and animation sphere.

In parallel, the ongoing development and transformation of Captain Cook Square will strive to position Middlesbrough as the new entertainment hub of the North East.

Food

The people of Middlesbrough have come from all over the globe and brought their culture and cuisine to the heart of the town.

The diversity of the town has resulted in an exceptional food scene including locally sourced fish and chips, award winning South Asian food and authentic Japanese cuisine.

Of course, it would be a disservice to myself and others if I were not to give the Parmo the recognition it rightly deserves- it is both a regional, national (and I would like to think global) treasure.

River Tees Roundup

Highlights of exciting developments taking place around the river Tees and across the Tees Valley.

Harbour Master appointed president of UKHMA

Teesport Harbour Master Paul Brooks has been named president of the UK Harbour Masters Association (UKHMA) following a vote by his peers at the organisation's AGM. The UKHMA is the world's oldest and largest Harbour Master and port marine management association and has a membership of some 500 Harbour Masters and professionals from ports, harbours and marinas across the United Kingdom, the Channel Islands and the Isle of Man.

Capt Brooks said: "I am delighted to have attained the highly regarded position of Association President following appointment by my fellow Harbour Masters and Association members.

"I will endeavour to continue to do what we do well whilst identifying increased value and benefits for the membership and our industry stakeholders."



UK Docks win major contract

More than 100 jobs will be created after North-East marine services company, UK Docks, won a £250m contract from the Royal Navy.

UK Docks currently services HMS Protector, the Royal Navy's only ice breaker, at its dry dock at Teesport Commerce Park on the River Tees.

Under the new contract UK Docks will now service another five

offshore patrol vessels, responsible for humanitarian support and maritime defences, up to 2031.

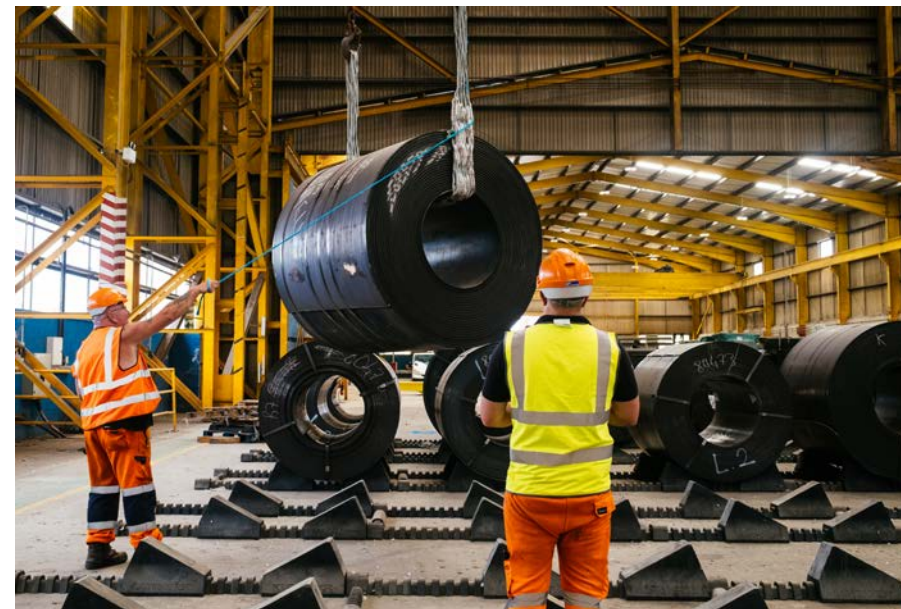
UK Docks' managing director Jonathan Wilson said: "We see the awarding of this contract to UK Docks as a resounding vote of confidence in homegrown British industry, skills and capability and we look forward to putting those resources at the service of these five important vessels."

Tall Ships Spectacular

Thousands of people made their way to Hartlepool to herald the return of the Tall Ships to the town after 13 years.

A fleet of more than 30 ships docked at Hartlepool Marina and the Port of Hartlepool for a four day spectacular, billed as one of the UK's largest free maritime events.

The event was a huge success, drawing people from around the region and beyond, and has been described as 'magical' and 'full of highlights that will live long in the memory' by council leader Cllr Mike Young.



Success for Steel Terminal at Hartlepool

A specialist steel storage facility has welcomed its first shipments to the Port of Hartlepool.

The Hartlepool Steel Terminal, owned and operated by PD Ports, allows customers to discharge different steel products including coil, steel plate, beams and pipes on to the same berth, reducing both shipping and onward freight costs.

The 75,000 sq ft facility has been upgraded to store steel coil with the investment creating three jobs and securing a number of existing roles.



LOCAL HERO

Mackenzie Thorpe

Ambassador, advocate and local lad through and through, Mackenzie Thorpe is one of Middlesbrough's biggest champions. Here, the renowned artist tells Bridge's Vicki Henderson about his early days in the shadows of Newport Bridge, why he misses the camaraderie of the Tees shipyards and how young kids today are going places.



