# METAL MATTERS





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## FORGING, BENDING AND FABRICATION SERVICES

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**Upset Forging** 



Drop Forging



Counterblow Forging



Open Die Forging



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Hot & Cold Bending



Hot & Cold Pressing











Machining





















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President's review

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Front cover image from Somers Forge



#### up and coming events

Forging and Fastener Sector Meeting via zoom:

Wednesday 10th January, 2pm

**Apprenticeships Webinar with Croner:** 

Wednesday 17th January, 9.30am

Health, Safety & Environment Group Meeting

Tuesday 27th February Time TBC

Metallurgy for Non-Metalurgists Course:

Wednesday 28th & Thursday 29th February, 9.30-1pm each day Online Via Zoom

#### **MACH 2024:**

15th to 19th April, NEC, Birmingham.

#### CBM Annual Dinner and Awards:

Thursday 25th April, The Grand Hotel Birmingham.

#### Manufacturing and Engineeing week:

5th - 6th June, NEC Birmingham.

#### UK Metals Expo:

11th - 12th September, NEC Birmingham

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#### **Final Presidents Review of 2023**

Crikey, where did those three months go? It feels like only yesterday since I was writing the Presidents Review for the last Metal Matters. It has certainly been a very busy quarter but I am even more confident that the optimism I wrote about in my last review hasn't diminished one iota.

Whilst I don't not want to play down some of the challenges that many members face, I think we can all be guilty of talking things down, when in reality we are the only ones that will ever talk Manufacturing up.

Neither do I get carried away with the arguments for Industrial Strategy, that is not because I don't think we need one, but more to the point, I don't think this government would know what to do with one!! It would be like putting someone who can't drive behind the steering a wheel of a formula one car.

They can't even engage with the right people, if you look at the Business Council they put together, who did they represent? Certainly not CBM members. SME's are constantly let down, even ignored, used by the B5 to bolster their numbers but not support them at the coalface. As a result ,to date all they have come up with are piecemeal policies that represent a patchwork quilt which have done very little to serve the manufacturing sector. I am also fascinated by the way they keep using the words 'advanced manufacturing' as if it's something new and not aligned to current manufacturing processes, certainly not related to our metal forming members.

The reality could not be further from the truth, which I have witnessed first hand from my visits to members over the last couple of months. At both of our Tier 1 member's Sertec Group and Gestamp I have witnessed the most advanced manufacturing techniques in pressing and assembly, as good as anywhere else in the world. At Steel and Alloy Processing Ltd we witnessed the rewards of their investment with cutting edge process lines and an enviable safety record stretching back years. Then in our forging sector a small SME in Sheffield, Footprint Tools who make hand tools, who with the support from AFRC have installed a £1.4 million state-of-the-art Schuler precision linear forge, which is fully automated with robotic handling, the only one of its kind in the UK and one of only two in Europe.

I am totally enthused by what I have seen, It clearly shows what is being achieved with investment, coupled with the UK manufacturing and engineering skills they possess, that this really is advanced manufacturing at its finest from my perspective. I am aware that there is a nervousness about investment, especially in our SMEs, the fear of what problem comes next, but it's important that we help create an environment that gives them reassurance and a confidence to invest.

#### **Government Engagement**

I see this as a real challenge for CBM, we are good at it but access is restricted, we will be actively seeking stronger links with the Department of Business and Trade but also other departments, whoever is in Government. This is critical to ensure our members voice is heard, as we often say 'we deliver the message from the coalface', SME's in particular, which is a theme through this review.

Local Government is also important especially with devolution to local Mayors in the West Midlands and Greater Manchester with the demise of the LEPs more funding is being released. I remember the MAS model that worked so well, I will be pushing our Mayor, Andy Street, making him understand what we need and recognise that funding needs to be easier to access especially for SMEs and only then do we have a chance of delivering world class standards across more of our metal forming industry, like the examples I have already mentioned.

#### **Rules of Origin**

As we see this year out, we still have some work to do, with a hard deadline still in place on Rules of Origin, which impacts OEMs here and in Europe, it needs to be delayed or removed, The impact would reverberate to all our members in the automotive sector, through all levels of the supply chain.

#### CBAM

We are also continuing to push for more understanding on CBAM , firstly on what is required from the EU in terms of reporting but also what are the UK government going to put in place.

#### Steel Safeguarding

As you will be aware Steel Safeguarding is back on the agenda, with the TRA making recommendations to the government next year. The CBM has already made it's submission, which they will follow through up with TRA and by lobbying DBT to ensure we get the right outcome.

#### **Minister For Manufacturing**

Whether it be with the government or the next this is important, irrespective of who is the Secretary of State, the portfolio is too big to cover all aspects of the department. Manufacturing is too important, pivotal to the economy and GDP to be short changed. There is also failure to hear the huge voice of the SME's who are constantly ignored and failed by the B5 lobbying groups. It is not an easy one, Andrea Wilson is leading a sterling campaign, which we will support in whatever way we can.



 Steve Morley, CBM President

#### **Finally**

As we head into this Christmas break, I want to thank the CBM team for all their work throughout the year, that includes our sector specialists and Board Members. A big thank you to all the members for their support throughout the year, especially those who helped with our lobbying and media requests. I can't emphasise how important this is in supporting the work we do to help support all of you.

This is a time that I feel that we get a true break and gives us some quality time to enjoy our families and hopefully get some rest. So I wish all of our member companies, their employees and families a very Merry Christmas and a Happy and Healthy New Year. Let's enter 2024 with a positive outlook, I will certainly be focused on the positive moving forward supporting our members and manufacturing community.

# Steve Morley President of the Confederation of British Metalforming





# The UK's only specialist manufacturers' organisation for experts in metalforming

#### Why Join the CBM

You get valuable influence, business support, technical expertise and market insight as a CBM member.

#### **Lobbying & Promotion**

Get your voice heard within Government and the wider manufacturing industry

- Benefit from our active lobbying support, which has played a key role as post-brexit trade negotiations accelerate and business conditions continue to be challenging.
- We collaborate with the Department for Energy Security and Net Zero (DESNZ) on a weekly basis, covering issues ranging from Rules of Origin, electricity prices, Steel Safeguarding, labour and skills to name but a few.
- Our mission is to represent UK in those industry discussions

   and help you access opportunities through collaboration
   with a broad stakeholder group.

#### Compliance & Cost Management

Save money through your CBM membership

- As a CBM member, you get access to a range of practical services that save money and make operations easier.
- Our accredited energy tax rebate service is a key benefit it's saved members £4 million+ annually in Climate Change Levy Tax on thier energy bills.
- You can boost your savings with our cost-effective Streamlined Energy & Carbon Reporting compliance service and Energy Saving Opportunity Scheme assessments – as well as discounted meeting room hire, our free business support helpline and more.

#### Marketing & Business Development Support

- Build relationships and develop opportunities
- CBM members come from across the supply chain and work across automotive, aerospace, rail, defence, energy and Construction. We help you build relationships with potential customers and partners.
- You can also use our platform to promote your business –
  in Metal Matters magazine, at industry events and among
  our growing social media audience. Our popular website
  directory and Buyers' Guide is a popular way to get noticed
  by supply chain managers.

#### Technical Support

Leverage expert knowledge of metalforming techniques

- Whether you have a problem or want advice on a new process, our sector specialists are here to help. With your CBM membership, technical support is quick and costeffective.
- Over 130 years' experience with our Sector Specialists who cover Forging, Fastening, Press work and Sheet Metal

#### Innovation & Knowledge Sharing

Keep your business on the front foot

- CBM events give you opportunities to share knowledge and best practice. Thanks to member days, sector group meetings, monthly market reports and more, it's easy to learn about developments that will help your business.
- Through your membership, you also benefit from our established links with universities and innovation hubs like Warwick Manufacturing Group, Advanced Forming Research Centre, Imperial College and Advanced Manufacturing Research Centre.

#### Training & Skills Development

Fill skills gaps and boost retention

- We offer training opportunities for technical and non-technical roles, so you can fill gaps in your business.
- In response to CBM member feedback, a level 6
   Apprenticeship (degree level) programme was developed by the CBMs Trailblazer group.
- The level 6 Tool Process Design Engineer Apprenticeship was specifically created for the metal forming sector in recognition of increasing skills shortages. It is the only Apprenticeship that recognises the unique and specialist skills for this senior technical role. This apprenticeship is available to enrol on now.

#### Health & Safety

- Our popular Health & Safety Group meetings provide a vital forum for sharing successes and getting advice on overcoming challenges.
- You have access to our HSE helpline, as well as discounted private healthcare and occupational health services.

#### **NEW HR Support**

- Exclusive access to a CBM dedicated website
- Designated Client Relationship Manager
- Discounted rates for litigated matters in any Employment tribunal

CBM membership pays for itself thanks to the opportunities, access and cost management benefits you receive. Contact us to discuss your business needs and the best membership

CONTACT CBM NOW ON 0121 601 6350 or email Melinda.jean@thecbm.co.uk





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#### They say 80 plus percent of an iceberg is hidden below the water.

