biz4Biz

Manufacturing Biz

ISSUE 02 DECEMBER 2023

AIR PRODUCTS: GENERATING A CLEANER FUTURE

ALL YOUR LATEST MANUFACTURING NEWS AND FEATURES

Inside...

Leadership for Change

It's truly fascinating when you review the graphic (top right) that modern politics deals with issues like the COVID pandemic in a similar way to Wars and that for quite some time this country has been comfortable with running a borrowing account and then exerting the necessary spending controls on society. This process has effectively existed for some 300 years and appears to be the only way that our politicians seem to adopt when running an economy or what is a business the size of the UK.

Today we can expect the unexpected as free of the financial constraints of the EU we should be seriously developing reserves in such a way that we work to reduce Government debt and the corresponding interest cost of £108 Bn and build an economy that shows greater returns, working towards reducing the tax burden on every business and employee.

We can achieve this by re-establishing our manufacturing bases and exporting products made here to the world.

To the right is a graph showing the value created by Business and delivered in taxes to Government annually. When you consider what Government spends each year is £1.15 Trillion, then this equates excluding import duties, to some £762 Bn or 66% annually of all Government spending. We clearly cannot and absolutely should not expect business to shoulder the burden in Taxes or any minimum wage increases (not reflected above), but the relevance of Business in creating Social Value is such that we should aspire to create "Better Businesses" and help them to quickly grow such that we have a much stronger business base, trading internationally and supported with both a vocational and academic skills pool.

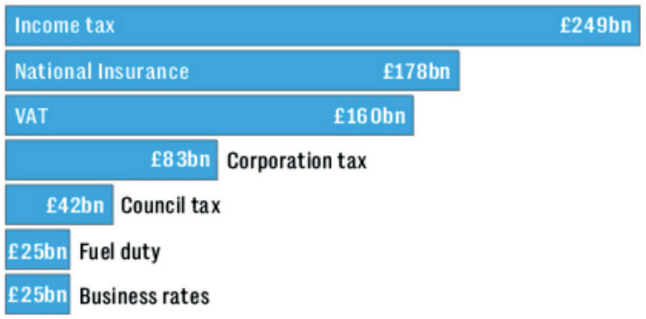
After rising and falling for centuries, the UK's national debt is forecast to skyrocket

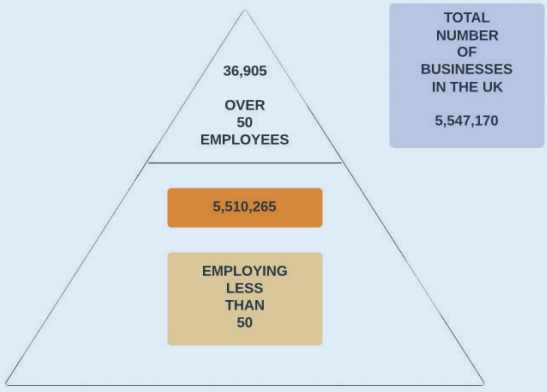
National debt as % of GDP with OBR baseline projection

SOURCE: OBR, B.R. MITCHELL, BRITISH HISTORICAL STATISTICS VIA UK PUBLIC SPENDING

Taxing times

Main sources of UK tax revenue, 2022-23





If this is an economy that we all desire, then it is highly possible that immigration plays a far more relevant part of our future. The diagram shows the landscape for existing businesses in the UK and clearly our Country is heavily indebted to our small businesses employing less than 50 people. As you will see, there exists a framework of businesses that form the supply chains and research & development skills needed by an economy willing to grow and we simply need to encourage such growth with prudent government lead development. The first step along this road is ensuring that our business base has access to all the relevant tools provided and there exists a clear need to develop the "Soft Skills" of entrepreneurs as a starting point.

biz4Biz are leading the way in this respect and have purposefully developed the biz4Biz Premium Coaching service purely designed to help our UK based business owners and the key decision makers in industry to recognise a range of Skills required to help them develop their businesses by providing them each with the knowledge of the type of operational soft skills required to run a successful company. It would be ideal for Government to support this level of training as the knock-on effect for the UK is bigger, bolder businesses creating jobs, skills, taxation, and every bit of Social Value that the UK needs.

For more details of how biz4Biz can help you please CLICK HERE to let us know you are interested.

Record-breaking aircraft orders: best since 2010

A record-breaking 1,667 orders were placed for global aircraft in the first half of 2023. The latest report from ADS Group, the trade association for the aerospace, defence, security and space organisations, highlights a 129 per cent increase in aircraft orders placed in the first half of 2023 compared to 2022 figures.

The outstanding figure is driven by the most successful H1 for aircraft orders since ADS records began in 2010, with June and Paris Airshow announcements boosting the global aircraft order book. In the single-aisle aircraft market, orders reflect strong market confidence with the 1,398 single-aisle aircraft ordered year to date, the highest order number on record.

The backlog of aircraft orders grew 11 per cent in H1 2023 to 14,462 aircraft. In the same period in 2022, the backlog increased by just one per cent. At current production rates, the aircraft backlog represents more than ten years' worth of work and a value of £218 billion to the UK.
Aircraft manufacturers delivered 582 aircraft during the first half of the year, an overall increase of more than 13 per cent on the same period in 2022. Of note, in H1 2023, 85 wide-body aircraft were delivered, a 23 per cent increase year on year.
"ADS continues to highlight returning levels of confidence in the sector. Considering current production and delivery dates, ADS have uplifted our forecast of 1,215 aircraft deliveries by the end of this year," said Aimie Stone, Chief Economist at ADS Group.

"This would represent the largest number of aircraft delivered in more than three years, and is a strong signal that aircraft manufacturing is on its way to pre-pandemic trends, despite ongoing supply chain issues."

Record breaking orders, recovering delivery figures and a healthy backlog showcase continued confidence in aerospace industry recovery, however ADS members consistently report pressure on UK supply chains. In Q2, half of respondents to an ADS survey identified inflation as having a significant impact on their ability to grow, with the same proportion concerned about the costs of raw materials and inputs.

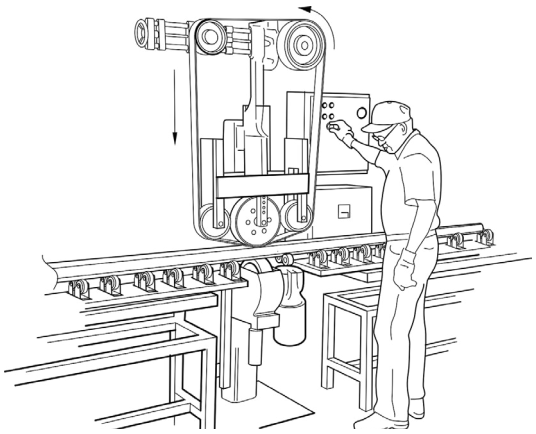
"The roaring aircraft orders made during H1 2023 are a very welcome sign of increasing confidence in the sector. Separately, growth in delivery figures support our ADS expectations of a return to pre-pandemic levels of manufacturing in 2024," said Kevin Craven, CEO of ADS.
"For UK industry to fully realise the manufacturing potential offered by the strong aircraft backlog and record order book seen at H1 2023, roadblocks - including supply chain issues and labour shortages affecting growth - need to be addressed. In the coming months, ADS will continue to work with our industry and political stakeholders to ensure focus on the current issues affecting the aerospace sector."

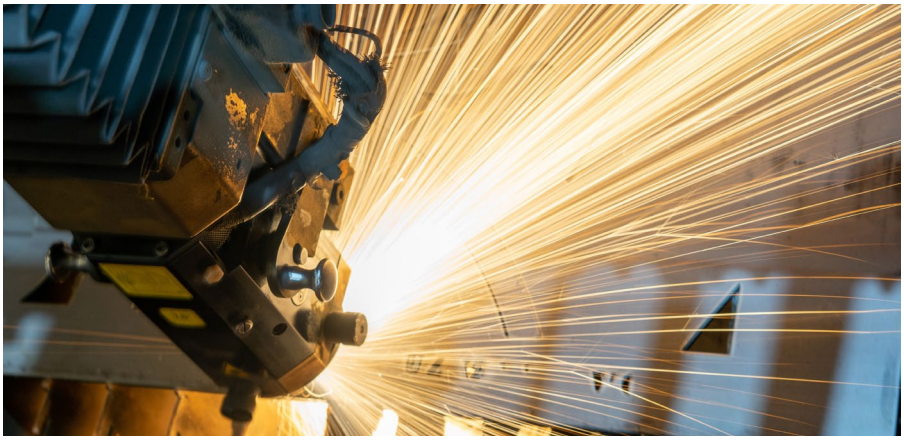
Industry expert appointed to support Advanced Manufacturing Regulation Review

Following an announcement at the Autumn Statement, the Government Chief Scientific Adviser is reviewing existing rules and helping develop a pro-innovation regulatory approach that allows the UK to fulfil its ambition to become a science superpower.

The aim of the review is to establish the UK as the best regulated economy in the world in key growth sectors, ensuring that industry and investors have the certainty they need to drive innovation, investment and growth by anticipating new developments in emerging technologies.

In March, Sir Patrick Vallance published reviews on digital technologies and green industries and the government accepted both reports' recommendations. Having taken up the role of Government Chief Scientific Adviser in April 2023, Professor Dame Angela McLean is continuing this work and published a review on life sciences in May and on the creative industries in June. Again, the government has been pleased to accept all recommendations in each report. Dame Angela will soon publish a report on the Chancellor's one remaining key growth sector: advanced manufacturing. Brian Holliday has been appointed to work alongside Steve Bagshaw and support Professor Dame Angela on this report, working directly with industry to help engage stakeholders and shape the report. Brian Holliday FREng is managing director for Siemens Digital Industries, co-chair of the Made Smarter commission, a government-industry partnership encouraging the development and adoption of digital technology by UK manufacturers, a board member for Make UK, the manufacturer's organisation, and a former supervisory board member for the High Value Manufacturing Catapult.





Global coal demand set to remain at record levels in 2023

Global coal consumption climbed to a new all-time high in 2022 and will stay near that record level this year as strong growth in Asia for both power generation and industrial applications outpaces declines in the United States and Europe, according to the IEA's latest market update.

Coal consumption in 2022 rose by 3.3% to 8.3 billion tonnes, setting a new record, according to the IEA's mid-year Coal Market Update, which was published today. In 2023 and 2024, small declines in coal-fired power generation are likely to be offset by rises in industrial use of coal, the report predicts, although there are wide variations between geographic regions.

China, India and Southeast Asian countries together are expected to account for 3 out of every 4 tonnes of coal consumed worldwide in 2023. In the European Union, growth in coal demand was minimal in 2022 as a temporary spike in coal-fired power generation was almost offset by lower use in industry. European coal use is expected to fall sharply this year as renewables expand, and as nuclear and hydropower partially recover from their recent slumps. In the United States, the move away from coal is also being accentuated by lower natural gas prices.

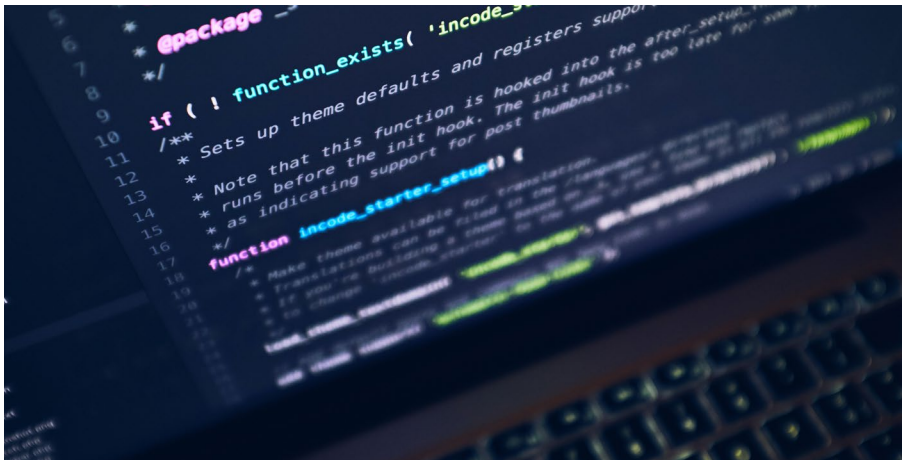
After three turbulent years marked by the Covid-19 shock in 2020, the strong post-pandemic rebound in 2021 and the turmoil caused by Russia's invasion of Ukraine in 2022, coal markets have so far returned to more predictable and stable patterns in 2023. Global coal demand is estimated to have grown by about 1.5% in the first half of 2023 to a total of about 4.7 billion

tonnes, lifted by an increase of 1% in power generation and 2% in non-power industrial uses.
By region, coal demand fell faster than previously expected in the first half of this year in the United States and the European Union – by 24% and 16%, respectively. However, demand from the two largest consumers, China and India, grew by over 5% during the first half, more than offsetting declines elsewhere.
"But demand remains stubbornly high in Asia, even as many of those economies have significantly ramped up renewable energy sources. We need greater policy efforts and investments – backed by stronger international cooperation – to drive a massive surge in clean energy and energy efficiency to reduce coal demand in economies where energy needs are growing fast." Said IEA Director of Energy Markets and Security Keisuke Sadamori.
The shift of coal demand to Asia continues. In 2021, China and India already accounted for two-thirds of global consumption, meaning together they used twice as much coal as the rest of the world combined. In 2023, their share will be close to 70%. By contrast, the United States and the European Union – which together accounted for 40% three decades ago and over 35% at the beginning of this century – represent less than 10% today.
The same split is observed on the production side. The three largest coal producers – China, India and Indonesia – all produced record amounts in 2022. In March 2023, both China and India set new monthly records, with China surpassing 400 million tonnes for the second time ever and India surpassing 100 million tonnes for the first time. Also in March, Indonesia exported almost 50 million tonnes, a volume never shipped by any country before. By contrast, the United States, once the world's largest coal producer, has more than halved production since its peak in 2008.
After the extreme volatility and high prices of last year, coal prices fell in the first half of 2023 to the same levels as those seen in summer 2021, driven by ample supply and lower natural gas prices. Thermal coal returned to being priced below coking coal, and the big premium for Australian coal narrowed following the easing of disruptive La Niña weather that had hampered production. Russian coal has found new outlets after being barred in Europe, but often at considerable discounts.
Cheaper coal has made imports more attractive for some price-sensitive buyers. Chinese imports have almost doubled in the first half of this year, and global coal trade in 2023 is set to grow by more than 7%, outpacing overall demand growth, to approach the record levels seen in 2019. Seaborne coal trade in 2023 may well surpass the record of 1.3 billion tonnes set in 2019.