The Boro lad, who grew up playing football with his mates in the shadows of Newport Bridge and started his working life in the famous Tees shipyards, may have left the town to follow his dreams - but never left it behind.

“Middlesbrough is the holy grail for me in my work. I’ve got to make people feel proud of who they are and where they are going.”

When Mackenzie Thorpe speaks, the love and passion for his hometown is palpable.

Mackenzie’s artwork is synonymous with Middlesbrough, taking universal themes of childhood, community and industry and rooting them firmly in his own upbringing.

Across his 30 year artistic career, he’s drawn worldwide acclaim, with famous fans including JK Rowling and actor Tom Hardy, and won plaudits for changing the face of art publishing in the UK.

Born in 1956, Mackenzie was the oldest of seven children, living with his family in St Paul’s Road. Part of a close-knit family, his parents did the best with what they had at a time when firm employment was often hard to come by.

Mackenzie speaks fondly of his childhood and the wider community who lived and worked side by side.

“I was just like everyone else on the street, we were all the same,” he says. “We played marbles and football with a busted old ball or whatever we had, an old brick sometimes.

“There were bombsites everywhere, we’d play our games in them. There was a common by St Paul’s Church that had been hit by a bomb and we would play there and light bonfires there for Guy Fawkes night.

“We never had luxuries like we do now, but you just get on with it.

“I lived in a strong community. You don’t know or think about what you haven’t got when everyone has the same.

“Middlesbrough is the holy grail for me in my work. I’ve got to make people feel proud of who they are and where they are going”

“I remember once saying I felt like I drank out of the same cup as the Queen Mother, because why wouldn’t the Queen Mother drink out of a busted cup like me?”

Brought up to respect his elders, look after everyone and have good manners, Mackenzie’s upbringing provided foundations that keep him strong today.

“I’ve kept that teaching with me through my life, at the front of my mind,” he says.

“I keep it with me in my art – I draw the truth and leave nothing behind.”

He remains a passionate advocate for Middlesbrough and the wider North East, supporting local charities and businesses and taking any chance to speak on behalf of the place that shaped him.

One of his proudest roles is patron of the North East Autism Society, with a specialist school in South Bank – the Mackenzie Thorpe Centre – bearing his name.

“I’m so, so proud my name is on the wall of that school,” he says. “It’s better than an award from the King.”

The Transporter Bridge, icon of Middlesbrough and recognisable around the world, features heavily in Mackenzie’s artwork.

Built on the Tees – which we’re immensely proud to share on the cover of this edition of Bridge, thanks to Mackenzie – harks back to the glory days of Ironopolis, when Middlesbrough built the ships that industrialised the world.

Having started work as a labourer in the Tees dockyards at 15 – he started work the Monday after leaving school on the previous Friday – he holds fond memories of the men he worked alongside.

Laughing even as he tells the story, he says: “My last job was working at Smith’s Dock shipyard – even today I miss the camaraderie of that job.

“I can think back to the people I knew and I still laugh out loud today at the thought of the chat we had – I wonder what happened to different people, I remember every name.

“Now, I sit in a studio and do my work, its silent, there’s just me. I do miss it, even now.”

Today, of course, the shipyards are no more. Heavy industry along the banks of the Tees remains in places, but is now interspersed with new, greener industries and technologies.

Young people have more opportunities than ever before.

Mackenzie beams as he talks about returning to St Paul’s Road – now unrecognisable from his youth – to visit pupils at the local primary school.

Has it changed for the better, I ask?

“You can look back romantically and say it was better back then, but it wasn’t always better, was it?” he responds.

“I went back to St Paul’s Road, to the school, to do a talk with the kids. The whole place has changed – there’s not a house left from when I lived there, the church is gone. There was a single street sign for St Paul’s Road that was the same, that’s it.

“I met with the kids – they’re from the same place as me but they’re from the new world.

“They were bright, happy and confident, laughing and joking with me. That wasn’t how we were when I was a kid – you spoke when you were spoken to and kept in your place.

“The relationships are different now – these kids have ambition; they want adventure and to see what’s out there for them in the world.”

Mackenzie’s own bravery in striking out along a path markedly different to his peers – first studying at Middlesbrough College of Art before moving to London and beyond – has given him opportunities to see the world.

But no matter how far he travels, he never misses a chance to share his love for his beloved Middlesbrough.

“Wherever I am – Japan, Australia, the US – I’ll always meet someone who wants to buy pictures of mine of Middlesbrough,” he adds.

“I ask why – often they had a grandparent or a family member who got on a boat to strike out into the new world, but they remembered where they came from.

“And that’s what Middlesbrough gave to the world.”

BRIDGE

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