By Phil Matten, CBM Policy Advisor

While the CBM is unquestionably one of the more effective UK trade bodies at generating visibility for key issues and communicating with its members, that 80:20 rule applies exactly the same. In fact, without all the activity that goes on 'below the surface', the CBM would not be anywhere near as effective as it is.

Every effective trade body needs a 'radar' that constantly rotates and detects issues and trends that are likely to impact its membership. In an irrevocably interconnected industry that radar needs global reach and an extremely broad 'sweep'. The even bigger challenge, though, is not just detection but the critical filtration to sort out the wheat from the chaff.

Here's a not untypical morning's radar 'catch'. Purchasing managers indices for UK, Eurozone and Global manufacturing; updates on UK trade remedies including steel safeguarding; European steel consumption and outlook; Rules of Origin on EV batteries; UK business barometer; trends in construction sectors; EU Carbon Border Adjustment Mechanism; UK insolvency data; how Russian sanctions affect GB-Northern Ireland trading.

Some of that is relatively straightforward 'journalism'. Pick up the information – of course you need to know where to look in the first place – crosscheck, refine and edit it to deliver the key points to the members. Careful crosschecking for accuracy is essential, preferably always with tracking down the original source. In these days of immediate news feeds, it is all too easy to go off half-cocked. At the least, information must be verified; often more detailed research and analysis is needed to fully understand the implications for CBM members.



The primary aim is to provide concise but accurate information to members - to pinpoint and describe an 'incoming' issue so that the recipient can quickly decide whether or not it is relevant to their business, whether they in turn need to carry out more research, and whether they need to act on the knowledge. That's a key equation. CBM is often able to detect issues that are likely to impact some, perhaps many, of its members. Sometimes, through lobbying and media coverage we can ameliorate the impact. However, in the final analysis, it is often the member that must decide what it means for their business and how they are going to act upon the information.

When it comes to Governments' policies and regulatory changes it is always about trying to assess the impact on CBM members. 'Governments' is consciously plural. Like it or not UK businesses today are as much, in some cases more, impacted by European Union regulatory developments – to say nothing of the United States, China and many other governments.



A good case study is the introduction of European enhanced sanctions, which now requires presentation of specific evidence that products entering the EU do not contain iron or steel originating in Russia. The UK also introduced similar requirements from 30th September 2023. CBM started informing its members weeks in advance of the implementation of the new requirements either side of the Channel. The process started months previously, and intensified some ten weeks earlier as EU information began to refine and, eventually, specific guidance on implementation was published. As is often the case, careful monitoring was then necessary to track how the measures evolved, as national governments and customs authorities worked out how to put them into practice. At the outset, CBM alerted the UK Department of Business and Trade to its concerns over the stringency of the EU requirements and their potentially serious implications for UK exporters – that included providing copies of the EU regulations and guidance documentation. We also began a series of dialogues with DBT officials to understand exactly how parallel British sanctions would be implemented. That included feedback, which contributed to the UK implementing a more pragmatic requirement for evidence, which limited the impact on critical supply chains. As this is written CBM continues to monitor the impact of both sanction regimes and also to pursue further clarifications, for example in relation to Northern Ireland.

Simultaneously, the European Union launched its groundbreaking Carbon Border Adjustment Mechanism. This obliges EU importers to report on embedded carbon content in an extensive range of steel and other products, until end 2025. Thereafter importers must purchase CBAM certificates based on the embedded carbon values. Unlike the hard deadline created by the Russian sanctions, the implications of CBAM will ratchet tighter as Q4 progresses, and EU importers recognise and act on their obligation to make a firstly quarterly report in January. The ratchet effect will continue in the first half of 2024, heading to the 1st July deadline from which EU importers will no longer be able to report using default values provided by the Commission, but will need to report actual emission data, necessarily obtained from their supply chain partners. Currently, CBM is working on understanding exactly how EU importers will need to report this data and, hence, what they will demand of their UK supply partners.

Cutting through these complexities is a key role for the CBM. On the surface things might look quite straightforward. In the depths, however, cruel monsters of immense proportions lurk!

Inherent in all that has just been described are several key capabilities. The obvious ones are about research and analysis, itself often complex and occasionally monstrous (one EU guidance document ran to a mere 349 pages!).

#### Just as important, are a range of other skill sets.

CBM has plenty of internal expertise amongst its sector specialists and policy advisor. However, we cannot possibly always possess the knowledge or ability to dissect these complexities. That necessitates effective networking, to obtain perspective and interpretation from experts in many different fields. Often that entails a 'knowledge trade'. CBM's coinage in that trade is our ability to provide valuable information to those experts, both through our own research and analysis, and through 'on the ground' insight from our members.

This is equally true of relationships with government departments and regulatory bodies. Over recent years CBM has regularly alerted officials to developments and trends, providing insights and interpretations that they openly acknowledge are otherwise very difficult to obtain. CBM has forged trust relationships, built on our own and our members expertise, insights and analysis, as well as the personal integrity of key CBM personnel. Policy makers are bombarded by many voices representing specific interests. CBM may not be the largest or the loudest. However, we strive to be amongst the most trustworthy. As a result, CBM has succeeded

in winning recognition of our members concerns and needs; achieving important changes to policy or implementation to support them.

CBM is also actively represented at and contributes to many other business and technical bodies. Domestically, that includes the UK Metals Council, the SMMT, and Make UK amongst others. The CBM also energetically contributes to European and global bodies such as the EIFI, Euroforge and ICOSPA.

Underpinning all of this is CBM's ability to forge trust relationships and, above all, its dogged commitment to represent the interests of its members.

Not sure we could ever claim to be the proverbially graceful swan but, one thing is for sure, CBM is paddling like mad below the waterline to ensure it delivers value to our members.





#### We only went and won

Proud to be the voice for the Metalforming sector.



CBM are delighted to have been the winners of the Manufacturing Innovation Champion Award (Organisation) at the Innovation Awards 2023 which took place in October. The award celebrates the team that actively helps other companies make a quantum leap within the manufacturing sector.

CBM were nominated for the award for our support to members in addressing the challenges and needs in the manufacturing sector and identifying opportunities for metalformers to maximize their business efficiency with new and innovative approaches.

Stephen Morley, President at CBM said 'The CBM team were very proud and delighted to receive the award for Manufacturing Innovation Champion Organisation Award. Thanks to all the team for their hard work which made it possible".

## Innovation Awards/2023 Winner



#### **Triumphs and Victories: A Recap of Recent Achievements**

Steel safeguarding was one of the more pressing issues for CBM members, with many of them being forced to pay tariffs, in order to get their hands on the material they need to make their products.

For some time, it appeared that the Government was oblivious to the situation, with the quota agreed to protect UK Steel actually having a detrimental impact on the downstream supply chain - getting them to adjust levels was not an easy task.

Fronted by President Steve Morley, the CBM embarked on a concerted campaign to raise the profile of this issue and this was done in the corridors of Whitehall and importantly in the trade and national media, with CBM featured in more than 100 different publications.

This included the Financial Times, Telegraph, Politico, Reuters and on various BBC outlets, piling the pressure on to Ministers to do the right thing and increase the quota afforded to our domestic manufacturers.

"They eventually listened," pointed out Steve Morley, who has more than thirty years' experience in manufacturing.

"British steel mills have not been able to supply the Cat 12a materials our members need to support critical domestic and export supply chains, nor are they likely to be able to do so in the near future. So, what exactly were the Government looking to protect? It wasn't UK jobs in downstream metal manufacturing and that's what we pointed out."

He continued: "After numerous attempts to address the issue, the powers that be finally came up with a solution that worked, as well as it could ever do, for both parties. Little hope was given that we would reach this situation, so this was a big win."

The wins did not stop there, with the momentum from the steel safeguarding success helping to push the conversation around energy prices and ensure the concerns of companies – including our vital SMEs – were heard.

From the outset, the CBM provided clear evidence of the huge increases in energy costs that its members were facing and detailed how much the support scheme would cover.

However, even with the Energy Business Relief Scheme in place, many companies were struggling to survive, and in one case, there was a manufacturer who has saw energy costs rise from £1m to £4.5m and a turnover that remained relatively flat.

"How do you even begin to find an answer for that?" added Steve. "One way we can help is by working with firms to reduce their energy costs, but all the savings in the world aren't going to meet those price increases.

"In addition to the practical support, we have also kept our foot down on the lobbying and it was when the Government referred us to Ofgem that we quickly realised that the energy regulator did not cover non-domestic users – thus leaving our members with nowhere to go.

"We highlighted this to the Department for Business and Trade and also used our membership of the West



Midlands Industrial Energy Taskforce – led by Mayor Andy Street – to include this, alongside the need for firms to have the ability to renegotiate locked-in, high-cost fixed energy deals, as two of the priority recommendations in its influential report.

"It was a huge win for us when Ofgem announced that guidelines have now changed and that they have more regulatory powers to deal with the brokerage market, not to mention closer collaboration between Government and industry to address some of the built-in flaws in the UK's complex energy markets."