"Coal is the largest single source of w from the energy sector, and in Europe and the United States, the growth of clean energy has put coal use into structural decline."

Continued strong growth in Asian economies offsets declines in Europe and North America, highlighting need for stronger policies and investments to accelerate growth of clean energy.

Eleven more companies have joined digital Catapult's innovative digital supply chain hub programme to solve manufacturing challenges



Digital Catapult, the UK authority on advanced digital technology, has partnered with five leading technology companies and six pioneering SMEs to solve critical supply chain challenges facing small-to-medium sized manufacturers across the country.

As part of the Made Smarter Innovation | Digital Supply Chain Hub, the initiative will fund and facilitate the development of pioneering solutions to remedy significant industrial challenges, with a view to driving economic growth and advancing the UK's manufacturing sector.

The competition will fund the development of advanced digital solutions with up to £100,000 for each tech company to deploy their solutions into the supporting manufacturer's businesses who will receive £25,000 to bolster this activity.

To maintain the UK's position as number nine in the world in terms of manufacturing output, the challenges identified in this programme will be key to ensuring that manufacturers can look to innovation as a means of improving efficiency and achieving sustainable growth. These challenges include:

- improving compliance and reducing the administrative burden on SMEs in the FMCG industry through the use of digital and paperless systems, supporting export growth through improved compliance to export regulations.
- reducing waste in the textile industry through the use of digital infrastructure to explore the diversion of waste to secondary markets.
- providing visibility of inventory levels and/or delays in supply to enable better planning and prioritising by the SME manufacturer in the automotive industry.
- understanding the true costs of purchasing materials so the SME manufacturers can make better decisions around sourcing and reduce their overall input costs.

The project comes as a recent survey from Make UK and BDO highlighted the challenges currently facing UK manufacturers, with output growth for 2023 expected to be at -0.3%. Supply chain pressures were outlined as a key challenge for medium-sized firms, with continued disruption and increased costs at home and abroad stalling business growth.

The programme will help to address these challenges outlined by manufacturers by developing solutions to real-world industrial challenges in the manufacturing space, and will look to leverage emerging technologies that can be deployed at scale, to sharpen the UK's manufacturing edge. This includes solving industrial challenges by utilising artificial intelligence (AI), machine learning, internet of things (IoT) technologies, and blockchain.

Tim Lawrence, Director of the Digital Supply Chain Hub said, 'With around 250,000 SME manufacturers in the UK, it's

important that the work that we do as part of the Digital Supply Chain Hub backs these organisations as we introduce advanced digital tools to the supply chain. We're excited to work on this initial rollout and look forward to introducing the solutions developed to the wider SME community in the coming months.'

William McColgan, Director of McColgans said, 'We are at a very deliberate inflection point in our growth journey where we have to challenge every process and every piece of work we are engaged in and find ways to improve efficiency and productivity so that we can compete in new markets against established manufacturers. No function or department is exempt, and we need to explore technologies to remove duplication of effort and streamline processes in our supply chain.'

Complete list of participants

Dyer Engineering is a group of fabrication and machining businesses manufacturing metal components and structures. They also provide maintenance, repair and overhaul support services, operating across a diverse range of markets, working with various metals, with the ability to process small parts which can be picked up by the handful, through to large-scale structures operating in harsh environments.

IINOUIIO are the only UK textile recycler of its kind. They are dedicated to recycling wool waste into beautiful new fibres, yarns and fabrics, which can then start a new life.

LaundRE is the UK's first sustainable denim refinishing hub. They enable brands and retailers to reprocess unsold denim and dead stocks by changing the finish and shade with our laser and ozone technology. The refinished jeans are renewed and ready for full price resale.

Mackle Food company is a partner of choice for the innovation and manufacture of premium best in class innovative snacks. McColgans are masters in savoury pastry, with 83 years of experience in the industry.

Ubloquity is transforming the UK's ability to trade, by operationalising blockchain technology across global supply chains.

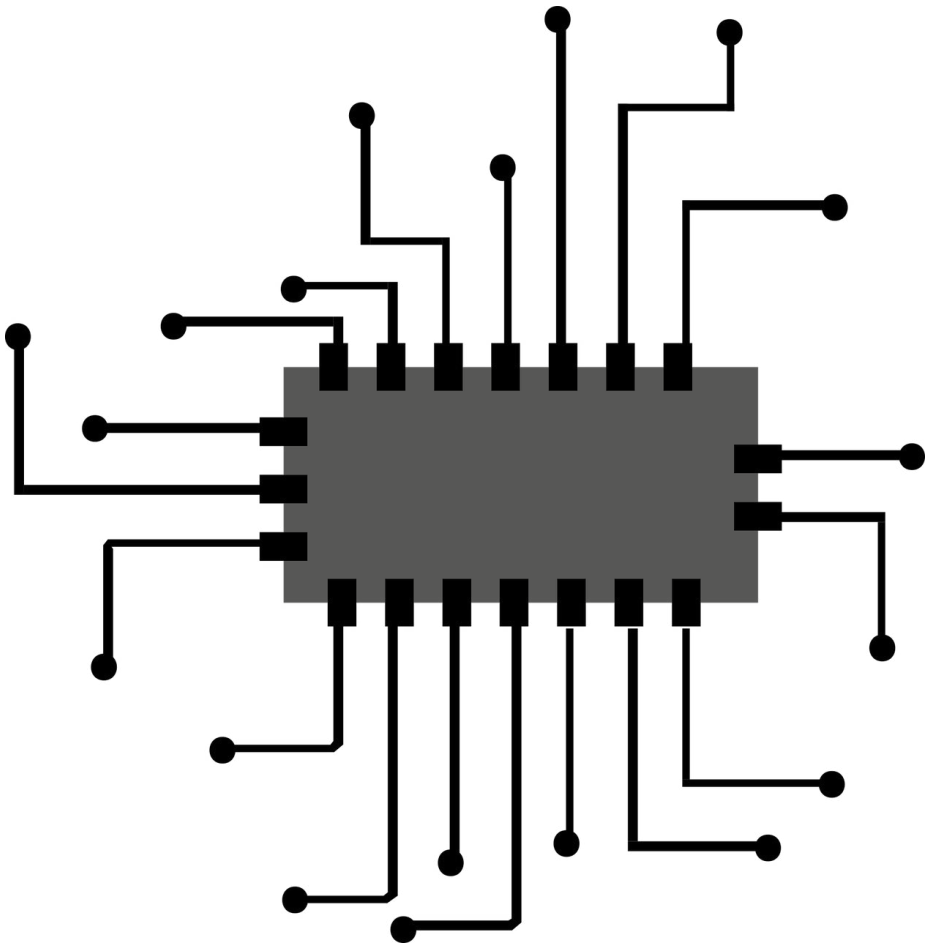
AgrigateOne does real-time tracking, smart document generation, unified data, dynamic reporting, precise forecasting, and effortless integration.

Kavida is a post-order management system that de-risks procurement by providing complete visibility of inventory in motion including real-time container tracking, early detection of risks to enable on-time supplier deliveries.

Flowlens is a cloud based software system for high tech SMEs who manufacture equipment devices or machinery. Flowlens helps these SMEs scale faster whilst staying in control of their data, orders, stock, suppliers and costs, removing the manual, repetitive and error prone admin enabling manufacturers to be more productive with fewer human resources.

Reverse Resources is an SaaS platform disrupting the fashion industry by connecting textile waste with recyclers.

Denchi Group offers a wide range of battery solutions for different sectors, including defence, medical, and industrial applications.



Made Smarter Innovation | Digital Supply Chain Hub is delivered by Digital Catapult, funded by the Made Smarter Innovation challenge at UK Research and Innovation.

About Digital Catapult

Digital Catapult is the UK authority on advanced digital technology. Through collaboration and innovation, they accelerate industry adoption to drive growth and opportunity across the economy.

They bring together an expert and enterprising community of researchers, startups, scaleups and industry leaders to discover new ways to solve big challenges that will unlock the UK's future potential.

Through the specialist programmes and experimental facilities, they make sure that innovation thrives and the right solutions make it to the real world.

The goal is to accelerate new possibilities in everything we do and for every business they partner with the journey – breaking down barriers, de-risking innovation, opening up markets and responsibly shaping the products, services and experiences of the future.

Digital Catapult is part of the Catapult Network that supports businesses in transforming great ideas into valuable products and services. They are a network of world-leading technology and innovation centres established by Innovate UK.

For more information, visit www.digitalsupplychainhub.uk

biz4Biz

A Message from our Founder and Chairman, Adrian Hawkins OBE

Established in 2010 to provide "a voice for business", biz4Biz ensures that the benefit of businesses to our society is both seen and heard.

Insight Magazine published bi-monthly holds a current circulation in excess of 600, 000 + named business professionals across the northern home counties with a 60% open rate on the first day of delivery. The Sustainable Biz magazine currently published quarterly holds a similar national circulation with a focus on technology to save money, carbon footprint assessment and the journey to Net Zero. We also have the Manufacturing Biz title in our magazine stable with more planned.

biz4Biz is also responsible for the very successful Hertfordshire Business Awards now in its 5th year, annual business conferences, our very popular ConneXions lunches, and breakfasts and the new biz4Biz Angel Investment group providing an ideal space to host these important assets.

We also offer a complete range of marketing awareness services and encourage our members to consider our "Let's Work Together" (LWT) package providing the most complete marketing awareness service with reach available. Further details of the LWT package can be found overleaf. LWT is a unique package to promote a company, its skills, people, products, and services.

All our services carry a 30% discount for Members who also enjoy free editorial on joining biz4Biz. Don't hesitate and join biz4Biz today online here https://biz4biz.org/membership/

We look forward to you joining biz4Biz and to assisting you in the future,

Best Wishes

Adrian Hawkins

Adrian Hawkins OBE
Founder & Chairman biz4Biz
biz4Biz

Welsh steel's future secured as UK Government and Tata Steel announce Port Talbot green transition proposal

The UK Government and Tata Steel have agreed on a proposed joint investment package which will secure a sustainable future for steelmaking in Port Talbot, modernise production of greener steel and protect skilled jobs, subject to consultation and regulatory approvals.

Tata Steel is expected to invest £1.25 billion, including a UK Government grant worth up to £500 million – one of the largest government support packages in history – in a new Electric Arc Furnace for greener steel production at Port Talbot, which is currently the UK's largest single carbon emitter.

This would replace the existing coal-powered blast furnaces – which are nearing the end of their effective life – and reduce the UK's entire carbon emissions by around 1.5 percent as a result.

Tata Steel UK employs over 8,000 people, including at Port Talbot, which would otherwise be under serious threat without substantial investment to guarantee its future. Tata Steel also supports around 12,500 further jobs in the upstream supply chain.

Thanks to UK Government intervention, it is expected that the proposal announced today – which remains subject to information and consultation processes led by Tata Steel – has the potential to safeguard over 5,000 jobs across the UK.

The UK Government would also ensure a broad range of support for any staff who are affected by the transition, working with the Welsh Government and Tata Steel to establish a dedicated transition board to support both affected employees and the local economy, with up to £100m funding.

Business and Trade Secretary Kemi Badenoch said: "The UK Government is backing our steel sector, and this proposal will secure a sustainable future for Welsh steel and is expected to save thousands of jobs in the long term.

"This is an historic package of support from the UK Government and will not only protect skilled jobs in Wales but also grow the UK economy, boost growth and help ensure a successful UK steel industry.

Chancellor of the Exchequer Jeremy Hunt said: "This proposal is a landmark moment for maintaining ongoing UK steel production - supporting sustainable economic growth, cutting emissions, and creating green jobs.

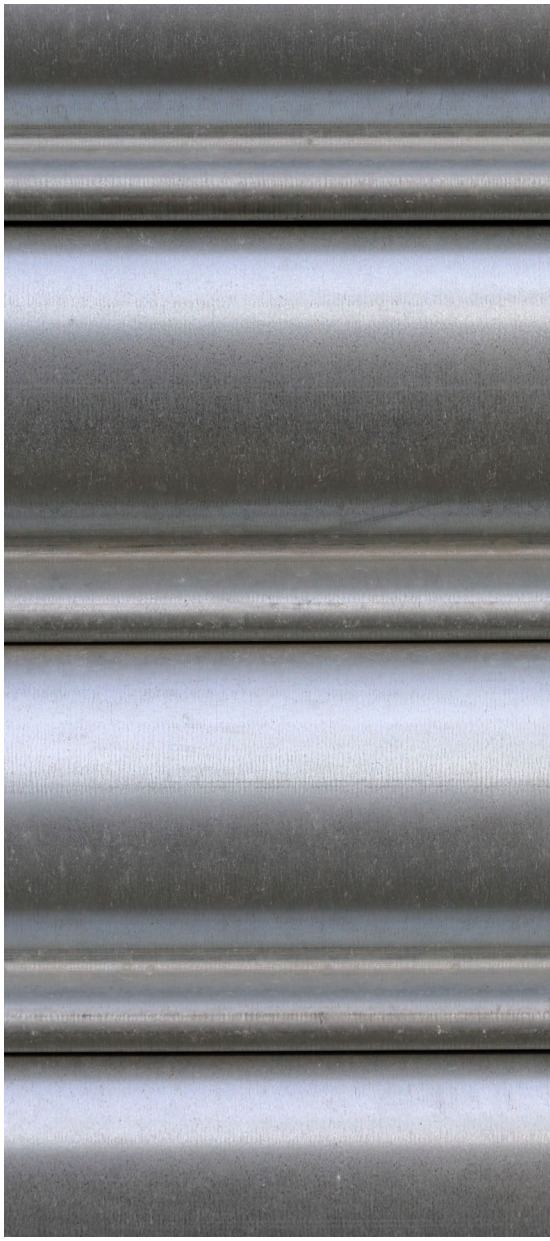
> **"It is right that we are ready to step in to protect this world class manufacturing industry and to support a green growth hub in South Wales."**

The landmark proposal builds on other major investments in UK green technology by Tata Group, including the July announcement of a £4 billion battery gigafactory creating 4,000 direct jobs, and represents a major vote of confidence in the UK.