The CBM's next focus of attention will be the Carbon Border Adjustment Mechanism (CBAM), an EU legislation and EU/Russian sanctions that could both have serious ramifications here in the UK.

#### **Strong Year**

The Confederation of British Metalforming has had a very strong year, with a 10% increase in membership, including the likes of BCW Group, Ricor Group, Pargate and Schneider Electric.

This reflects the growing profile of the trade body, its relationship with the UK Metals Council and its vast array of services that are supporting firms during these difficult times.

These range from access to the conference and meeting facilities of the National Metalforming Centre in the heart of the West Midlands and participation in major national surveys to helping shape new degree level apprenticeships in Tool Process and Die Engineering.

Geraldine concluded: "It's a very exciting time to become a part of the CBM. We're continually listening to companies in our sector so that we reflect their different requirements, and this is seeing us become increasingly involved in innovation projects and accessing funding to develop new technologies.

"Our membership base employs over 40,000 people and a combined turnover of £4bn...that makes it an extremely important sector for our domestic economy."

#### CBM would like to welcome Powell Steels Limited as new members

Powell Steels was established back in June 1997 & became a limited company at the beginning of the following year, when it moved into offices in Gypsy Lane, Willenhall, where it set out to become a provider of strip mill products primarily to the end user market.

Based upon the foundations of clients at the time, such as Kenham Tools & Pressings Limited & other Metalrax Group Companies, in the main, it grew and expanded to a turnover of £1.8 million with just two employees and based upon utilising the additional capacity found within the service centre market and without any machinery or transportation of their own established itself as a high quality, delivery driven business, ensuring this from well-established mill supply routes, which they concentrated upon broadening in the early years.

The basis of any sustainable business is it's core values and beliefs alongside that of committed quality suppliers and in tandem with superb customer relations and good communication skills provided the business to flourish yet further over a period of ten years up until, the credit crash of 2008, where a decision was made by the then 100% owner and MD – Mr Steve Tinley to downsize the business and protect the finances built over that initial period.

Certain contracts were maintained and to this day they still are the bedrock of the business, however having taken roles back at William King for a time & thereafter a Director's role at APS Metal Pressings Limited for the past almost 10 years, Steve decided to re-brand & launch the business again at the UK Metals Expo at the NEC in October 2023. In conjunction with the CBM we have started to establish a way to invite members to seek alternate procurement routes through the association.



If you wish to contact Powell Steels Limited, they would be only to happy to engage with you on either of the numbers below or via the e-mail address provided stevetinley@apsmith.co.uk & in the directory.



CBM NEW MEMBERS

# CBM would like to welcome Hariton Machinery Company Inc as new members We have 50 years of experience helping customers find machines.

My wife and I started Hariton Machinery in 1970. We have been in constant contact for 50 years with major manufacturers throughout the World and therefore we are able to offer you the best New and Used late model equipment. We maintain an inventory of hundreds of machines, with more coming in daily. We stand behind them 100% as opposed to purchasing a machine through a broker or at a public auction. As well, you will always receive our 30 Day MDNA return privilege on any machine which is sold from our inventory.

We have sales representatives in Mexico, India, Australia, South Korea, Brazil, Germany, Japan, Thailand, Turkey, Spain and Italy.

Hariton Machinery also specializes machinery for the Open and Impression or Closed Die Forging Industry, as well as the Warm and Cold Forming Industry. We are in constant communication with manufacturers that use various types of Hot Forging Machines which enables us to gather what is available on the market today.

Another area of expertise for Hariton Machinery Co., is the appraisal and evaluation of this same type of equipment. That is in our specialty. This could be done for you, or your bank, or perhaps a leasing organization who may be interested in financing the purchase of additional equipment for use in your facility. We presently have two certified and accredited appraisers on hand for your appraisal needs. All of this of course is done on a strictly confidential basis.

We are always in the market for good used equipment – from a single machine up to an entire manufacturing facility. During the past 51 years we have been involved in the outright purchase





of a number of small and larger Fastener and Cold Forming, Wire Forming, Hot Forging Manufacturing facilities. We are willing to make an offer on a single piece of equipment or an entire facility and are immediately available at any time to discuss your requirements. We will go anywhere in the world to inspect and buy your surplus machinery. We are also members in good standing in the Forging Industry Association (FIA).

Hariton Machinery has two generations actively working together to continue to serve your needs to supply you with the biggest selection of high quality new and used metal working machinery and equipment. Let's start the next 51 years together.

Hariton Machinery Company, Inc. 810 Union Ave. Bridgeport, CT 06607-1137 www.haritonmachinery.com mark@haritonmachinery.com (203) 367-6777 x301 Office (203) 216-5536 Cell

#### Gestamp and In-Comm launch new training centre

One of the UK's leading automotive suppliers has joined forces with In-Comm Training to boost its learning and

development offer and support employee retention.

Gestamp, which manufactures metal components for use in car body structures, has invested in a dedicated training centre at its plant in Four Ashes in Wolverhampton.

The six classrooms are being used to deliver Lean Manufacturing Apprenticeships for a minimum of 60 existing Team Members every year, as well as a host of other development activities designed to increase the skills base of its 650-strong workforce.

The Gestamp Training Centre (GTC) took twelve months to develop and houses two In-Comm Training experts, as well as Gestamp training specialists to oversee the Level 2 course that combines theory with significant practical training on the shopfloor.

Recruited from all production areas within the business, staff undertake a 10-week programme of training before completing an improvement project on the shopfloor and an endpoint assessment.

This project has been supported by the West Midlands Combined Authority, allowing Gestamp access to unspent levy funding by other organisations to use the apprenticeship model to develop existing staff and new recruits.

The longer-term vision for the facility is that it will grow its offering to employees in more technical courses and qualifications.

"We've transitioned and recruited up to 650 staff to our new Four Ashes manufacturing facility and, now this is complete, the next step was to get the Training Centre up and running," pointed out Philip Carr, Learning and Development Manager at Gestamp.

"In-Comm Training has been supporting us with apprenticeships and upskilling courses for more than a decade, so are the perfect partner to team up with to make this a reality. In the first few weeks of the centre being open we've delivered over 1000 hours of training!"

He continued: "Together, we've developed the dedicated learning space to support delivery of a Level 2 Lean Manufacturing Operative apprenticeship. 60 of our employees are on the first cohort and we want to do the same number every year for the next four – meaning we'll support nearly 250 people through this qualification alone. This is in addition to the 40 employees that are already enrolled on other Level 2 to 6 apprenticeships.

Philip Carr (Gestamp) with Bekki Phillips (In-Comm Training)"In addition to boosting the skills within the business, we also want to give employees an incentive to stay with us. The current labour market is so competitive and 'retention' is just as big as recruitment for us."

Gestamp invested more than £50m in the purpose built facility in Four Ashes, a state-of-the-art manufacturing plant which produces hot and cold stampings to all of the major automotive brands.

The company also invests heavily in its people and, in addition to the GTC, is working with In-Comm Training to deliver apprenticeships in toolmaking, robotics, skilled maintenance





and continuous improvement.

Bekki Phillips, Chief Operating Officer at In-Comm Training, added her support: "This is another fantastic example of how we are taking an employer-led approach to bridging the skills gap in industry.

"It's more than just delivering courses; it's about working with manufacturers to identify current and future issues then creating innovative solutions that provide both short and long-term answers.

"This is what we've done with the GTC. It gives Philip and the team a home that they can call their own and, importantly, has opened up the ability to upskill nearly 250 people between now and 2027. There's also a big focus on retention and giving individuals more reasons to stay and grow within the business."

Gestamp's Training Centre is the latest in a long line of major milestones for In-Comm Training and follows on from the launch of its £3m Technical Academy in Telford and the £1m Precision Tooling Academy at its HQ in the Black Country.

The latter is a UK first and provides a live commercial tool room for global projects and a professional training ground for the toolmakers and designers of the future.

For further information, please visit www.gestamp.com or www.in-comm.co.uk



#### **About Gestamp**

Gestamp is a multinational specialized in the design, development and manufacture of highly engineered metal components for the main vehicle manufacturers. It develops products with an innovative design to produce lighter and safer vehicles, which offer lower energy consumption and a lower environmental impact. Its products cover the areas of BiW, chassis and mechanisms.

The Company is present in 24 countries with 115 production plants (5 under construction), 13 R&D centers and a workforce of nearly 43,000 employees worldwide. Its turnover in 2022 was €10,726 million. Gestamp is listed on the Spanish stock exchange under the ticker GEST.

#### **Changing for good - Allied Copper Alloys Ltd**

"Change, sustainability, innovation, and diversification are the future of Steel & Alloy Processing" – Gonvarri Industries.

Steel & Alloy Gonvarri Industries (S&A) is a well-known strip steel and aluminium processor that offers a range of products and services across its business lines. Whilst S&A may be best known in the industry as an automotive service centre, they have recently diversified into UK markets outside of automotive whilst also adapting a number of lines to enable the processing of alternative materials such as aluminium.

In 2018, which was also the company's 50th anniversary, S&A opened its state-of-the-art facility in Oldbury, UK. The Pope Lanes site was a £27 million investment supported by S&A's parent company, Gonvarri Industries, and was constructed to facilitate the business' continued commitment to the automotive market and to the Sandwell area, which has been the home of S&A for most of its 50 year history.

S&A's investment is making a major contribution toward the automotive industry's prime objective of making vehicles lighter, stronger and safer. With the deadline for the complete ban on the sale of new internal combustion engine (ICE) passenger vehicles due to start in the UK and EU between 2030 and 2035 urgent action was needed. The carmakers have responded with astonishing speed and are introducing more and more alternative fuelled vehicles to replace traditional ICE cars. By being able to process blanks for hot sheet stamping, high-strength steels and aluminium, S&A are at the forefront of this strategy.

Working in conjunction with a range of steel supply partners right around the world, S&A are well placed to offer green steel to the marketplace. Massive investment is currently being made by the major steel producers to change the steel making process resulting in significant reductions in CO2 and, in the near future, carbon neutral production.

Indirectly, all of these changes have been to facilitate a move towards a more environmentally-sound future. As S&A's Managing Director, Paul Whitehouse, explains "The Gonvarri Group has a Carbon Neutral policy with clearly established targets: to be scope one and two compliant, and to have reduced our scope three emissions by 50 percent, by 2030, and to be fully scope three compliant by 2050. Our owners are very passionate on this topic and have clearly communicated their commitment to the Leadership Team. S&A is currently on target to meet these carbon neutral targets."

S&A's strategy of focusing purely on automotive steel products, a decision taken during the early 1990's, was a very successful one and saw the business grow from around 80,000 Tonnes per annum to a peak of more than 320,000 Tonnes of steel in 2016. UK automotive production had averaged around 1.8m vehicles per annum at the start of the century and recovered well from the global financial crisis of 2008 getting back to 1.8m vehicles again in 2016. However, from that time the market started to decline. COVID-19 and the ensuing shortages of semiconductors took productivity below 1m where it currently remains in 2023. Some recovery is expected but forecasts suggest that output will be between 1.0m and 1.1m for the next ten years.

Commercial Director, Owen Marshall, explains "we could see that the reduction in demand for automotive products presented a clear threat to the business. We could also see that our automotive customers' needs were shifting slightly; with less slit coil and fewer rectangular blanks but greater demand for more complex parts such as





trapezoidal and shaped blanks. The investment in Popes Lane was essential in allowing us to meet our customers' needs. At the same time, it provided additional capacity that enabled us to start producing aluminium and to enter different, "non-auto" markets in a meaningful and long-term way; for the first time in many years. This diversification has helped to provide long term security to the business."

Working with new materials and in new markets presented to new challenges across the whole business. S&A responded, investing in training and bringing in new, experienced, people to supplement the existing team. Owen Marshall went on to explain, "Processing aluminium, for example, presented new challenges. With material up to five times more expensive than steel, we were very aware of the risk/reward profile. Different grades of material have different shelf lives, for example, so there is a real threat of obsolescence. We had to educate the whole team to help them understand these different characteristics, how to handle and process the material, how to segregate scrap correctly, while still maintaining superb product quality. This was a large transformation for the business. Line Modifications have continued and Steel & Alloy now offer slit coil, rectangles, shapes and trapezoids in Aluminium."

Whilst the steel industry has a long and rich history, S&A takes pride in moving forward in a progressive way. Recognising that businesses today must act responsibly, the S&A has developed Environmental, Social and Governance (ESG) strategies to enable these behaviours. Steel & Alloy has introduced a voluntary Charity Club where employees contribute via a monthly Salary Sacrifice Scheme which is then matched by an equal contribution by the business. The proceeds of this help to support local and national charities nominated by members of the scheme.

S&A also participate in Gonvarri Industries "Women of Steel" program, actively promoting engagement, education and training with the goal of increasing the number of female employees in an industry where the norm is just 13%. S&A has currently 25 percent female staff employees, which is growing! S&A is also pushing forward with their Apprentice Scheme and are actively recruiting for vacancies in their Commercial and Quality teams.

Paul Whitehouse concludes, "The future for S&A is a bright one! The financial strength of Gonvarri Industries underpins a number of approved investment opportunities that run well into the future. This will allow us to continue to diversify, innovate, add more materials, products and processes. We want to be the market leader in the processing of steel and aluminium and be our customers preferred pattern for years to some."

www.thecbm.co.uk partner for years to come."

# Brandauer's Rowan Crozier awarded Honorary Doctorate from Birmingham City University

The CEO of a 161-year-old award-winning metal engineering business has been bestowed an honorary doctorate from Birmingham City University (BCU) for his outstanding contribution to industry and academia.



Rowan Crozier, who runs Birmingham-based Brandauer, received his award as part of the University's summer graduation ceremonies held at Birmingham's Symphony Hall.

The boss of the precision tooling and metal stamping specialist, which produces millions of parts that are sent to more than 26 countries across the world every week, is also being recognised for his commitment to developing the engineers of the future, through work with BCU's School of Engineering and Built Environment.

Crozier, who is also chair of the Make UK National Advisory Board and co-chair of the Industry Advisory Board for Birmingham City University, said: "I am shocked and proud to receive this recognition.

"I hope that it inspires all new graduating engineers into a career in UK manufacturing - and especially consider the unlimited possibilities of working at a small to medium sized enterprise.

"Thank you to BCU and I hope it's students and graduates always keep innovation at the heart of everything they do."

Under Crozier's leadership, Brandauer has implemented a bespoke apprenticeship programme that currently accounts for 15% of the firm's workforce, whist advocating for communication, technicality, and entrepreneurship as the core foundations of employability of all graduating engineers.

The company has recently partnered with In-Comm Training on a £1m new Precision Tooling Academy in Aldridge to help reverse the critical skills drain being seen in toolmaking in the UK.

It is part of Brandauer's ongoing efforts to ensure it has the necessary resource to continue its global expansion, which led to it becoming one of only 16 firms in the West Midlands to collect the Queens Award for Enterprise in 2019, winning the Made In The Midlands 'Exporter of the Year' award in the same year.



(I-r) Nasser Sherkat (Head of Engineering at Birmingham City University), Rowan Crozier (Brandauer) and Hanifa Shah (Pro Vice-Chancellor & Executive Dean of the Faculty of Computing, Engineering & the Built Environment at Birmingham City University)

Professor Hanifa Shah, Pro Vice-Chancellor and Executive Dean of Faculty of Computing, Engineering & the Built Environment at BCU, said: "Rowan Crozier is extremely supportive of our aims to work closely with industry to maintain the relevancy and currency of our courses.

"We continue to work with him to develop mutually beneficial projects and activities alongside employment opportunities for our students.

"The faculty community warmly congratulates him on the news of his honorary doctorate."

For further information, please visit www.brandauer.co.uk or follow @cbrandauer on Twitter.

Notes to editors:

About Birmingham City University
With more than 31,000 students from around 100 countries,
Birmingham City University is a large and diverse place to study,
located in the heart of the city. The University's mission is to
transform the lives of its students by offering a wide range of
contemporary, flexible courses at undergraduate and postgraduate
level, with practice-based learning and international opportunities
built into every stage.



# WHY MANUFACTURING APPRENTICES ARE CRITICAL FOR THE INDUSTRY

The manufacturing sector is driven by innovation, technological advancements, and skilled professionals, and it's evident that nurturing a new generation of talent is vital for its continued success. This is where manufacturing apprenticeships come into the picture.



At European Springs & Pressings, we understand the significance of apprenticeships in shaping the future of manufacturing. With decades of experience as one of Europe's leading spring and pressings manufacturers, we have witnessed firsthand the transformative impact of apprenticeship programs on individuals and the industry.

So, we'd like to shed light on the critical role manufacturing apprentices play in driving innovation, meeting industry demands, ensuring a sustainable workforce and hopefully encouraging a new generation of spring manufacturers to join this exciting industry.

#### ADDRESSING THE SKILLS GAP

The skills gap refers to the disparity between the current workforce's skills and the skills required by modern manufacturing industries. Manufacturing apprenticeships play a crucial role in addressing this skills gap within the sector. This is because, as technology advances and new processes emerge, there is an increasing need for a highly skilled workforce that can adapt to these changes and drive innovation.

For example, apprenticeship schemes provide hands-on, practical training that equips individuals with the skills and knowledge needed in the manufacturing industry. Rather than relying solely on theoretical education, apprentices gain valuable experience by working alongside experienced professionals, operating machinery, and participating in real-world projects. This practical training ensures that apprentices develop the necessary skills to meet the industry's evolving demands.

Two manufacturing engineers working together on a practical project



In addition, these training programs aren't limited to entrylevel positions and can be used to upskill and reskill existing workers. By offering apprenticeship programs to existing employees, companies can address skill gaps within their own workforce and ensure that their employees remain updated with the latest technologies and processes.