Alongside the UK Government's proposal for the Celtic Freeport – expected to create 16,000 jobs – and the land at Port Talbot which Tata expects to release for transfer or sale following the transition from blast furnaces, the investment could help unlock thousands of new local jobs and boost both the South Wales and wider UK economy.

Subject to Tata Steel consultation processes, the UK Government estimates that the support package will also protect thousands of jobs in the wider UK steel supply chain.

The transition to sustainable steelmaking at Port Talbot is also expected to reduce the UK's entire business and industry carbon emissions by 7 percent, Wales's overall emissions by 22 percent and the Port Talbot site's emissions by 85 percent.



'Parent power' inspiring the next generation of female engineers

The Manufacturing Technologies Association (MTA) has expanded its support to the engineering-based manufacturing sector with the formation of a new cluster of trade associations and events.

The move has seen the Engineering Industries Association (EIA) and Additive Manufacturing UK (AMUK) join the MTA portfolio to create a unique alliance dedicated to promoting excellence in the field of engineering-based manufacturing. Combining with MACH, the UK's national event for inspiring, innovating and connecting manufacturing, and the new Engineering Supply Chain Show, the cluster represents a united front, dedicated to furthering the interests of engineering-based manufacturing in the UK, in turn boosting business opportunities for UK manufacturers.

The MTA is the UK's trade association for companies in the engineering based manufacturing technologies sector. MTA members provide the advanced machinery, equipment and software that enable the creation of all the products we rely on from day to day, helping to drive the UK economy.

As a not-for-profit organisation, the MTA exists to promote the interests and be the voice of the engineering-based manufacturing technologies sector in the UK.

The EIA, which now falls under the MTA umbrella, is focused on helping the UK's engineering supply chain promote their capability, capacity and expertise to manufacturers seeking to source high quality precision sub-contracting products and services from UK-based suppliers, at home and overseas.

AMUK is the UK's only trade association for Additive Manufacturing and 3D Printing businesses. It now sits within the MTA portfolio with the specific aim of promoting Additive Manufacturing and 3D Printing technology, helping to accelerate the adoption of this technology in the UK.

The MACH exhibition is the UK's only live, national event showcasing sustainable, innovative technologies used across the manufacturing spectrum. Attracting an audience of more than 26,000 people to meet and network with around 500 exhibitors, business attributed to the event in 2022 amounted to more than £180m.

The creation of the Engineering Supply Chain Show in 2022 provided a dedicated event for EIA members. This new show, co-located alongside MACH in 2024, is where engineering and manufacturing buyers go to find world-class suppliers, exclusively in the UK engineering and manufacturing supply chain.

Commenting on the development of the new cluster, James Selka DL, Chief Executive Officer at the Manufacturing Technologies Association said: "The MTA has been at the core of the UK's engineering-based manufacturing economy for over a century. The development of this new cluster of associations and events, under the umbrella brand of the MTA, is designed to improve

business and trade in the UK. Being owned by the industry, for the benefit of the industry, our primary aim is to help and support the sector we represent to do business, boosting the UK's manufacturing performance and enabling UK PLC to compete at a global level."

The UK's aspiration to be a global leader in advanced and digital manufacturing is creating plenty of opportunities for growth in the engineering-based manufacturing sector. As James Selka explains, the new cluster, led by the MTA, is perfectly placed to help members take advantage; "By forming this cluster, the MTA now represents manufacturing technology suppliers and the engineering-based manufacturers who use the technology."

"Our unique offering promotes advanced and digital manufacturing principles that ensure more versatility, precision and productivity while using less raw materials and less energy in the process."

James Selka continues; "The circle is complete with MACH, the UK's national event for showcasing manufacturing technology and the Engineering Supply Chain Show where engineering and manufacturing buyers can find subcontract and supply chain companies with capacity. The new cluster will work together to deliver for UK PLC in an ever changing world that demands increasingly complex solutions."

MACH 2024 takes place at the NEC in Birmingham between 15-19th April 2024, with the ESC Show taking place alongside it between 16-18th April.

MTA

THE MANUFACTURING TECHNOLOGIES ASSOCIATION

EIA

ENGINEERING INDUSTRIES ASSOCIATION

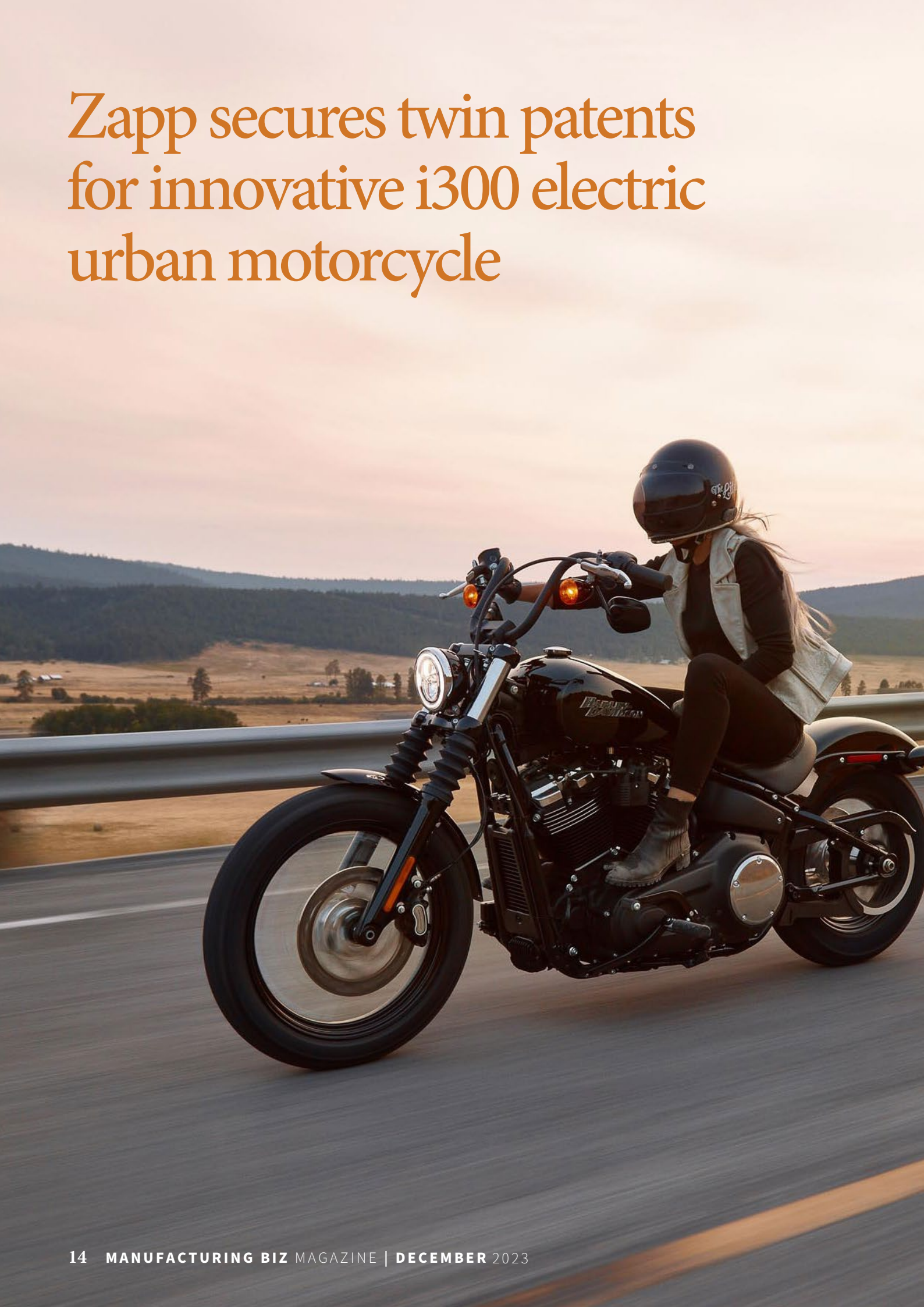
Additive Manufacturing UK

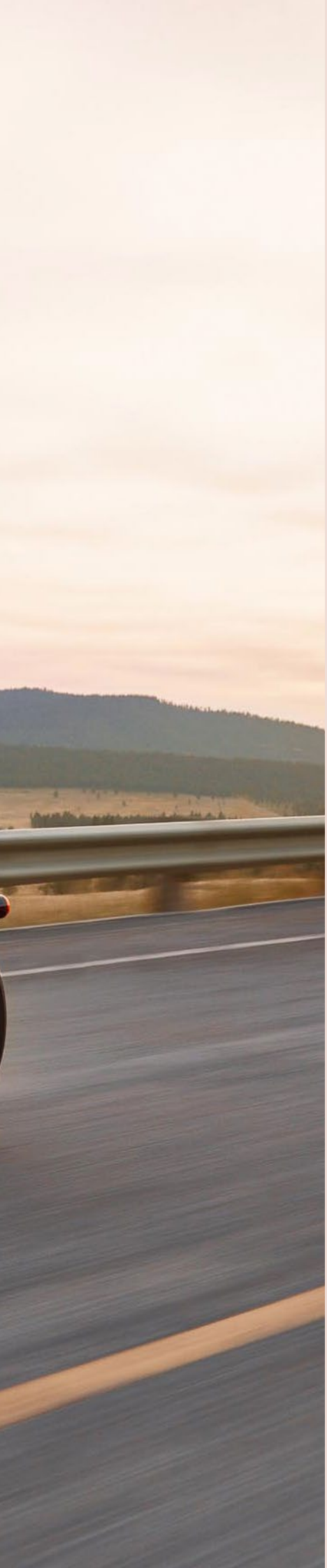
MACH 15-19 April 2024 NEC Birmingham UK machexhibition.com

ENGINEERING SUPPLY CHAIN SHOW 2024

16-18 APRIL · NEC · BIRMINGHAM

Zapp secures twin patents for innovative i300 electric urban motorcycle





Zapp Electric Vehicles Group Limited, owner of a UK-based, high-performance two-wheeler electric vehicle brand, has announced it has been granted European patents for two components of its i300 electric urban motorcycle, which it anticipates will be ready for its first customer deliveries later this year.

The recognition from the European Patent Office relates to the i300's Z-shaped exoskeleton and removable front fender. The grant of the patents highlights the innovative nature of the technology developed by Zapp to support the brand's strategic vision, which encompasses the highest standards of design, performance, sustainability, manufacturing, and customer experience.

Zapp's distinctive exoskeleton consists of two single-piece Z-shaped anodised aluminium components mounted on an underbone. It delivers a revolution in motorcycle chassis technology, and is central to the i300's unique ability to combine the performance and dynamic handling of a motorbike with the step-through convenience of a scooter. The exoskeleton also endows the brand with its award-winning design language.

The fully recyclable Zapp exoskeleton solution provides numerous technical, sustainability, and commercial benefits. The two single-piece Z-shaped exoskeleton components replace a conventional-styled frame, which uses multiple connected tubes and welding points, allowing the vehicle to have a lower centre of gravity and lower weight, enhancing both handling and safety. The exoskeleton reduces the number of assembly components and also frees up space under the seat for storage. The Company believes the exoskeleton provides an ideal platform on which to base additional models and derivatives without significant additional investment.

Zapp's second European patented component is the i300's removable front fender, which brings a unique, almost infinite range of colourway personalisation options to the two-wheel sector for the first time. At any point after purchasing their i300, customers will be able to have the front fenders removed and replaced with new items in a colour of their choice. The personalisation upgrade will be carried out by an authorised 'Zapper' who will come to the customer's home or workplace in a branded Zapp van, and perform the exchange. Going forwards, Zapp plans to collaborate with artists and leading cultural figures to create limited colourway collections.

The European patents (EP4058343 – 'A seat-supporting structure for mounting on a motorcycle frame' and EP4051563 – 'Front fairing for a scooter') further reinforce the world-class technology and design credentials of Zapp and its debut product, the i300 Carbon, which is now available to pre-order on Zapp's website www.zappev.com.

Swin Chatsuwan, Founder and Chief Executive Officer of Zapp, said: "The notification of not one but two European patents is enormously gratifying for Zapp and proves the innovative nature of the technology and design underpinning the brand's i300 electric urban motorcycle. Our exoskeleton transforms two-wheeled chassis technology and is key to endowing the zero-emission i300 with the convenience of a step-though scooter and the dynamic performance of a larger motorcycle.

"Zapp's patented removable front fenders will also revolutionise the two-wheeled vehicle category by offering customers a range of colourway personalisation options previously the exclusive domain of the supercar and hypercar sectors."

The exoskeleton and the removable front fender are pivotal to Zapp's determination to transform the two-wheeler segment with superbly designed, technically advanced, zero-emission, fun-to-ride products. However, these are just two of more than sixty novel technical aspects of the i300, which will further amplify the product's considerable customer appeal as we move towards first deliveries commencing later this year."

Construction of new state of the art shipbuilding facility underway in Glasgow

Construction has begun on a huge new ship build hall that will transform and enhance shipbuilding in Glasgow.

The new ship build hall at the Govan shipyard will shortly begin to take shape now that the basin has been filled and piling has begun. Measuring 170m long and 80m wide, this vast facility will be large enough for two Type 26 frigates to be constructed side-by-side.

Last November, BAE Systems secured a £4.2 billion contract with the Ministry of Defence to build five more Type 26 ships. This builds on the initial contract for the first three vessels and provides confidence to invest in the long-term future of the Glasgow site.

Simon Lister, Managing Director of Naval Ships at BAE Systems, said: "We are the proud custodians of shipbuilding on the Clyde and our talented teams are working hard to build on that legacy to secure Glasgow's status as a shipbuilding centre of excellence for generations to come.

"This new hall will give us some of the best facilities in the world and completely modernise our approach to shipbuilding. It, alongside the investments already under way to digitise our processes, will ensure Govan continues to be something that the city of Glasgow can be truly proud of."

The ship build hall is being constructed by McLaughlin and Harvey. It will consist of more than 6,000 tonnes of steel and 20,000m3 of concrete.

Once complete, the hall will help enable efficient and safe shipbuilding for decades to come with future work unaffected by adverse weather. With two 100-tonne cranes and a further two 20-tonne cranes, the facility is designed to accommodate up to 500 workers per shift.

The hall is a key element of the £300m modernisation and digitalisation of BAE Systems' shipbuilding facilities at Govan and Scotstoun. Alongside a range of infrastructure and automation improvements, the Company is introducing digital technology such as tablets and kiosk screens on the shop floor to streamline processes.