#### **WORKFORCE DEVELOPMENT**

As mentioned, apprenticeships aren't limited to those beginning their career in the manufacturing industry but are often used to nurture a skilled and adaptable workforce. This is because these programs allow individuals to gain practical, industry-specific training and experience, enabling them to develop the essential skills needed to excel in the manufacturing sector. By combining on-the-job training with classroom instruction, apprenticeships create a seamless pathway for individuals to acquire the technical competencies, problem-solving abilities, and teamwork skills necessary for success.

Manufacturing apprenticeships are often favoured over degrees in the same subject because of the practical knowledge and experience trainees get. Of course, this hands-on experience is fantastic for new starters, but it's also necessary for those already years into their careers, as it reminds them not to fall into bad habits and keeps their knowledge fresh.

#### IMPROVED PRODUCTIVITY

It may come as a surprise, but manufacturing apprenticeships can actually have a positive impact on workplace productivity in several ways, for example:

**Skill Development.** Apprenticeships focus on providing practical, hands-on training that directly relates to the specific needs of the manufacturing industry. This training enables them to contribute effectively and efficiently to various tasks and projects, enhancing overall productivity.

**Knowledge Transfer.** Apprenticeships promote the transfer of knowledge from experienced professionals to apprentices. As a result, apprentices quickly become proficient in their roles, accelerating the learning curve and improving productivity.

Fresh Perspectives and Innovation. Manufacturing apprenticeships often attract young and enthusiastic individuals who bring fresh perspectives and innovative ideas to the workplace. Their exposure to the latest technologies, methodologies, and industry trends during their training allows them to offer unique insights and creative solutions that can help streamline operations and embrace technological advancements.

#### **BUILDING STRONG COMMUNITIES**

As discussed, there are many benefits of manufacturing apprenticeships, but one of the primary reasons they're so popular for companies in this sector is because of the strong communities they help to build. Manufacturing apprenticeships play a vital role in building strong communities by fostering economic growth, creating job opportunities, and empowering individuals within the local workforce. These training programs provide valuable pathways for individuals to enter the manufacturing industry, allowing them to develop in-demand skills and secure stable employment. When companies invest in apprenticeships, they contribute to local job creation, stimulating the economy and reducing unemployment rates.

In addition, as apprentices gain practical experience and knowledge, they become valuable assets to the community,

#### Continue from page11



both socially and economically. This is because their newly acquired skills benefit the manufacturing sector and extend to related industries, further bolstering the local economy.

#### **APPRENTICESHIPS AT EUROPEAN SPRINGS**

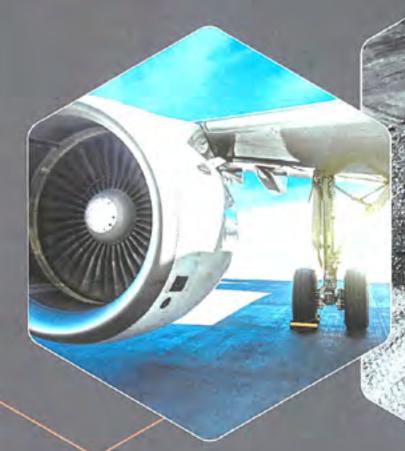
Here at European Springs, we're committed to helping the wider industry by investing in the younger generation and developing our apprenticeship schemes. We offer a range of apprenticeships that provide valuable training and career opportunities within the manufacturing industry. We have designed these programs carefully, ensuring they equip individuals with the skills, knowledge, and experience necessary to excel in various roles within the company.

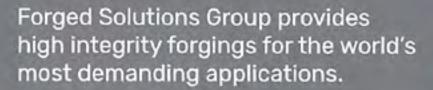
If you're interested in working with leading spring manufacturers in this ever-changing industry, we'd love to hear from you. Please take a look at our apprenticeship vacancies and don't hesitate to get in touch for more information; a member of our team will be more than happy to help.











From aerospace and energy production, to underground mining and off-highway vehicles, we have forged solutions for advanced manufacturing industries for more than 100 years.

#### Capabilities

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- · Forged Rings
- · Closed & Open Die Forgings
- · In House Design
- Testing
- · Complimentary Capabilities

#### Markets

- Aerospace
- Mining
- · Off Highway
- Defence
- · Oil and Gas
- Energy



### Somers Forge: Celebrating Excellence - Winning Two **Engineering Awards**

#### Remarkable achievements from the historic Somers Forge based in Halesowen

Somers Forge are proud to announce its recent achievements in suppling into the defence industry. The company has been honoured with two prestigious awards, one at the BAE Systems Quality Awards, taking home the Zero Defects award. Through consistently delivering products with zero defects, they have established themselves as a key and trusted supplier.

Operations Director Alex Cross- "At Somers Forge we take great pride in ensuring that our customers receive only the very best, and the recent awards demonstrate the dedication applied and hard work of our entire team.'

The second award was at the Dreadnought Alliance Supply Forum, where Somers were presented with a prestigious Award for Collaboration & Diligence. The work undertaken by Somers has set a new benchmark for others to follow, the collaborative approach working with the Supply Chain Team to demonstrate Appropriate, Attributable & Reasonable Cost bright future, they remain committed to on Tenders. This remarkable achievement



is particularly noteworthy for a family run business based in Halesowen, showcasing their ability to compete with global engineering companies.

Over the years, Somers Forge has evolved from solely supplying raw materials to expanding their capabilities and expertise in producing finished machined parts. Now forging from 1kg to in excess of 60 tonnes, lengths up to 23 metres. With all inhouse heat treatment, machining and testing facilities

As Somers Forge looks towards a excellence in all aspects of their business.





Through ongoing investments, with plans to acquire more lathes for the upcoming year and talent development with the defence doubling this year. They aim to further enhance their capabilities and continue providing exceptional products and services for their valued customers.

FORGING

### Forged Railhead Replication For Partick Pumping Station **Restoration Project in Glasgow**

Brooks Forgings specialise in the replication of decorative ironwork components required for historic restoration projects throughout the UK and beyond. The production of forged railheads is a specific specialty of ours and can be offered as single units or forged directly to the bar in required overall lengths to minimise fabrication time.

Our latest replication project was for a customer involved in restoration work at the Grade B-listed Partick Pumping Station located in the city of Glasgow, UK. The existing fencing had to be completely replaced and required the replication of two railhead designs that matched the original aesthetics.

Brooks Forgings designed and produced tooling to hot forge the replacement railheads required for the project, all supplied as single units to be welded into the final fabrication and installed on-site by our customer.

A total of 410 pieces of each railhead variant were supplied in support of the project (820 total).

If you are involved in restoration projects requiring the replication of existing metal components do get in touch with us by email at sales@brooksforgings.co.uk with more information and drawings.



#### Digital tools for increased efficiency

At Hatebur Metalforming Equipment Ltd, everything is pointing toward digitalization. The long-established machine builders from Switzerland are developing a wide range of digital services under the name of Hatebur Connect, designed to deliver new methods, increased process reliability and higher efficiency. The latest example: The innovative "online timing tool".

"The focus on smart, digital services is entirely in keeping with our company philosophy," explains Stephan Leibundgut, "since our vision is to deliver clever solutions for sustainable metal-forming that enrich people's lives." As Product Manager of Digital Services, Leibundgut is heavily involved in the design and implementation of Hatebur's new digital tools.

In accordance with the stated aim of the company from Reinach, near Basel, customers will benefit even more from the expertise and many years' experience in forming technology. The process of digitalization will not change the personal service customers receive. Stephan Leibundgut sums it up neatly: "It goes without saying that our customers can still count on the individual advice and support of our technical specialists."



#### Customer portal as a central entry point

The new Hatebur Connect customer portal serves as an entry point into the online world of Hatebur. Here, customers will be able to find all the relevant information for their fleet of Hatebur machines. Users can also book and manage all of the new digital services within the portal for more convenience.



Hatebur Connect customer portal showing overview of the machine fleet

#### Online timing tool: Modeling without CAD models

The first of Hatebur's digital services to be launched is the "online timing tool". The application runs in the browser and helps users to manage and design machine setting parameters. As a result not only can new tools be added to the machine faster, but existing processes can also be optimized. With the online timing tool,

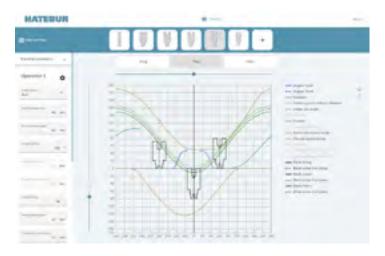
Hatebur is making its expertise more readily available.

The online timing tool has an integrated modeling system to create stages even without a CAD model. The workpiece is displayed in the path-time diagram and can be positioned anywhere in accordance with the current process step. Furthermore, the diagram has a zoom feature, a measurement feature, and also allows users to adjust the view to suit their requirements. "So, in a single application, users have all the aids they need to design a collision-free process," explains Stephan Leibundgut.