The Type 26 is one of the world's most advanced warships. It is designed for anti-submarine warfare and high-intensity air defence, but can adapt its role quickly to transport humanitarian aid and house medical facilities.

Steel was cut on the fourth Type 26, HMS Birmingham, in April this year and work on the first three ships is already well under way. First-of-class HMS Glasgow is at BAE Systems' Scotstoun shipyard having complex systems installed, HMS Cardiff is currently being assembled and HMS Belfast is in its early construction phase.

All eight frigates will be built in Govan and Scotstoun with the work sustaining approximately 1,700 jobs in Scotland with a further 2,300 jobs across the wider UK supply chain.


BAE SYSTEMS


BAE SYSTEMS
BAE SYSTEMS

The 2023 Construction Leaders' summit

Senior leaders from across the construction industry gathered at the 2023 Construction Leaders' Summit, bringing together some of the most important voices in building safety and sustainability.

Hosted by construction data experts, NBS, at the Tottenham Hotspur Stadium, London, the event kicked off with a deep-dive into the issue of safety in construction and an update on the sector's progress on implementing a 'golden thread' of information – an idea first announced at NBS' conference in 2020.

Speaking at the event, Dame Judith Hackitt, Previous Chair of the Independent Review of Building Regulations and Fire Safety, said:

"We now have a clear, systems-based approach to improving regulatory compliance and information sharing. Competence, accountability, and responsibility are now being placed at the heart of building processes.

"This means changing the way we plan, design, and deliver buildings and it starts with a culture overhaul to encourage real ownership – overseen by a regulator with powers to impose serious sanctions for those who continue to try and game the system.

"To make this happen, it's no longer enough to focus simply on complying with rules. Those who continue to wait for rounds of secondary regulation are missing the point... Now is the time for the industry to pull up its boots and deliver quality buildings that can withstand the test of time. Feeling safe in a home, workplace or school is a basic human right and the construction industry has a responsibility to deliver it – let's make sure this new system works."

The event included other insightful talks. Jaimie Johnston MBE, Director and Head of Global Systems, Bryden Wood, gave an informative speech on the power of construction platforms and leading-edge digital tools to deliver construction solutions at scale.

He said: "We're amid an infrastructure crisis which threatens our ability to deliver basic human needs worldwide. The good news is that technologies and innovations in design and construction are advancing at breakneck speed but applying these to complex problems is a collective task."

The afternoon session focused on sustainable construction and in particular, the sustainable practices that are moving the needle on delivering net-zero emission targets and how the role of digital adoption will continue to be a key driver in delivering higher standards of safety and efficiency across the board.

Gary Clark, Principal, HOK and former Chair of the RIBA Sustainable Futures Group, discussed how specifiers and manufacturers can help in the built environment's drive toward Net Zero. He said: "This year is destined to be the hottest in over 100,000 years. The Committee on Climate Change has highlighted that the Prime Minister's recent announcements are putting the UK's legally binding net zero carbon target of 2050 at risk. The government and the construction industry need to take action to deliver a step change in sustainable and regenerative development. As the new RIBA President announced: 'the time to act is now."

With a focus on the entire construction supply chain, talks throughout the day also examined how safety and sustainability considerations have impacted building product manufacturers as well as designers, particularly in the way building information is used and managed by the industry.

Speaking on the building safety panel, Nigel Morrey, Technical Director at product manufacturer and headline sponsor Siniat, said:

> **"The Golden Thread has become a crucial way to increase transparency within the industry and show how every organisation contributing to the construction of a building has mitigated risk."**

It stipulates a need for an up-to-date, easily accessible, and unbroken thread of information. The evidence found within EN and EXAP evidence ensures that fire safety information is supplied in a clear and consistent format, enabling the Golden Thread to be achieved more easily across the industry. "Requesting EXAP classification reports is vital to ensuring that as an industry we are moving towards safer processes and futureproofing our buildings. This will give construction professionals today, and tomorrow, the peace of mind that their building is safe."

The day ended with a discussion on Digital and AI in construction alongside some of the leading voices in business, including Innovation.


NBS
THE CONSTRUCTION
LEADERS'

HVM launch appeal for business to apply for manufacturing energy toolkit

Energy problems for business are nothing new but with post-pandemic issues, the war in Ukraine and continued Middi-East unrest, keeping costs in check is more vital than ever.

High Value Manufacturing (HVM) Catapult have been working on a UK-wide pilot scheme to help businesses to cut their energy costs and grow their bottom line. During the regional pilot at WMG, the HVM Catapult's Manufacturing Energy Toolkit produced tangible results, with manufacturers seeing a total energy saving of between 12% and 46% –adding up to thousands of pounds saved each year.
As HVM explains, many manufacturers simply don't realise they're running equipment in ways that waste significant amounts of energy, eating into their profits while expanding their carbon footprint. But their experts have the experience and industry know-how to help slash energy usage across manufacturing processes by up to 46% and ensure money goes further.

If it's the first time a business has thought about cutting energy from the process, HVM begin with a fully funded visit to a production site for an in-depth assessment of energy mix and usage – identifying key areas where anyone could save money. Once the problems are identified, HVM can work on a roadmap for cutting energy usage. They also focus on the greenhouse gas emissions of energy usage, giving data that can help build a position in the market. As well as saving money, making a business more energy efficient can have additional, and no less important, benefits.

Doing so will also reduce a businesses carbon emissions and carbon footprint, making a huge positive difference to the environment.

This can also boost a company's image and reputation, and even increase business as customers increasingly look to support and work with eco-friendly companies.

And it's not just customers who will feel the effects of becoming more sustainable - studies have shown that it can lead to an overall improvement in employee morale and dedication. Employees appreciate the efforts their employers take to the respect the environment, building trust between them.

UK and South Korea extend tariff-free trade provisions ahead of deal negotiations

The UK and South Korea have agreed to extend a range of zero- and low-tariff provisions in their existing trade deal, ahead of negotiations on an enhanced trade deal later this year, the Department of Business and Trade has announced.

The extension will enable continued frictionless trade across a number of industries, which should especially benefit car manufacturers.

Nigel Huddleston, minister for international trade, described the extension as "fantastic news for UK businesses".

Extension

As with many post-Brexit deals, the existing arrangement with South Korea was rolled over from the UK's previous provision through the EU.

To facilitate smoother trade upon the UK's transition out of the bloc, diminished rule of origin requirements had been in place, allowing UK goods to be manufactured with a higher proportion of EU parts without incurring any tariffs.

Ana Sofia German, trade agreement & trade preference specialist at the Institute of Export and International Trade, describes the extension as "vital" to UK and South Korean businesses, but "especially beneficial for the UK". car manufacturing industry whose.

She notes that UK car manufacturing "production is still very closely intertwined with the EU", with 80% of the UK automotive components imports of EU-origin in 2020, according to the European Automobile Manufacturers' Association (ACEA). She added:

"Without this extension, UK exporters would have incurred additional costs from tariffs, requiring them to adapt to changing regulation.

"Ultimately, this not only affects current exporters but could have also discouraged businesses looking to export."

The allowances were originally set to expire on 1 January 2024.

Mike Hawes, chief executive of the Society for Motor Manufacturers and Traders (SMMT), welcomed the news, saying the body "looks forward to the start of negotiations". He added that he hoped for "a modernised trade deal that delivers more benefits to our respective automotive sectors, in particular boosting trade in EVs and related technologies".

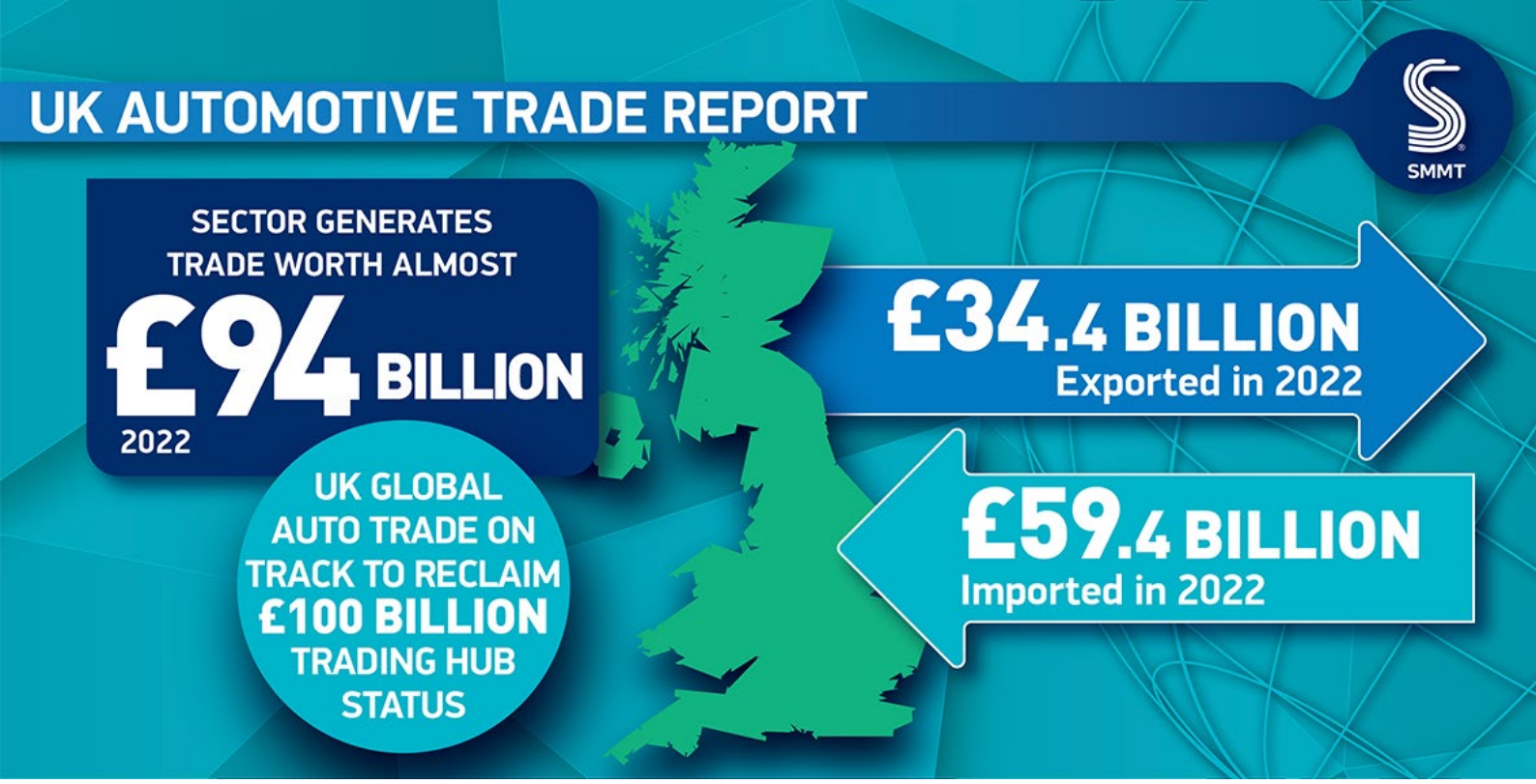
South Korea is understood to be the UK's seventh largest export market for British-made cars and also the third largest supplier of cars, making an extended agreement mutually beneficial.

In addition to car manufacturers, voices from the UK's food and drink industry also welcomed the development for "giv[ing] continued certainty to exporters until a new and ambitious agreement is negotiated".

According to DBT figures, South Korea is the 13th largest economy in the world. Although the IMF has released a gloomy raft of projections for national economies and the broader global outlook into 2024, South Korea is still predicted to grow 2.2%.

In the year up to March 2023, DBT estimates that trade between the UK and South Korea was worth £17.1bn, an increase of almost 12% on the previous year. This was made up of £7.3bn worth of UK exports, driven by an expanding middle class which is set to see the import market grow 45% by 2035.

It's expected that the talks for the new free trade deal will begin this year.



Agreement with Europe needed to avoid £3,400 electric vehicle tax hike

The Society of Motor Manufacturers and Traders (SMMT) has urged the EU and UK to strike an immediate agreement to avoid damaging Brexit tariffs on electrified vehicles.

The plea, echoed by the EU auto sector, is to delay the implementation of tougher new Rules of Origin (ROO) requirements on batteries which could render EU and UK made electrified vehicles uncompetitive in each others' markets.

As the clock ticks down to the 1 January 2024 ROO introduction, new calculations lay bare the impact the new rules, set under the EU-UK Brexit deal, would have on vehicle affordability and competitiveness. Electrified vehicles that do not meet the new thresholds will be subject to a 10% tariff when traded across the Channel, resulting in a combined cost of £4.3 billion.1 For the consumer, this could mean an average price hike of £3,400 on EU-manufactured battery electric vehicles (BEVs) bought by British buyers, and a £3,600 rise on UK-made BEVs sold in Europe.2

Even against a backdrop of the pandemic, crippling semiconductor shortages and trade tensions, EU-UK electrified vehicle trade has more than doubled recently, enabled by the EU-UK Trade and Cooperation Agreement (TCA). It has grown 104% in the three years since the TCA was signed, up from £7.4 billion at the end of 2020 to £15.3 billion last year, although much of this uplift has been in the last 12 months.3

The situation has helped total UK automotive global trade in finished vehicles and components get back on track following the pandemic, and it is currently on course to be worth more than £100 billion by the end of 2023, according to the latest SMMT report, Open Roads – Driving Britain's global automotive trade, published today. This growth is now threatened, however, as rules that were agreed before the pandemic, war in Ukraine and supply shortages come into force in just 75 days' time. With almost half (49.1%) of all new BEVs registered in the UK in the first half of the year coming from the EU, any cost increase would act as a barrier to uptake, undermining their competitiveness in an important and growing market. Furthermore, the application of a 10% tariff on electrified vehicles alone would undermine shared ambitions to be global leaders in zero emission mobility, holding back markets and undermining the drive to deliver net zero, given road transport remains the biggest contributor to overall carbon emissions. Conventional petrol and diesel vehicles would escape tariffs, meanwhile, which would have the perverse effect of incentivising the purchase of fossil fuel-powered vehicles. Such a scenario would not only steer British car buyers away from buying the very vehicles needed to hit net zero, it could also lead to a reduction in consumer choice if any electrified models become uncompetitive in the marketplace overnight. The challenge comes at a crucial time, with manufacturers also facing the UK Zero Emission Vehicle Mandate, which is likely to come into force on the same 1 January 2024 date and compel them to sell ever-increasing numbers of zero emission models, starting at 22% next year and rising to 80% by 2030.4

A three-year delay to the introduction of the stricter rules of origin is a pragmatic solution. It would provide the necessary

time for EU and UK gigafactories to come on stream as well as helping the development of local battery parts and critical mineral supply chains. The postponement is also something that can be readily achieved within the existing TCA framework, avoiding formal re-negotiation and delivering a boost to EU and UK manufacturers.

Launched at the SMMT global trade conference, Open Roads – Driving Britain's global automotive trade, outlines the critical importance of worldwide trade to the UK automotive sector with key recommendations to assure growth, jobs and prosperity in the coming years, including:

1. Modernisation of current continuity agreements combined with the negotiation of new FTAs setting realistic content requirements for batteries and related components.

2. The renewal of agreements with South Korea, Mexico and Canada as well as negotiations with India and the Gulf Cooperation Council could offer enhanced market access and commercially meaningful opportunities.

3. With few exceptions, international trade diplomacy is shifting its focus from traditional FTA negotiations to other priorities, including trade-related investment measures, level playing field instruments and new corporate sustainability obligations – these must be considered in future negotiations.

4. Strengthening the UK and broader European supply chain for batteries and critical raw and refined minerals and embedding recycling and remanufacturing as part of a sustainable and resilient automotive business model.

5. Regulatory challenges and taxation can greatly reduce market access and even offset FTA benefits, with producers of luxury and sports vehicles particularly exposed to non-tariff barriers and behind the border measures. This must also be considered in all future trade deals.

Canadian solar announces U.S. solar cell manufacturing facility in Jeffersonville, Indiana

Canadian Solar has announced that it is establishing a 5 GW Solar PV cell production facility at the River Ridge Commerce Centre in Jeffersonville, Indiana.

Canadian Solar, headquartered in Guelph, Ontario, is building a state-of-the-art solar photovoltaic cell manufacturing plant with an annual output of 5 GW, equivalent to approximately 20,000 high-power modules per day. The Jeffersonville facility represents a projected investment of more than $800 million and will create approximately 1,200 skilled high-tech jobs once production is fully ramped up. The solar cells produced at this facility will be used at the previously announced 5 GW module assembly plant in Mesquite, Texas. Production at the Jeffersonville facility is expected to begin by the end of 2025.

"Indiana's strong advanced manufacturing sector positions the state to help lead the global energy transition, developing and powering new solutions in batteries, solar and hydrogen," said Governor Eric Holcomb. "Canadian Solar's new U.S. location in Jeffersonville will put our skilled Hoosier workforce at the centre of cultivating solar power, making energy efficient panels more accessible to consumers across the country."

United States Senator Mike Braun stated, "Indiana is a proud leader both in the Midwest and the country in manufacturing and innovation. I'm pleased to know that this new solar manufacturing facility opening in Jeffersonville will create many new jobs for Hoosiers and stimulate the local economy."

"The city of Jeffersonville is pleased that Canadian Solar has chosen River Ridge Commerce Center as home for their newest critical production facility in the United States," said Jeffersonville Mayor Mike Moore. "Not only are they making a large financial investment into our community, but they will also become one of the largest single-site employers in the Greater Louisville region. When in full production, their total employment base will include over 150 engineers at this facility. We are thrilled to see a global industry leader join our community and provide a product with enormous potential."

> **"This is a historic investment in River Ridge and Southern Indiana."**

said Jerry Acy, Executive Director of the River Ridge Development Authority. "The technologies of the future are being built right here at River Ridge. I want to thank Dr. Shawn Qu and his team at Canadian Solar for their commitment to our region. We look forward to a successful partnership that will launch the next generation of solar power."

Midlands firm wins construction project supporting UK manufacturing

Following the announcement of its new £18.5m manufacturing facility, Russell Roof Tiles has awarded Midlands based RL Harrison Construction Ltd with a £2m construction contract.
The pioneering concrete roof tile manufacturer announced the new project this year and ground works are underway at the site.
The state-of-the-art manufacturing plant, based on its existing site in Burton on Trent will double output and help meet the UKs continued need for new homes.
This project is a multi-national co-ordination of supply partners from Sweden, Denmark, Germany, and the UK. The expansion will create approx. 25-30 skilled and semi-skilled jobs in engineering and maintenance.

Early site works have already started on preparation for the new factory and line.
The new manufacturing facility is expected to complete by summer 2024 and the current site will continue to manufacture whilst the major project takes place.
Midlands based RL Harrison Construction Ltd is a family run firm of building and restoration contractors, established 40 years ago. Based close to Burton on Trent, they carry out projects throughout the UK and have an extensive portfolio of work in the commercial and industrial sectors.
Paul Harrison, Director at RL Harrison Construction Ltd commented "We are delighted to have been awarded this new contract and be supporting Russell Roof Tiles in this major pioneering project to support the best of British manufacturing."
Russell Roof Tiles is a leading independent pitched roof tile manufacturer supplying products for top housebuilders and high-profile social housing and commercial projects.

The company produces thousands of concrete roof tiles and accessories tiles every week used on roofs across the country.
The Nicolson Way site in Burton was first opened in 1990 and now covers 9-acres.
This new investment will deliver more manufacturing lines and a new 1600 sq m building which will house a state-of-the-art curing chamber (only the second of its type in the country) for the concrete tiles.
This latest investment is part of Russell Roof Tiles' ongoing capital improvement plan to further enhance quality across the business, by utilising the latest innovations in manufacturing.

DBT clarifies which sectors will benefit from CE mark extension and announces product safety revamp

Following the news that manufacturers can continue using the CE mark indefinitely for several products placed on the UK market, the Department for Business and Trade (DBT) has announced plans to revamp product safety rules.Reported by the Institute of Export and International Trade, it has also clarified which sectors will benefit from the CE mark extension, with medical devices and construction services among those not covered by yesterday's announcement. Businesses in these sectors will need to continue to prepare to use the UK's own quality assurance mark.

Product safety revamp

The announcement focuses on the UK's product safety laws, which the government said are over 30 years and will be DBT said that revamping the regulation is a "benefit of Brexit", helping it to "cut business costs and reduce unnecessary red tape". As part of the refresh, DBT plans to introduce e-labelling for products.

"I am determined to use our post-Brexit freedoms to identify outdated EU laws placing unnecessary burdens on business and reform them to benefit both companies and consumers," said trade and business minister Kemi Badenoch.

"These changes will provide better consumer protections while upholding our world-leading safety standards and will also cut costs for business to ensure they have the freedom they need to innovate and thrive, helping to create jobs and grow the economy."

> "Overhauled in a bid to make them fit for emerging technologies and new shopping habits."

The DBT has also announced that it is indefinitely extending the use of the CE mark within the UK, saving manufacturers from facing a "cliff edge" at the end of next year when they would have had to start using the UK's post-Brexit equivalent, the UKCA mark, for trade within the UK.

The Construction Products Association (CPA) yesterday issued a notice to warn its members that the sector was unaffected by the extension and that the CE mark will continue to be recognised in the UK for affected products until 30 June 2025, at which point the UKCA mark will become a mandatory requirement.

The government published an update relating to upcoming deadlines relating to the use of the CE mark for medical devices and in vitro diagnostic medical devices (IVDs) here.

The British Healthcare Traders Association (BHTA) has called on government to provide "urgent clarification" on the outlook for the sector, while the CPA told the FT that it feared "that policymakers do not fully understand or appreciate the gravity of this policy position".

'Missed opportunity'

Eurosceptic MPs have said that the decision to extend the use of the CE mark in the UK effectively keeps the country aligned with EU standards.

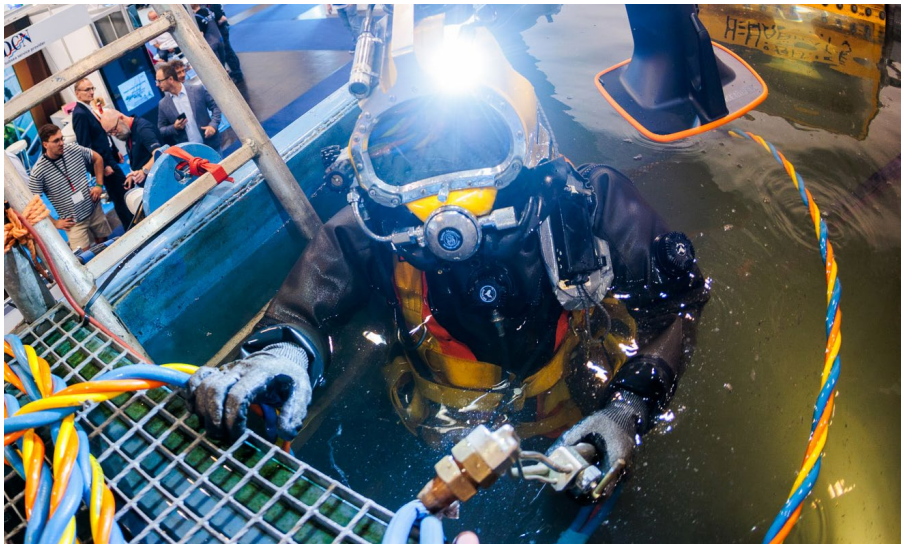
Sir Iain Duncan Smith told the Telegraph that this meant the UK was missing out on the opportunity to diverge from the bloc and establish the UK's own regulatory approach.

"I'm very disappointed that we haven't already done this and now we have to go through this sudden about-turn," he said. "It would have made a huge difference if we'd got our deregulation process in play, instead of which what's happened is in a panic we've just gone for the easier option which is to allow the CE mark to carry on."

Schweissen & Schneiden proves to be a major success for global audience

With almost 1,000 exhibitors and 40,000 trade visitors from 124 nations, SCHWEISSEN & SCHNEIDEN confirmed its position as the world's leading trade fair for joining, cutting and surfacing technology.
For five intensive days in September, everything revolved around innovations, investments, networking and knowledge transfer at Messe Essen.

"The atmosphere in our exhibition halls was excellent. After the pandemic-related break, it was noticeable how much the industry appreciates this platform. Many companies have reported concentrated and successful sales talks to us; they are also expecting good post-fair business."



said Oliver P. Kuhrt, CEO of Messe Essen.
"In addition to the high internationality, the procurement competence of the trade visitors was particularly impressive. This shows: SCHWEISSEN & SCHNEIDEN is the trade fair for investments."
A staggering 83 per cent of all trade visitors accompanied purchasing decisions in their companies. A large number of experts from the steel, mechanical engineering and vehicle construction sectors, but also from wholesale, the service sector and the energy industry, came to SCHWEISSEN & SCHNEIDEN to find out about new solutions and to place orders on site.
A third of all visitors used the trade fair to make or prepare investments, and the average order volume increased significantly compared to the previous event. Whether networked cutting systems, sustainable welding gases, high-quality protective equipment or efficient and resource-saving software – innovations from numerous areas were in demand. The industry is the driving force for many other sectors of the economy, such as automotive or architecture. In 2022, the production value of German welding technology alone amounted to a total of 4.11 billion euros – a new record.

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Once again, the industry presented itself in a ground-breaking way at SCHWEISSEN & SCHNEIDEN. As in hardly any other branch of industry, digitalisation and networking play a decisive role in the future orientation here. Smart robot systems that work hand in hand and together carry out the most diverse process steps efficiently were on display, as were systems that create digital twins and thus enable optimisations thanks to their real-time data.
Traditionally, SCHWEISSEN & SCHNEIDEN is the stage where companies present their innovations to the public. A world premiere was celebrated, for example, by oxyacetylene welding machines that are powered by hydrogen and thus make an important contribution to more climate protection, occupational safety and CO2 reduction.
International and German start-ups supported by the German government used SCHWEISSEN & SCHNEIDEN 2023 as a global platform to present their own ideas and solutions to the market. Among them was the company Steeldate, based in Bad Nauheim, Germany, which brings together order and material in a precise match with its resource-saving matchmaking tool. MX3D, on the other hand, showed additive manufacturing from the 3D printer – a technology with which the Dutch start-up has already realised a footbridge in Amsterdam.
Overall, 66 percent of the exhibiting companies came from outside of Germany. Numerous nations presented themselves jointly under their respective national flags, including China, France, Japan, South Korea, Taiwan and the USA.
The supporting programme also impressed the professional audience. The accompanying DVS Congress from Monday to Thursday attracted almost 450 participants. It was a combination of the Large Welding Conference, which focused on current topics such as "Welding in Electromobility" or "Artificial Intelligence in Joining Technology", the DVS Campus, a format in which students presented their final theses, and, for the first time, the Underwater Technology Conference, which highlighted the challenging work in wet depths. In addition, the trade visitors experienced practical application examples in a diving container and were able to observe an expert at work.
SCHWEISSEN & SCHNEIDEN also attracted attention away from the exhibition halls in the social media on Instagram, LinkedIn and Co. While the exhibitors were committed to sharing their trade fair experiences, the trade fair's own platforms also scored points on the social web. A time-lapse video of the trade fair set-up and a compilation of impressions achieved more than 7,8 million views and more than 206,000 likes on the Instagram channel of Messe Essen. Well-known content creators from the industry such as Anna Sänger, JP Metalldesign, Manfred Welding, Erik Alu Löffel or Igor Welder, Colin Furze, Ben Steel and GMAW Welding Belgium visited SCHWEISSEN & SCHNEIDEN, gave talks and reported entertainingly on their channels about encounters, innovations and new products.
The next SCHWEISSEN & SCHNEIDEN will be held from 15th to 19th September 2025 at Messe Essen.


Robotic Weldi
Robotic Welding
Fronius


KYOKUTOH
Robot
Dresser
Quality
NS-01
Torch Cleaning
KYOKUTOH
BizLink
KUKA

THE ADVANTAGES OF A GENERAL MAGAZINE ABOUT MANUFACTURING:

Embracing the Spectrum of Knowledge

INTRODUCTION

In the realm of manufacturing, where innovation and diverse processes intertwine, the availability of information and insights plays a pivotal role in fostering growth and success. While specialist magazines focusing on specific aspects of manufacturing provide specific in-depth coverage, a general magazine encompassing a broad range of topics brings unique advantages and greater benefits to industry professionals. This editorial explores why a general magazine about manufacturing can be more beneficial by offering a comprehensive perspective, facilitating cross-pollination of ideas, promoting versatility, and encouraging adaptability in an ever-evolving manufacturing landscape.