Once the design has been completed in the online timing tool, the machine setting parameters are made available in such a way that they can be copied over to the machine in a recipe.

The improved design of the forming tools significantly reduces tool costs while also increasing process reliability. There is no longer any need to manually draw up the sequence of movements on paper. This optimizes the user experience and produces better results much faster. Furthermore, the set-up time is shortened because fewer readjustments (if any) are required on the machine.

Since the application is run in a browser, it can be accessed easily from different places. This means everyone involved in the process has access to the same pool of data.



Online timing tool

#### New possibilities with the servo main drive

When combined with the servo main drive and the locally driven parts transfer, the Hatebur COLDmatic CM 725 opens up new possibilities. The parts transfer comprises two components: The grippers, which hold the workpiece, and the transfer unit, which conveys the formed parts from one forming station to the next. The movement of the press can be modeled, with the option to run various speeds in one cycle. During the part transfer, adjustments can be made to the start and stop angle of the transfer unit and the speed for opening and closing the grippers.

The online timing tool gives users the perfect support to make the best possible use of these new opportunities. All adjustment options are displayed in the online timing tool, making light work of designing the timing even for complex applications. What's more, entire projects can be copied using the online timing tool. This allows users to display and compare different variants with ease.

Adjusting the kinematics for the main drive means that significant improvements can be made in terms of the tool life or production quantity without having to adapt the tool.

"We have optimized the pressram movement for an existing tool, which was already in production with the standard function and was delivering good process reliability," explains Stephan Leibundgut. The strain rate was maintained in the process, meaning that the punches enter the dies just as quickly as with the standard function. If the tool is not engaged, the pressram is accelerated to the maximum speed and slowed back down prior

to the next forming process.

This ensured the process reliability remained the same as before. However, the output was increased by around 14%. Consequently, after one hour, the customer has 1000 more OK parts in the container than they would have with the standard pressram movement.





Image 4: Tool area of a Hatebur COLDmatic CM 725 machine Image 5: Workpieces being transported to the next forming station (Hatebur COLDmatic CM 725 machine)

#### Remote support: Faster, more targeted, more efficient

For years now, new machines from Hatebur have had remote maintenance solutions integrated into them. This feature can also be retrofitted onto older machines. "We put our faith firmly in a tried-and-tested, security-certified solution," explains Leibundgut. "Plus, we have built in a switch so that the customer can purposefully activate and deactivate the connection as required."

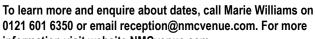
Once activated by the customer, the Hatebur specialists can access current machine statuses in the event of a problem, and thereby provide tailored assistance. They quickly analyze measured values using the tools provided. If needed, technical specialists from different departments lend their expertise to jointly finding the best solution for the customer.

To keep the machine up to date, remote maintenance can also be used to run software updates and, in the case of conversions, to implement changes to control technology. Stephan Leibundgut is confident that remote support presents two major benefits in one fell swoop: "We keep not only travel time but also waiting times to an absolute minimum. This, in turn, dramatically increases machine availability."

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#### Reduced Loadability of DIN compared to ISO Nuts

by Bill Eccles, Bolt Science

Some years ago, on a Bolt Science training course given to largely Design Engineers at a major manufacturer, they spoke about a thread stripping issue they had on one application. The nuts were stripping, and they didn't know why.

Looking at the nuts they had a |8| marking on them, they had assumed that they were property class 8 to the relevant ISO standard (which is ISO 898 Part2). They thought that the vertical bars at either side of the 8 was just decorative and of no significance. In fact, they are essentially a separate property class, property class |8| to a withdrawn DIN standard. Such nuts have what is referred to as reduced loadability, the nut's proof load is lower than that of an ISO nut. The reduced strength of the DIN nut was a likely cause of the thread stripping issue that they were experiencing.

Many of the modern fastener ISO standards were developed from original DIN standards, with the relevant ISO standard subsequently superseding the DIN standard. Effectively, the DIN standard becoming frozen at its last update. For example, August 2023 celebrates the 40th anniversary of the last update of a standard that is still used today in the manufacture of millions of nuts. In my experience most Engineers are unaware of the reduced loadability of DIN nuts when compared with nuts manufactured to the latest ISO standard. That is, they are unaware that they are weaker and more prone to thread stripping.



A relevant modern standard for nuts is ISO 4032, this provides details of the dimensions of the nuts and refers to the standard ISO 898 Part 2 for the mechanical property requirements. A property class 8 nut, as shown in the image, has defined specific strength properties. A proof load is how much load a nut can sustain on the threads without failing, this is specified in the ISO standard. For example, the proof load of an M12 property class 8 nut is 74200 N. The latest (2022) issue of the ISO 898-2 standard increased the proof load of some of the larger thread sizes to reduce the risk from thread stripping. This further increases the disparity between DIN and ISO requirements.

An historic DIN standard for nuts is DIN 934, like the ISO standard this standard defines the nut dimensions and refers to another standard, DIN 267 Part 4, for the nut's required mechanical properties. To differentiate from an ISO property class, such nuts have bars at either side of the property class marking, such as |8| as shown in the image. In this DIN standard, an M12 property class|8|nut has a specified proof load of 67000 N. Significantly less than that of an ISO nut. The reduced proof load requirement is also the case for other thread

sizes. The term used in standards for such reduced strength characteristics is reduced loadability. Both the DIN 934 and DIN 267 Part 4 standards are withdrawn and no longer updated. The rub is that it is often stated by fastener suppliers that they are equivalent to the ISO standard; they are not.



Thread stripping failure

If a bolt is over-tightened, for whatever reason, it is desirable that the bolt should fail by tensile fracture rather than failure occur as a result of the nut or bolt thread stripping. If the bolt breaks on tightening, it is obvious that a replacement is required. Thread stripping tends to be gradual in nature. If the thread stripping mode can occur, assemblies may enter into service which are partially failed, this may have disastrous consequences. Hence, the potential of thread stripping of both the internal and external threads must be avoided if a reliable design is to be achieved. When specifying nuts and bolts it must always be ensured that the appropriate grade of nut is matched to the bolt grade. For example, if a property class 8.8 bolt is to be used, a property class 8 nut, or better, should be used with it. The proof load requirement is the means by which to ensure that the nut has sufficient strength. The specified ultimate tensile load requirement for an M12 property class 8.8 bolt is 67400 N which is higher than the DIN nut proof load of 67000 N but less than that of an ISO nut of 74200 N.

In most instances, since the bolt is tightened to loads well below the nut's proof load, the DIN nuts perform satisfactorily, but not always. Thread stripping is more likely with a DIN nut than with an equivalent ISO nut. This is not just of academic interest; thread stripping failures and accidents have occurred as a result of DIN nuts being used rather than the appropriate ISO nuts. The last issue of the DIN 267 Part 4 standard was August 1983, 40 years ago, the standard consists of 8 pages compared to 29 pages in the latest (2022) ISO standard.

(There are many other differences between the standards, just the strength aspect is being highlighted here.) The sentence at the top of DIN 267 Part 4 standard is worth repeating: 'Property classes as defined in DIN ISO 898 Part 2 shall be used for new designs.' There are lots of nuts marked |8|, |10| and |12| that are on designs that are less than 40 years old. Most Engineers, in my experience, are unaware of the reduced loadability of DIN nuts and probably think that a nut marked |8| is the same as one marked 8. If they were aware, most would likely opt for the stronger ISO nut.

There are other differences between the ISO and DIN nut standards. For example, both the height of the nut and the width across flats dimension can be different. This is one reason why withdrawn DIN standards are continued to be used on existing designs is that there is a difference in the across flats dimension on certain sizes between DIN and ISO standards. This is true for M10, M12 and M14 nuts, with DIN nuts having a 1 mm greater width than the equivalent sized ISO nut and a 2 mm difference for M22 nuts.

Bolts and nuts are proof load tested independently. This allows different manufacturers to make nuts and bolts and allows separate checks to be completed, yet for the nut/bolt assembly combination to function as intended when made to matching standards. For example, ISO 898-1 for bolts and ISO 898-2 for nuts. Nuts are proof load tested using a hardened steel threaded mandrel. This effectively strengthens the nut so that when used with a bolt, thread bending, and nut dilation effects can reduce the thread stripping load. Some suppliers state that their DIN nuts

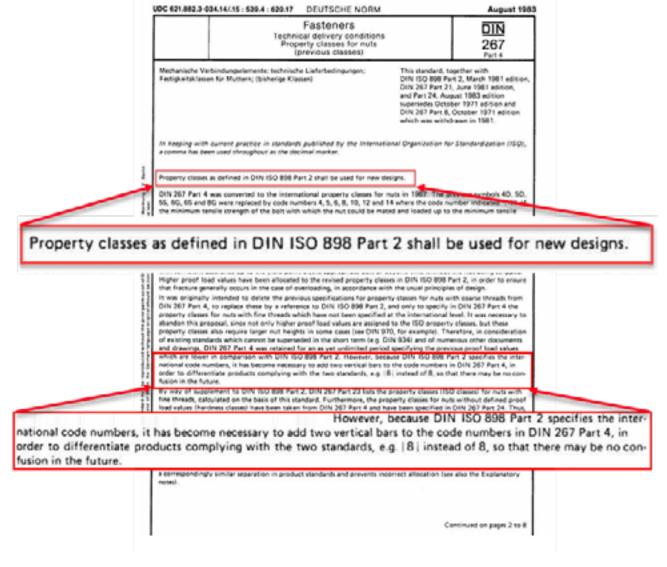
are proof load tested to ISO requirements. A DIN nut is slightly thinner than an equivalent ISO nut and so results in an increase in the shear stress on the bolt thread that can will reduce the stripping strength.