COMPREHENSIVE PERSPECTIVE

A general magazine about manufacturing offers a holistic view of the industry, capturing its multifaceted nature and addressing the interconnectedness of various sectors. By encompassing a wide range of topics such as supply chain management, technological advancements, process optimization, sustainability, marketing, and workforce development, a general magazine provides readers with a comprehensive understanding of the industry's dynamics. This breadth of knowledge empowers professionals to make informed decisions and anticipate the implications of their choices across different aspects of manufacturing.

CROSS-POLLINATION OF IDEAS

Manufacturing Biz magazine serves as a hub for knowledge exchange and cross-pollination of ideas between diverse sectors of the manufacturing industry. By featuring articles and insights from different specialties, it fosters collaboration and encourages professionals to explore innovative approaches from unrelated fields.

> "Manufacturing Biz magazine has the potential to represent the entire manufacturing community more inclusively"

This exposure to a wide array of perspectives promotes creativity, problem-solving, and the potential for disruptive breakthroughs. For example, a manufacturing engineer reading about advancements in robotics for automotive assembly might find inspiration to improve efficiency in their pharmaceutical manufacturing process. Such interdisciplinary inspiration and learning are more likely to occur in a general magazine where various fields of manufacturing converge, generating a synergistic effect that fuels progress.

VERSATILITY AND ADAPTABILITY

In today's rapidly evolving manufacturing landscape, adaptability is crucial for success. A general magazine provides professionals with a diverse toolkit of knowledge and insights that can be applied across different industries and contexts. It equips readers with a versatile skill set, enabling them to adapt to changing market demands, technological advancements, and industry trends. Manufacturing professionals often encounter situations that require them to step outside their specific area of expertise. A general magazine offers them the opportunity to broaden their understanding and develop a well-rounded skill set that enhances their problem-solving capabilities and decision-making prowess.

INCLUSIVE REPRESENTATION

Manufacturing Biz magazine has the potential to represent the entire manufacturing community more inclusively. By covering a broad range of topics, it can shed light on emerging trends, underrepresented sectors, and the challenges faced by small and medium-sized manufacturers. This inclusive representation fosters a sense of community, encourages collaboration between diverse professionals, and allows for a more comprehensive understanding of the industry as a whole. Moreover, it provides a platform for the exchange of experiences and best practices, enabling professionals to learn from each other's successes and failures.

CONCLUSION

While specialist magazines focusing on one aspect of manufacturing provide valuable insights into specific areas, a general magazine about manufacturing offers distinct advantages. By providing a comprehensive perspective, fostering cross-pollination of ideas, promoting versatility, and encouraging adaptability, a general magazine empowers professionals to navigate the complexities of the manufacturing landscape effectively. Moreover, it facilitates inclusive representation and strengthens the sense of community within the manufacturing industry. In an era of rapid technological advancements and interconnected processes, Manufacturing Biz magazine serves as an invaluable resource for professionals seeking to broaden their horizons and thrive in a dynamic manufacturing environment.

AMRC to become world leader in new sustainable materials for manufacturing

The University of Sheffield Advanced Manufacturing Research Centre (AMRC) has secured funding for a new capability, the first-of-its-kind in the UK, to research and develop novel fibre reinforced thermoplastic tapes. These recyclable materials have the potential to transform sustainability in composite manufacturing.

The Multipurpose Fibre Reinforced Thermoplastic Tape (FRTT) Development Cell is being funded by a £1.7m grant from the Engineering and Physical Sciences Research Council, which is part of UK Research and Innovation.

It will mean South Yorkshire becomes the home of world-leading research into sustainable thermoplastics composites, regarded as a vital material of the future due to its ability to be recycled, re-moulded and reused time and time again.

With the drive towards net zero, manufacturers are looking for environmentally friendly materials to save energy, reduce waste and improve efficiency. Fibre reinforced thermoplastic tape (FRTT) is an intermediate composite material which ticks all of these boxes.

Dr Gary Foster, technical fellow at the AMRC, said: "Thermoplastics take less energy to process than existing thermoset composites. They are easier to automate, easier to work with and easier to recycle. This intermediate composite material has an infinite shelf life because you can reheat it and re-mould it many times."

FRTT is highly flexible and adaptable, so it's easier to make parts at exactly the right shape and size, leading to reduced waste. It can also be stored at room temperature, unlike existing thermosets which usually need to be kept in a refrigerator.

There is increasing use of FRTT across many sectors, with huge potential for growth.

In aerospace, it has been used for small aeroplane parts and substructures including clips and brackets and could be used for larger parts like wings. In the automotive industry, there is interest in using it to manufacture door panels, wheel components and bulkheads. And in the renewable energy sector, FRTT could be used to make turbine blades for offshore wind farms.

With a forecasted market increase of 184 per cent for semi-finished products (only part of the overall market for FRTT), the need for research in this area is apparent. The new cell at the AMRC, which is part of the High Value Manufacturing (HVM) Catapult, will help the UK compete globally in this area.

Dr Clara Frias, head of the Composite Centre at the AMRC, said: "When we look at the thermoplastic composites landscape, the UK already leads research and innovation in several areas in composite manufacturing and polymer science. The lack of research in thermoplastic composites in the UK is a missed opportunity which needs to be filled. Currently the key automotive and aerospace players go abroad to outsource this kind of work.

"This cell is the first of its kind in the UK and it will position us on a path to become world leaders in the research of sustainable intermediates for thermoplastic composites."

The knowledge gained from the cell will be available to researchers from other UK universities and major industrial partners such as Boeing and GKN, alongside the hundreds of smaller businesses the AMRC works with every year.Gary said: "Big manufacturers and SMEs have supported the bid to win this funding, and we also have a raft of universities on board. The cell will be open to everyone."

Clara said:

"It's the first time the AMRC has secured this kind of funding. It shows how we are closing a loop and fulfilling the needs of industry. With this project, we're bridging the gap between academia and industry more than ever."

Industry risks falling behind on AI and automation as competitors steal a march

Britain's manufacturing sector is warning the UK risks falling behind its international rivals in the race to embrace cutting edge technologies such as AI and other game changing automation seen as vital to Britain's industrial future.

The warning was made on the back of a major survey published by Make UK and Infor for the Summit on AI being which was hosted at Bletchley Park.

The survey shows that companies are fully committed to investing in AI, Machine Learning and other automation to improve productivity, processes and efficiency.

However, despite this, a majority of manufacturers believe the UK is falling behind competitors and hampered by access to key technical and digital skills, as well as short term policy incentives which do not match investment cycles or, expected returns on investment (ROI).

In response, Make UK is calling on Government to reform the Apprentice Levy to help expand Britain's technological skills base, roll out a widely proven scheme to help boost digital adoption by SMEs and, introduce a better approach to the tax system with policies which match the average investment cycle of manufacturers and expected ROI.

Commenting, Verity Davidge, Director of Policy at Make UK, said:

"The adoption of AI, automation and other game changing technologies by manufacturers is rapidly accelerating and will provide vital pieces in solving the productivity puzzle. But, there is still more to be done to match our competitors, especially among SMEs who face far greater hurdles in adopting digital technology.

"As well as tackling the digital skills barrier which remains the biggest hurdle, Government should roll out the Made Smarter scheme across the UK. This has a proven success in delivering step change for SMEs on their automation journey."

Andrew Kinder, SVP, Industry Strategy, Infor added:

"We are seeing a substantial shift in the adoption of digital automation as manufacturers seek to improve efficiency, instill agility and drive greater productivity. While generative AI is still in its relative infancy, intent to capitalise on it is incredibly encouraging with many companies saying they are 'aware of and planning to use' the technology.

"Actions, however, speak louder than words. While the government clearly has a role to play in supporting AI adoption, manufacturers have an opportunity to take control in bridging the gap between intent and value in creating first-mover advantage. The technologies are now widely available, affordable and come with a typically fast return on investment, which all help manufacturers compete in increasingly challenging conditions."

According to the survey, more than half of companies (55%) have already implemented or, are planning to implement, AI and Machine Learning to automate decision making processes and improve operational efficiency. In addition, four fifths of companies have already introduced or, are planning to introduce, Augmented Reality and Virtual Reality techniques in areas such as design and prototyping.

More than three quarters of companies (76%) have invested in automation, while almost six in ten (59%) plan to increase their expenditure this year compared to last. Furthermore, a fifth of companies plan to automate between a quarter and half of processes in the next two years, while a further quarter plan to automate between 10% and 25%.

These investments are aimed at improving manufacturing processes (65% of companies) and product design & development (49%) with companies seeing significant benefits of improved productivity (60%) greater labour efficiency (49%) and a similar number seeing better quality.

However, despite this positive picture, 40% of companies believe the UK is falling behind competitors in adopting automation. Robot density in the UK is currently at 101 units per 10,000 workers, below the average of 126 units globally. Overall, the UK ranks 24th globally and is the lowest of the G7 nations (1).

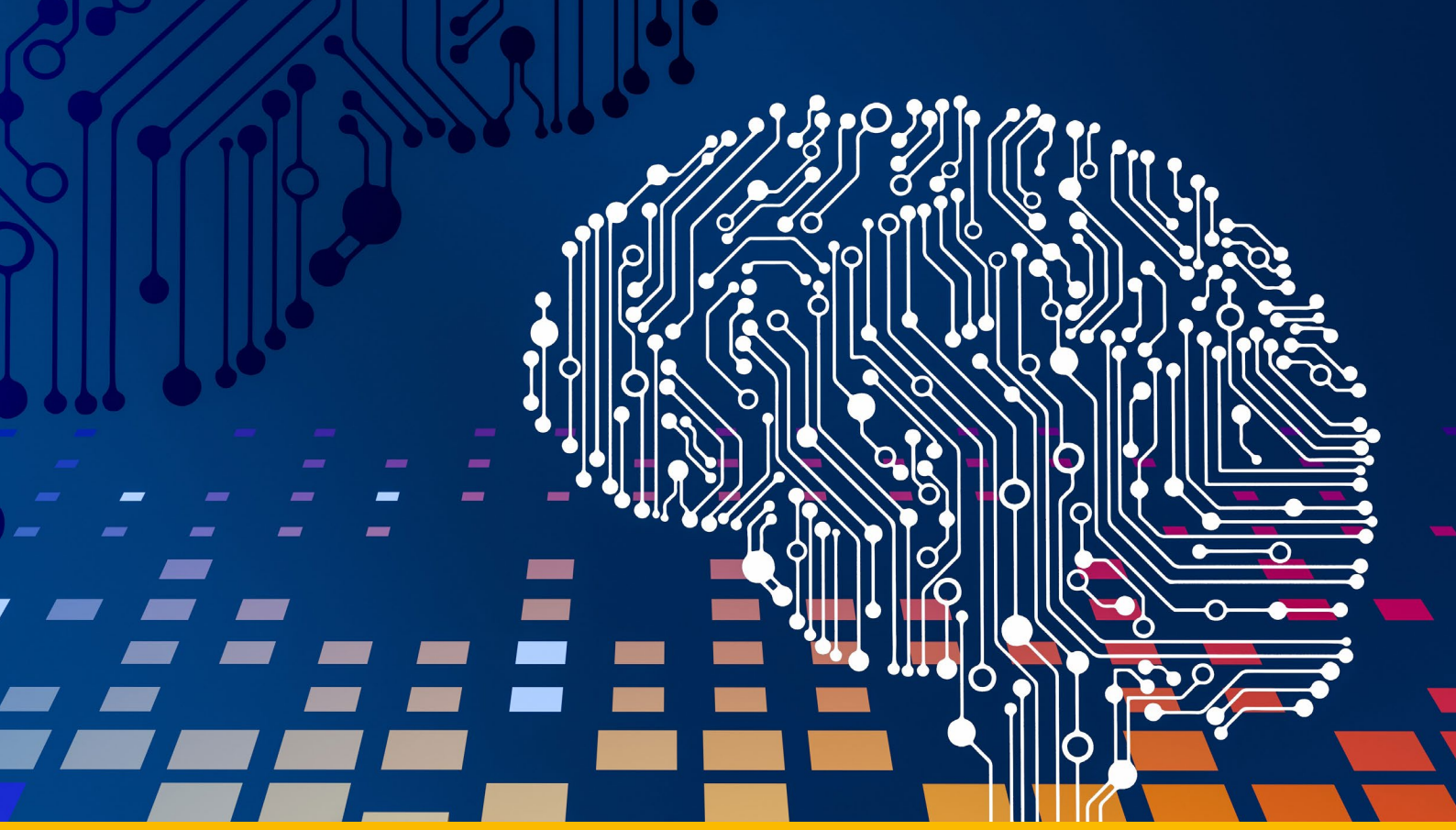
According to the survey, significant barriers to investing in automation are a lack of technical skills cited by almost half of companies (48%) and, a similar number integration and data challenges (41%). More than a third of companies cite high costs and workplace culture (38% and 36% respectively) as barriers.

In addition, the survey shows a clear mismatch between policy incentives designed to boost investment and the expected ROI. More than eight in ten companies expect up to five years for a positive impact of investment. In contrast, more than half of manufacturers (56.4%) believe Government policies are not sensitive to the time needed to see a ROI.

To help address these barriers and, boost further automation, Make UK has made the following recommendations:

- Roll out the successful Made Smarter scheme nationwide. This is a proven scheme to help with the adoption of new technology in manufacturing businesses. It should also extend the remit of Made Smarter to include industrial decarbonisation to aid energy efficiency and transition to net zero.
- Make full expensing capital allowances permanent to enable businesses to plan investment over long leads.
- Expand the R&D tax credit to include capital expenditure to spur further digitalised R&D.
- Government should work with business organisations and sector specific bodies to help SME engagement with the successful Catapult Centres. This is especially important given the geographic distribution of the centres and would help more SMEs take advantage of their world leading facilities.

The survey of 135 companies was conducted between 21 June and 12 July.



AI set to revolutionise military engineering capabilities

A new AI tool could produce solutions to military engineering problems in seconds, helping keep more vehicles at readiness for deployment.

At Royal Naval Air Station Yeovilton, a collaborative project between 1710 Naval Air Squadron (based in HMNB Portsmouth), DE&S Digital AI Team and Royal Navy Engineers is showcasing pioneering new capabilities to innovative defence software tool, 'Motherlode' which now utilises artificial intelligence.