I've asked Engineers why they are using DIN nuts instead of ISO nuts; the conversation tends to go along the lines that they are available now whereas we have to wait for ISO nuts, and we've been told that they are equivalent. Ask the fastener supplier and they say, it is the customer, they want DIN nuts, and we give them what they want. Is the use of a standard that is 40 years old, that was long ago was superseded by an ISO standard, be regarded as 'state of the art', especially considering their reduced strength. This is more than just an academic question when considered in the light of the latest requirements of the Machinery Directive.

Progress often consists of many small steps, small developments that result in safer and more reliable products. A great deal of effort goes into the continued development of ISO standards. The persistence in the use of withdrawn DIN fastener standards on new designs freezes progress in fastener standardisation.

Last words: check your nut markings, are they what you expect them to be?

This article was published in the Fastener and Fixing magazine in September 2023, click here for a PDF version of the article.





# Apply now for new tool process engineer degree apprenticeship

A new degree apprenticeship to become a tool process design engineer is now open for applications at the University of Sheffield AMRC Training Centre.

As the first training provider of its kind to offer this apprenticeship, which sees a Bachelor of Engineering (BEng) in Manufacturing Technology delivered as part of the offer, the AMRC Training Centre was approached by the Confederation of British Metalforming (CBM) to collaborate after its members identified a need within the sector to create such a degree.

Louise Cowling, head of degree apprenticeships at the AMRC Training Centre, said: "There is a real shortage of tool process design engineers, to the extent that design and development engineers appear on the UK's shortage occupation list. We're working with the CBM to provide a route to train more tool process design engineers for companies in South Yorkshire, without them having to leave their jobs to retrain.

"This new apprenticeship plays a key role in the sheet metal/presswork supply chain for both the automotive and aerospace sectors and also opens up a unique tooling process pathway that enables components to be mass-produced in the most economically viable way.

"We look forward to seeing this new apprenticeship get underway and continue to strengthen our relationship with CBM."

Geraldine Bolton, chief executive of the Confederation of British Metalforming, added: "With access to good quality, relevant industrial training being the number one ask from CBM members, this degree level apprenticeship is perfectly suited to industry needs.

"Show your employees how they can progress their career by undertaking a degree as an apprenticeship. This is a great way to attract and retain valuable skills."

Thanks to the support of CBM, which is the only specialist manufacturers' organisation for experts in metalforming, the confederation was part of the trailblazer group that pushed to get the apprenticeship offer approved by the



Institute for Apprenticeships and Technical Education (IfATE).

Dr Dattatraya Parle, one of the AMRC Training Centre's teachers, alongside being a technical lead at Nuclear AMRC, said: "South Yorkshire is home to many cuttingedge manufacturing companies including Rolls-Royce, Boeing and McLaren. This large industrial landscape has led to a significant demand for skilled tool design engineers in the region.

"The AMRC Training Centre's degree apprenticeship programme for tool process design engineers plays a crucial role in nurturing the growth and innovation of this manufacturing sector. By providing students with a unique opportunity to blend academic knowledge with handson experience, this initiative ensures the development of a highly skilled workforce prepared to tackle the complex challenges of modern manufacturing."

The AMRC Training Centre prides itself on combining classroom learning and shopfloor industrial experience, while providing an earn-as-you-learn framework. It also provides a high-quality alternative to traditional academic study that supports the ever-changing challenges of industry, but meets the manufacturing needs of the future.

As the training centre marks its 10th anniversary of apprenticeships this year, the facility also draws on the expertise of neighbouring world-leading research and innovation cluster, the University of Sheffield Advanced Manufacturing Research Centre (AMRC) and Nuclear AMRC.

Having trained more than 1,700 apprentices, the AMRC Training Centre works with more than 250 companies from a diverse range of sectors including McLaren Formula 1, Heineken, AstraZeneca, Boeing and ITM-Power, alongside smaller businesses like AESSEAL, Forgemasters, Tribosonics, NiftyLift and Polypipe Building Products, that are the lifeblood of UK manufacturing.

The apprenticeship is planned to start at the AMRC Training Centre from September 2024 and employers can take advantage of the end-to-end recruitment service the training centre offers to help find the right apprentice for their company, or look to upskill existing members of staff.

Discover more about our degree apprenticeships:











## Developing an Apprenticeship By Derek Barnes, Fastener Specialist

Cold Forming is a process which uses a sheared blank from a coil of wire, transferring it through a series of dies and punches changing the geometry in each by getting the material to flow along the specially designed tooling to achieve the final dimensions.

All aspects are highly technical from the machinery to the wire and the tooling. Setting the machines to run efficiently is also very complex and requires a high degree of skill and knowledge to do it well.

Traditionally this skill and knowledge has been passed down from Operator to Operator, which isn't necessarily the best way to ensure thorough training.

The last apprenticeship schemes finished in the 1980's but were limited to one or two of the larger Fastener companies in the UK. Since then there hasn't been access to any qualifications within the Cold Forming industry. This in part has led to very few young people entering and even recognising that there is potentially a very fulfilling career path manufacturing Fasteners.

The Confederation of British Metalforming has set out to change this and make Cold Forming an option for school and College leavers.

Following on from the CBM's successful development and implementation of the level 6 Tool Process Design Engineer Apprenticeship for the Sheet Metal industry we have started out on the process to implement a level 3 apprenticeship for Cold Forming Machine Setters/Operators.

#### The Steps to Developing a New Apprenticeship

The first stage of attempting to get a new apprenticeship scheme approved as a national qualification by the Institute for Apprenticeships and Technical Education (IfATE) is to form a Trailblazer group to understand the need and to support the application.

This is a group of at least 10 companies working in that industry who are prepared to assist in the development process and will also employ apprentices once the standard is approved. The trailblazer group can also include academic institutes.

Once industry support is gained an initial approach can be made to the IfATE enquiries team stating potential title for the apprenticeship and route, if known. There will be a check into whether a current apprenticeship may already fit the occupation but if there is potential then a Product Manager will be assigned to guide the group through the approval process and to review any documents prior to submission to reduce the need to modify and resubmit.

#### **Occupational Proposal**

Next the trailblazer group will develop and submit an Occupational Proposal under the guidance of the product manager.

This covers information on what level the apprenticeship will be and expected duration. It gives the title of the apprenticeship and the types of industry where it will be relevant along with examples of job titles that it may cover.

This will go through to an approvals panel who will review the proposal to assess if it is suitable and detailed enough for development. The panel sits several times a year to review any new proposals. This process also includes a meeting with the trailblazer chair where they are given the opportunity to back-up the submission with additional evidence as to why this particular occupation needs an apprenticeship and to explain the job role in more detail. The panel is made up of technical professionals and they will ask pertinent questions to allow them to make the best decision.

#### **Occupational Standard**

Once the proposal has been accepted by the IfATE then the next stage is to develop the Occupational Standard.





The OS details the knowledge, skills and behaviours (KSB's) needed to show that someone is competent in that given job role.

It sets out what qualifications are required to be accepted on the apprenticeship and also whether there is professional recognition.

The standard breaks down the job role to defined activities and the KSB's that are expected for each activity. This helps with the final stage of developing the End-Point Assessment.

#### **End-Point Assessment**

The end-point assessment is designed once the OS has been approved. It determines how the candidates will be assessed to demonstrate that they have meet all the KSB's of the occupational standard.

The EPA can take many forms and be a mix of the different methods to fully show evidence that the candidate has met all the criteria. An EPA may be made up of some of the following.

- 1. Examination.
- 2. On-site Observation/Practical Demonstration.
- 3. Presentation.
- 4. Question and Answer Session.
- 5. Company Documentation.
- 6.Photographs.
- 7. Sample parts.

#### **Outcome**

The aim of writing an apprenticeship for Cold Forming Machine Setters/Technicians is to give some visibility of the industry to people looking for a career in Engineering and that Fastener Manufacturing exists and is a viable route to take, that delivers skills and qualifications that can be used throughout their lifetime and that there is potential for growth within the industry. It is also to create well rounded individuals who understand not only their immediate job role but also have wider knowledge of the elements that feed into setting and running a machine such as machine mechanisms, wire/material knowledge, understanding tooling etc, which all lead to the ability to improve efficiencies.