'Motherlode' is now an artificially intelligent software that processes aircraft maintenance data at a rapid pace, reducing lengthy problem-solving tasks down to seconds. This cutting-edge software ensures that engineering problems are detected at the earliest possible point, rather than when the fault becomes problematic, allowing personnel to order spares ahead of issues arising.

Minister for Defence Procurement, James Cartlidge, visited RNAS Yeovilton to witness first-hand the capabilities the new technology, which will be used across multiple platforms including the Wildcat Maritime Attack helicopters.

The Minister's visit came ahead of the UK government's AI Summit at Bletchley Par.

Investing in artificial intelligence is paramount to the continued modernisation of our Armed Forces and is a priority for the government. Minister for Defence Procurement, James Cartlidge, said:

"By investing in the power of artificial intelligence, we are ensuring that our defensive assets are not only technologically superior, but also operate with precision, efficiency, and amplified safety.

"We should be proud to harness the UK's exceptional AI talent and foster the collaboration between our brightest minds in technology and the future of defence capabilities."

The AI-enabled software will be capable of analysing historical data tailored to environmental and aircraft specific conditions to predict failures within equipment more accurately, allowing smarter decision making from the back office to the frontline. The full capability will be rolled out by the end of 2023 across all Royal Navy helicopters, and we are exploring its use on other Defence equipment like land-based vehicles such as the Foxhound.

Prime Minister, Rishi Sunak recently announced the creation of the Frontier AI Taskforce with an initial £100 million of funding to spearhead the UK's leadership in this area. The UK spends more money on AI safety research than any other government in the world, with the AI industry in the UK employing more than 50,000 people and contributes £3.7 billion to our economy.

"Spiralling" Government tax threatens to add millions to local NHS budgets

A "spiralling" Government tax on medicines is threatening to add tens of millions of pounds annually to the already stretched individual budgets of England's integrated care boards (ICBs), as well as increase shortages in supplies of vital drugs to patients. The warning comes in a white paper report from the British Generic Manufacturers Association (BGMA) - the trade body for off-patent UK prescription medicines, whose members supply 4 out of 5 NHS medicines.

The report prepared by consultancy Conclusio is based on discussions with local NHS leaders and looks at the potential impact of the Government's Voluntary Scheme for Branded Medicines Pricing and Access (VPAS) on ICB budgets. It concludes that each of the 42 ICB's face having to find an additional £37million annually for the next five years from their budgets due to the rocketing VPAS rebate rate which has increased by more than five-fold in the past two years.

ICBs are statutory NHS organisations which are responsible for developing plans for meeting the health needs of the local population, managing the NHS budget, and arranging for the provision of health services in a geographical area.

According to the report, because of the high VPAS rate, every year, each ICB in England will face substantial rises in what it pays for branded generics and biosimilars due to reduced competition. In many cases, this increase will wipe away any projected surplus. While sizes of ICB vary, the report calculates that £37m is roughly 10-20% of ICBs' entire pharmaceutical spend.

VPAS is an agreement between the Department of Health and Social Care (DHSC), NHS England (NHSE) and the Association of the British Pharmaceutical Industry (ABPI). It requires companies selling branded medicines to the NHS of a value above £5 million to pay a percentage of these sales back to DHSC whenever the overall branded market sales grow at higher than the allowed rate. For the current VPAS period, the allowable growth rate is set at 2% per annum and the payment percentage (levy) in 2023 is 26.5%, which is over five times what it was just two years ago.

The scheme covers medicines that are marketed with a brand name. In addition to the drugs sold by originator companies – those who invent and patent medicines – the scheme also includes manufacturers and suppliers of off-patent branded generic and biosimilar medicines. All biosimilars and some generics are required to be branded by the Medicines and Healthcare products Regulatory Agency (MHRA) for clinical reasons.

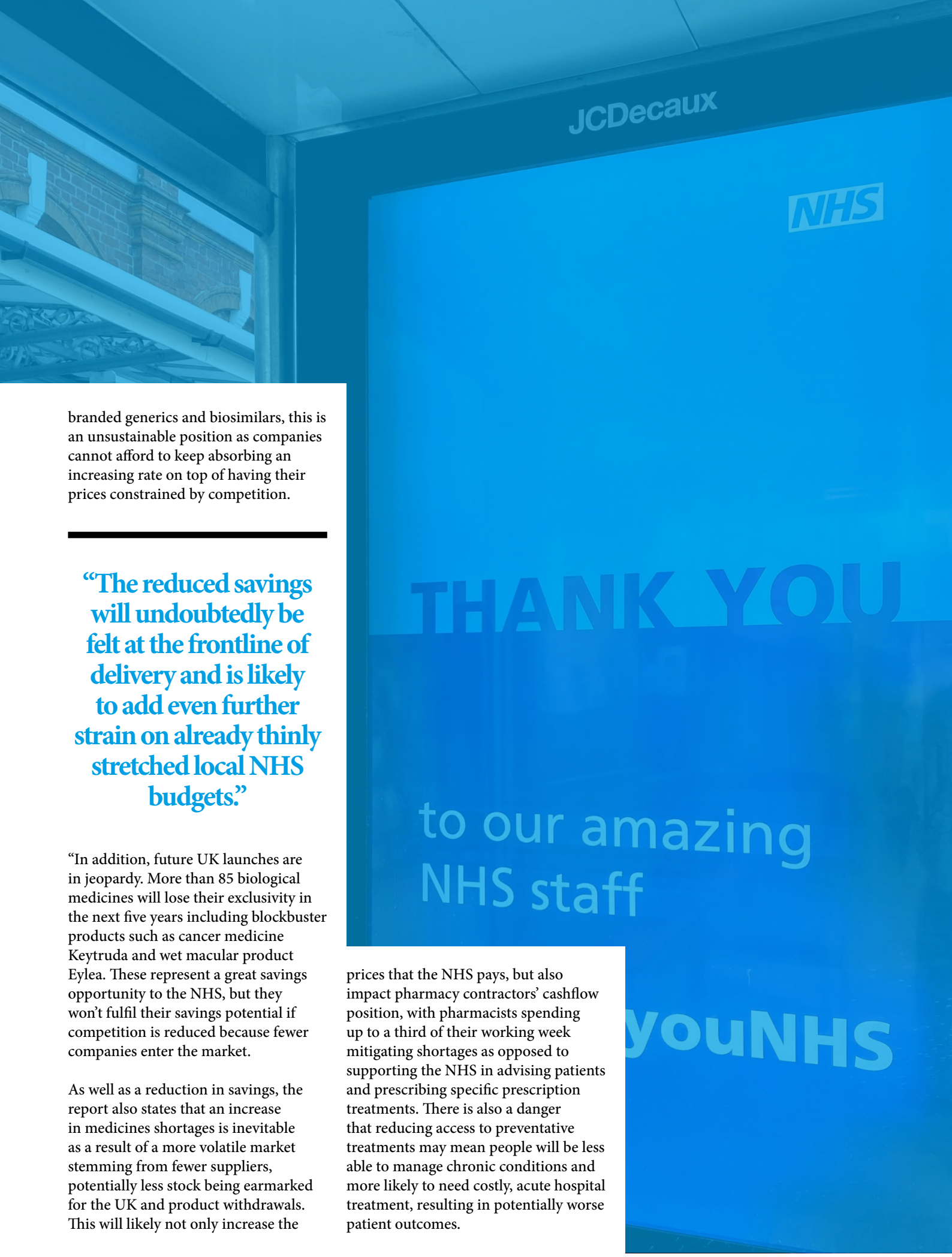
Generic and biosimilar medicines provide competition to originator products when a patent expires. So, the NHS moves from only having a single source of supply on a medicine to multiple providers and this competition means the price paid can drop by as much as 90%, delivering vital savings. Overall, generic, and biosimilar saves the NHS £15billion a year via competition.

Negotiations between DHSC, NHSE and ABPI are currently underway for the next VPAS which will run from 2024 to 2028. Presently, nearly half the current scheme is made up of branded generics and biosimilars which face a double whammy of having their prices constrained by competition as well as having to pay the increasing VPAS levy on their revenues.

The impact of the rapidly rising VPAS rate is significant. Research by Professor Alistair McGuire, London School of Economics (LSE), and the Office of Health Economics (OHE) showed that the NHS would pay £7.8bn in higher medicine prices over the next five years, if the VPAS levy stays at the current rate. This is because of product withdrawals and a decline in new off-patent product launches, reducing competition. This would be over and above any revenue that central government will get from collecting the VPAS rebate.

> **"Manufacturers are already having to make very difficult decisions as to whether they can continue to maintain supply of products.**

Mark Samuels, chief executive of the BGMA, said: "The VPAS rate has spiralled, rocketing to 26.5% with every chance it could go higher in the future. For off-patent medicines such as



branded generics and biosimilars, this is an unsustainable position as companies cannot afford to keep absorbing an increasing rate on top of having their prices constrained by competition.

"The reduced savings will undoubtedly be felt at the frontline of delivery and is likely to add even further strain on already thinly stretched local NHS budgets."

"In addition, future UK launches are in jeopardy. More than 85 biological medicines will lose their exclusivity in the next five years including blockbuster products such as cancer medicine Keytruda and wet macular product Eylea. These represent a great savings opportunity to the NHS, but they won't fulfil their savings potential if competition is reduced because fewer companies enter the market.

As well as a reduction in savings, the report also states that an increase in medicines shortages is inevitable as a result of a more volatile market stemming from fewer suppliers, potentially less stock being earmarked for the UK and product withdrawals. This will likely not only increase the prices that the NHS pays, but also impact pharmacy contractors' cashflow position, with pharmacists spending up to a third of their working week mitigating shortages as opposed to supporting the NHS in advising patients and prescribing specific prescription treatments. There is also a danger that reducing access to preventative treatments may mean people will be less able to manage chronic conditions and more likely to need costly, acute hospital treatment, resulting in potentially worse patient outcomes.

From left to right: Jonathan Perkins (CEO Mabanaft), Seifi Ghasemi (CEO Air Products), Robert Habeck (German Federal Minister for Economic Affairs and Climate Action), Dr. Peter Tschentscher (First Mayor of Hamburg), Christophe Witte (CEO Marquard & Bahls)

Air products and Mabanaft plan to build large-Scale green energy import terminal in Hamburg

Air Products (NYSE:APD) and Mabanaft, through its subsidiary Oiltanking Deutschland, have announced their intention to build Germany's first large-scale, green energy import terminal in the Port of Hamburg.
This joint development agreement is an important step towards the development of a green ammonia import and distribution infrastructure in the Port of Hamburg. The project was announced at a ceremony in Hamburg, which was supported by German Federal Minister for Economic Affairs and Climate Action Robert Habeck and First Mayor of Hamburg Dr. Peter Tschentscher.

Targeted to provide hydrogen to Germany in 2026, the planned import terminal is to be located at Mabanaft's existing tank terminal in the Port.
This location offers strategic access to green ammonia from large-scale green hydrogen production facilities operated by Air Products and its partners around the world. The intention is to convert the ammonia to green hydrogen via Air Products' facilities in Hamburg, before distributing it to buyers locally and across northern Germany. This plan responds to the accelerating demand for clean energy to meet climate objectives and the need to diversify energy sources.
Air Products and Mabanaft are

"Together with Mabanaft, we look forward to further progressing our plans of importing needed-renewable energy into Germany, through our planned facility."

committed to expediting the development of this planned, multi-million-euro, green import facility for Germany.
said Air Products' Chairman, President and CEO Seifi Ghasemi. "As the world's largest producer of hydrogen, Air Products is in an excellent position to meet demand, having committed billions of dollars to produce renewable energy at locations around the world. Air Products fully appreciates the support and visionary leadership of the German government, further demonstrated by the presence of Minister Habeck, the Port of Hamburg and other members of regional and local governments at today's ceremony," he added.
"We are delighted to work together with Air Products, the world's leading hydrogen producer, on the development of this terminal. As a result, we will make significant investments and deploy our energy infrastructure capabilities and expertise to accelerate the energy transition in Hamburg as the key import gateway for Germany", reaffirmed Volker Ebeling, Senior Vice President New Energy, Chemicals & Gas at Mabanaft. The plant addresses the urgent task of decarbonising components of the mobility sector and industrial processes while in particular paving a climate-conscious way for Mabanaft and Air Products' respective customers. "This project underlines Mabanaft's commitment to conducting our business in an economically, environmentally and socially responsible way," added Volker Ebeling.

The announcement follows a Memorandum of Understanding that Air Products and the Hamburg Port Authority signed in February 2022. Both parties committed to accelerate production, supply chain, and consumption of renewable hydrogen in the North of Germany and Free Hanseatic State of Hamburg.

Spotlight on TVC Quality Services

The products and services TVC offer are of the highest quality. They are driven by their efficiency and reliability, as well as customer service and delivery. TVC is a technology and service company providing safety critical solutions across industry sectors since 1995. Through the development, manufacture, and marketing of first-rate monitoring systems, they are a global leader in data acquisition and logging solutions.
No matter how demanding your needs are, that have the expertise to meet them.

Company directors with over forty years of combined experience in the NDT equipment industry.
In-house designed and manufactured Industry 4.0 compliant weld monitoring and data logging systems.
Customised and one-off inspection equipment designed specifically for operation in the most demanding conditions.

First-class repair and calibration service for all types of NDT equipment.
Accreditation to ISO/IEC 17025:2017 (UKAS) for Ultrasonic Flaw Detection, Ultrasonic Thickness Measuring, Weld Monitoring, and Welding Inspection equipment both in our laboratory and onsite at customers' premises.

Approved and audited BS EN ISO 9001:2015 certified Quality Managment System for all equipment calibrations carried out to national and international standards, manufacturers' specifications or specific customer requirements.
Exclusive licence to manufacture and supply the ASAMS Ltd System 3 and System 12 Magnetic Particle Inspection Subsea systems.
Comprehensive inventory of NDT equipment for both short and long-term rental.

Meeting the needs of customers
With over 25 years experience, their calibration service is second to none.

Available on most types and makes of Non-Destructive Testing (NDT) and Welding Inspection equipment, either within controlled laboratory enivronment or onsite at customers' premises.
They are an ISO 17025:2017 UKAS accreditated laboratory. This enables them to conduct BS EN 22232-1:2020 electrical verification of Ultrasonic Flaw Detection Equipment, BS EN 15317:2013 for Ultrasonic Thickness Measuring Equipment and electrical verification of Welding Inspection Equipment with on- and off-site capabilities.
They also continue to offer a traceable calibration and repair service for all types of NDT and Inspection Equipment. Their Calibration Laboratory is audited and approved to ISO 9001:2015 Quality Management System for the Service, Repair, and Calibration of NDT equipment and calibrations are carried out to UK and international standards using equipment traceable to the National Physical Laboratory (NPL).

Arc Welding Data Loggers

MONARC 4.0 (MON/0100)

MINI ARC LOGGER 4.0 (ALX/0510)

8-CHANNEL WIRELESS TEMPERATURE MODULE (WTC) (ALX/05414)

ARC LOGGER XIII (ALX III) PORTABLE (ALX/0540)

ARC LOGGER XIII RSR (ALX III) (ALX/0560)

ARC LOGGER XIII WORKSTATION (ALX III) (ALX/0550)

RENTAL WELD MONITORING DATA LOGGING SYSTEMS

Hand-Held Weld Monitoring

TRAVEL SPEED METER (TSM)

WIRE FEED METER 2 (WFM2)

8-CHANNEL WIRELESS TEMPERATURE MODULE (WTC) (ALX/05414)

Earthmoving attachments specialist invests in next generation of robotic automation and collaboration working

The UK's largest bucket and coupler manufacturer – Miller UK – has significantly bolstered its manufacturing capabilities through upgrading its suite of state-of-the-art welding robots significantly increasing production and the safety of its workforce. With headquarters in the North East – and operations across the globe – Miller has invested in five new robots commissioned and already in full operation, allowing the firm to significantly improve its welding speed and deliver 100% weld consistencies on its product range. The new robots are developed by industry leaders in welding and automation, CLOOS and include two different model ranges, QRC 410-2.0, ideal for welding attachments for machines up to 45 tonne and two QRC 350-E models, capable of handling attachments for machines up to 100T. The company first invested in its welding robot range in 2018, with the first installation of the smaller robots. Recognising the value of these machines, Miller has now installed the latest range of these models with the introduction of two of the larger sized machines which doubles the company's production capabilities.

And the business believes that it is the very first of its type across the globe to have such advanced robotic welding machinery capable to produce buckets with an impressive width of up to 3.2m with the ability to hold up to 4.5T of material which the larger robots offer. Speaking about the investment, James Ross, Commercial Director at Miller said: "Manufacturing technology has always been a priority and it is very important that Miller continues to invest in the next generation of welding equipment and robotic automation which can transform the quality to consistent market leading levels. This will be recognised by our customers in terms of product durability and performance in the field. "With minimal production downtime required, and the ability to operate for extended periods of time, this has significantly increased our manufacturing capabilities – particularly to produce much larger buckets for extreme applications – to meet our demand and significantly reduce our lead times for customers. As such, this allows Miller to have a real competitive advantage in our marketplace." The QRC 350-E robot model boasts a range of smart features. Comprising 12 axis movement, including the robot arm, the machine is designed to allow for more manipulation of parts, which increases its versatility and ability to reach more difficult areas on a workpiece. This allows Miller to weld more, whilst reducing the manual labour required once the robot process has been completed. The tandem and single torch of the machine operate in conjunction with each other with the tandem torch being used for long straight run welds whilst the single torch completes trickier, harder to reach radius parts. Working in synergy, not only does this increase the speed of the process, whilst reducing weld times because of its high deposition rate, it also reduces heat input decreasing distortion of the workpiece. Increasing the safety of its workforce, the robot has an extensive range of safety features, including mechanical barriers closing when the robot is in use, which will further trigger an emergency stop if this was opened.

Get More from Less Gas. With our Gastrak@ Services

All businesses want to use less welding gas while saving money, increasing productivity improving quality. How can it be that using less gas increases productivity? Or improves quality? It's simple. Every year, you might well be wasting welding gas through leaks from equipment, hoses and connectors, by using flow rates that are higher than the optimum and from having pre-weld surge. But with Air Products' Gastrak® Service, it can help you cut your gas usage and your carbon emissions, just by cutting out the main causes of wasted gas.

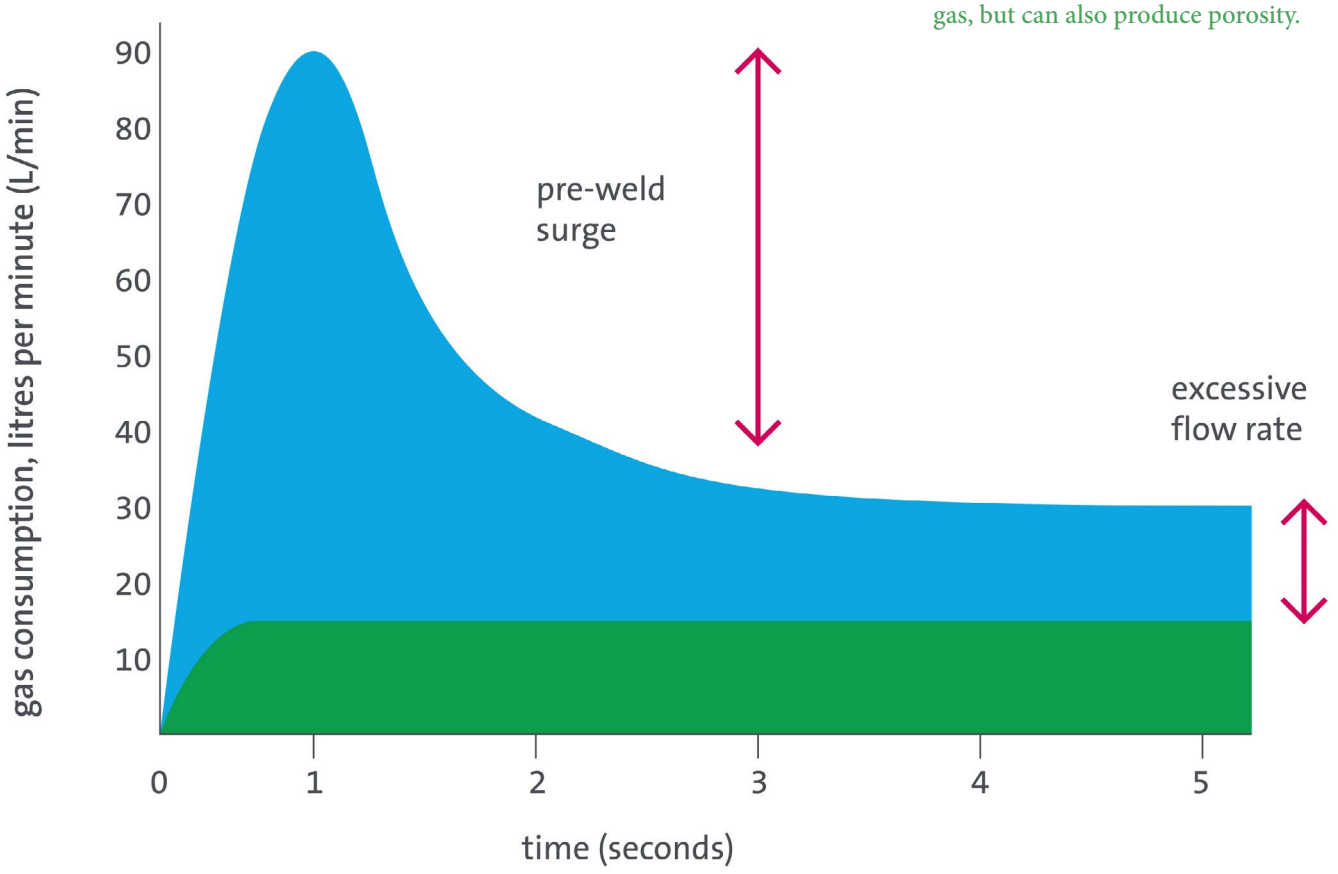
WHERE YOU COULD BE WASTING GAS?

Leaks:
Gas control equitment, hoses and connectors need to be regulary inspected and tested to make sure they're safe and free from leaks. Many thousands of litres of weld process gas are wasted every year due to leaks.

Excessive Flows:
Many welders believe a higher weld process gas flow rate gives a better weld but this is simply not true. There's an optimum flow rate for each application.

Pre-Weld Surge:
It's common to experience a surge of gas at the start of each weld. This is known as pre-weld surge, and not only wastes gas, but can also produce porosity.

Gas saving with Gastrak® service



Lock in the savings

Cut welding gas usage typically by **25%**

The service starts with a thorough analysis of your current welding process using independently-calibrated equipment. An Air Products Welding specialist will work closely with you to eliminate gas wastage and identify precisely where you can optimise welding performance and then provide you with a predicted gas consumption saving report, outlining how much you could potentially save. As there's no cost for this service, you really do have nothing to lose. Customers can typically cut their usage by around 25%, every welding operation is different though and it can see savings of up to 65%.

SEE HOW YOU CAN BENEFIT:

Reduce gas usage and cost:
Using in-line equipment, gas wastage can be eliminated by optimising and locking gas flow rates. Regular service calls from our specialists ensure cost remain low year after year.

Improve weld quality:
The first step is to eliminate leaks. Not only does this save gas, weld defects cause by the ingress of contaminants is reduce.

Improve Productivity:
While reduce gas usage cuts time spent handling cylinders.

Reduce your carbon footprint:
Optimised flow rates lead to reduced gas usage. In turn, fewer deliveries are required which reduces transport emissions.

Easy installation:
Gastrak equipment can be integrated into an existing or new weld process gas pipeline, or used with any type of cylinder. Our welding specialists work around you to minimise business interruption.

Experts on-hand, on demand
Once you've agreed to the proposals, our team installs Gastrak® Economisers on your welding equipment. Our Application Specialists will monitor gas usage intensely over the initial two-week period to make sure performance is going to plan, then return regularly – at least every 12 months – to make sure your targets are being achieved. As a Gastrak® Service customer, you have access to our welding specialists' expertise any time you need it. It's all part of the service.

Whatever you're welding, whatever your process, our Gastrak® Service can give you measurable savings

Get More from Less Gas.
With our Gastrak@ Services

Gastrak e² Service

Designed especially for buisnesses using gas piplines, the gastrak e2 Service combines the benerfits of gastrak select with unique air products technology to deliver ground-breaking gas savings and enhanced levels of safty.

Gastak e2 technology gives you a revolutionary insight into the gases used in your welding processes to check leaks on-demand automatically, remotely shut-off of your gas distribution system and check gas quality at mutiple locations including each use point

Gastrak e² Service Portal displays key welding information at every use-point:

- Value status
- Total gas consumption
- Current flow
- System active time
- Last activity time
- Maxium flow

GASTRAK E2 PROVIDES

Leak detection:
Save gas and improve weld quality: Gastrak e2 Service provides a leak test at the touch of a button: both system wide and at use-points.

Flow control:
Eliminate gas wastage and set -up time: Gastrak e2 service automatically calibrates the correct gas flow rate for your weld

Surge Protection:
Weld with a consistent flow, saving gas: Gastrak e2 service eliminates pre-weld surge and ensures the optimum flow rate is used.

Flow Consistency:
Improve weld quality and reduce the need for post-weld cleaning: With Gastrak e2 service there is no surge of gas at the start of each weld.

Infomation:
Control flow and supply of gas sustem wide and at use-points: The Gastrak e2 service control and display unit enable full control on the factory floor.

Connectivity:
Measure your savings: Flow rate, leak test status and consumption history per installation and use point are avaliable through a secure online background.

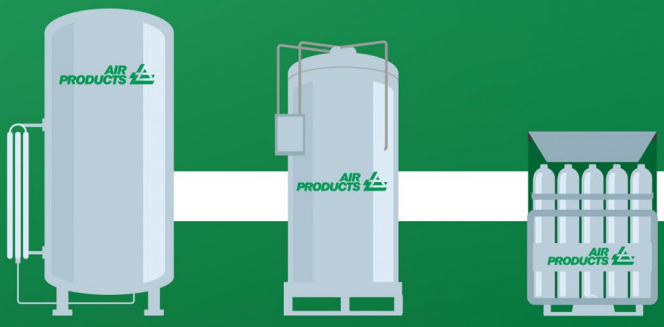
To see how Gastrak® Service has helped others get more from less gas, visit

https://www.airproducts.expert/uk/gastrak/how-others-have-saved.php.

You can also book a free Gastrak® audit.

Gastrak® e² Service
Get **more** from **less** gas

Our Gastrak® e² Service **uses resources efficiently** whilst **improving weld quality and safety**.



Expertise

The Gastrak® e² Service is delivered by our Metal Fabrication Specialists who will:

- discuss your requirements
- check equipment for gas leaks
- recommend the best weld process gases for your applications
- suggest optimum weld parameters including gas flow rates
- supply and install the Gastrak® e² Service equipment and software

After installation, regular follow-up visits from our experts ensure significant gas savings and improved weld quality are maintained. It's all part of the Gastrak® e² Service.

Save money - immediately

Gastrak® e² Service requires no capital outlay, so you benefit from reduced gas use and better quality welding immediately - saving money from the moment of installation.

Technology to reduce gas consumption by at least 30%

Master unit

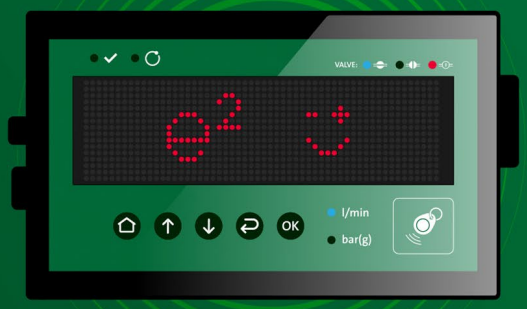
Conduct system-wide leak detection, gas quality and consumption check.

Meter

Detect leaks, measure gas consumption, and shut off gas flow.

Economiser

Ensure consistent flow of gas, eliminating pre-weld surge and the need for post-weld rework.



Control & Display unit

Open or shut down your pipeline or use-points, conduct leak tests and view consumption data in real-time.

Reporting

View detailed data per pipeline installation and use-point. Access the portal from anywhere and choose a time- range and metric to analyse.

Our people are at the heart of our Gastrak® Service

Annual **gas usage** reviews

Proud

to support businesses in the East of England

Search Barclays Corporate to find out how we can support your business

Connecting you to possibility

BARCLAYS