This gives businesses the confidence to employ apprentices, appreciating what value they can add after successfully completing the apprenticeship. It also adds to employee satisfaction and retainment of staff. Definitely a win win situation.

#### **Progress**

We are currently at the Occupational Standard stage of the process. It has been developed and we are reviewing it with our product manager after which it will go to a Trailblazer group meeting to agree the final draft before submission.

### Nova Sidera Spinning Lathes Arrive in the UK

A leading company in the manufacturing of Spinning Lathes has installed its first machine in the UK, bringing the flexibility and efficiency of its playback system to UK metal Spinners.



NOVA SIDERA Metal Forming (novasidera. com) has specialized for the past 30 years in the production of spinning lathes and special machinery for metal sheet forming. It is based in Castell'Alfero in the northern Italian region of Piedmont, and is a member of UCIMU-SISTEMI PER PRODURRE, the Italian Machine Tools, Robots, and Automation Manufacturers' Association.

Managed today by the second generation of the Tasso family, Nova Sidera has primarily been focused on the quality and customization of its products and on the internationalization of its activities; the company is a great example of an innovative, family-owned SME, with customers from more than a dozen foreign markets and with more than 500 machines installed all around the World.



The Team at Metspin with their new Eureka 375

Nova Sidera's international success started from the early 90' and its growth in the North American market led to the opening of the US Corporation in 2017, based in Miami, FL. The rapid growth of the North American markets may be an explanation of why the UK has had to wait so long for the first installation of a Nova Sidera Spinning Lathe. The wait was over in October 2023, when the first lathe, a Eureka 375, was successfully installed at Metspin, one of the leading metal spinners in the UK, that immediately saw the value and the innovation in approach that these machines allow.

Nova Sidera's spinning lathes have been recognized globally for their reliability, customizations, after-sale service and for their innovative playback system. The fast, intuitive programming approach, helps customers deal with the reality of shrinking lot sizes and the need for added flexibility, with an easy and fast programming and machine set up.

Nova Sidera offers a full range of machines, from the small Eureka (700mm max disc diameter/2.5mm aluminum) up to models with disk diameter of 3.500mm and deformation power of up to 12mm of stainless steel; they can include an automated and CNC controlled heating and cooling system, with a torch that will keep the part at the right temperature for the spinning process.

The machines are exclusively produced on order and with a high degree of customization based on the final customer's needs, and Nova Sidera offers full support, from sampling of production parts to the installation of the lathe or a full robotic island, with a focus on training not only on the machine use, but also generally on metal spinning itself.

The installation of the first machine in the UK is a landmark moment for the company, that will keep meeting the Metal Spinners in the UK and discussing their needs and production issues, with the aim of helping them increase quality and efficiency and work together in tackling the future challenges for the sector.

For further information please visit <a href="https://novasidera.com/">https://novasidera.com/</a>



### **Control Energy Costs**

## Meet Nick Heng, our Head of Flexible Procurement and Risk

#### Our Flexible Energy and Risk Management team

We are delighted to introduce our new Head of Flexible Procurement and Risk, Nick Heng. With two decades of energy procurement expertise, commodity risk management and project management behind him, Nick has a strong track record and brings a depth of knowledge to head up our core offering of flexible procurement.

Working in tandem with our Flexible Procurement and Risk Manager, Mike Stafford, the combined wealth of expertise and years of experience between them means that our clients are in the most capable hands.

Our Client Relationship Manager, Nigel Addison-Evans, who has been onboard with us since August 2023, is a key point of contact for CBM and has been strengthening the value we are able to offer to their members.

#### Nick Heng's background

In 2016, Nick founded a consultancy to provide businesses with expertise in energy and utilities procurement. His most recent role as a Global Procurement Manager at Johnson Matthey saw him as a key driver of sustainability, delivering in excess of £3m PPV savings in one year.

His credibility in procurement is undeniable and he'll be a critical point of contact for clients looking to manage their risk and drive their sustainability initiatives.

#### Mike Stafford's background

Mike has over a decade of experience in consultancy and flexible energy procurement, combined with experience working for meter operators, independent suppliers and Wales & West Utilities.

He plays a crucial role in helping clients understand the most complicated of beasts – the global energy markets. Mike strongly believes that a good consultant is often the client's only hope of navigating the complexity around us and works closely with each client to understand their unique commercial imperatives and attitude to risk.

#### Nigel Addison-Evans' background

Nigel has over 18 years' experience in the energy sector. He joined us from a supplier and consultancy background, helping both private and public sector clients to manage their energy and reduce their carbon footprint.

Nigel is passionate about helping clients reduce their carbon footprint, providing support and guidance on carbon reduction strategies, compliance, renewables, fixed and flexible procurement for power, gas and water, as well as billing queries, siteworks and metering.



Mike Stafford (L) and Nick Heng (R)

#### The case for flexible energy

With the recent Israel-Hamas conflict increasing energy prices and the end of the Energy Bills Discount Scheme in March 2024, this new period of uncertainty reinforces the need for businesses to manage their energy requirements on a long-term basis, helping to spread risk and mitigate market volatility.

We advise businesses to explore flexible procurement as a way to manage their energy requirements costeffectively and with minimal risk.

#### Get in touch

We recognise that we are fortunate to continually expand our team and that this is a clear reflection of the excellent service we are committed to providing to our clients.

If you have any questions or would like to find out more about flexible energy contracts, please do not hesitate to contact our Client Relationship Managers:

Contact Nigel Addison-Evans on 07500 027 480 or email him at <a href="mailto:nigel.addison-evans@cec.uk.com">nigel.addison-evans@cec.uk.com</a>

Contact John Loizou on 07425 102 023 or email him at john.loizou@cec.uk.com





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### Exclusive CBM members' Service offering a helping hand with your HR

Metalforming companies, like many businesses, face numerous challenges in 2022. Post-pandemic and post-Brexit, supply chain issues are on the up. Rising wage costs and hikes in energy bills are also causing headaches.

That's why FBC Manby Bowdler has developed an exclusive service for CBM members - giving you some certainty over legal costs and guaranteeing the quality of service the awardwinning law firm is renowned for.

FBC Manby Bowdler provides a range of legal services to businesses including HR and Employment, Commercial Property and Litigation advice. The exclusive deal offers a tiered service deal to CBM members, with different entry level points to cover different needs and budgets.

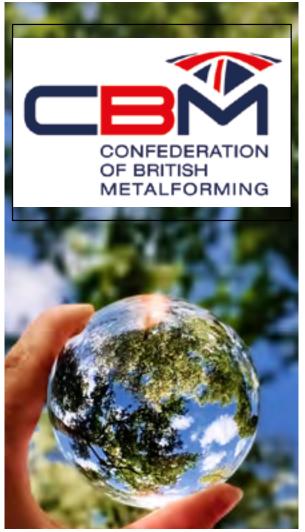
If you are a CBM member who would benefit from further HR support and would like to find out more about this exclusive offer from FBC Manby Bowdler please contact Julia.fitzsimmons@fbcmb.co.uk or call 01952 208420.





Standard Standard+ **Enhanced** No. hours legal advice 6 Hours 10 Hours Unlimited (of up to an hour) Exclusive access to a CBM dedicated website **Designated Client** Relationship Manager documentation, including 5% Discount 10% Discount Unlimited Settlement Agreements and all Policies Discounted rates for litigated matters in any Employment tribunal 5% Discount 10% Discount Unlimited Training events No. free places per year on Unlimited X an FBCMB training event Insurance backed options available On-site / Online advice 1 Per Annum (up to 2 Hours) X meetings MOST POPULAR





# ENERGY SAVINGS OPPORTUNITY SCHEME (ESOS) PHASE 3 COMPLIANCE HAS STARTED. EXTENDED DEADLINE 5th JUNE 2024

Confederation of British Metalforming is here to guide your company through the audit process with our expert knowledge of your sector. We have an engineer, who is knowledgeable in your sector who carries out the audits.

The legislation means all qualifying organisations have to prepare **mandatory energy audits** and if you know you will qualify for Phase 3 there is no reason why you shouldn't start doing your energy assessments now.

The audits identify cost-effective measures to cut energy spending, and phase 3 of the audits must be signed off by a registered assessor and submitted to the Environment Agency.

All companies with at least one of their UK group members with 250 employees or more, turnover above 44m euros, or a balance sheet value above 38m euros will be affected, which is likely to be more than 9,000 enterprises across the UK, and will affect 40+ CBM members. Please remember this is based on your organisation group structure. The scheme covers all power and fuel used by a company for industrial processes, building and transport.

Phase 1 and 2 has taught us that detailing all energy uses throughout a large business, and calculating means of reducing costs can be complex and time consuming, so enlist services of CBM. Contact Louise Campbell email <a href="mailto:louise.campbell@thecbm.co.uk">louise.campbell@thecbm.co.uk</a>



#### Innovative extrusion solution for super-light automotive structural part

#### **CurvEx Technology Ltd**

#### Introduction

The project 'Scale-up and commercialization of an innovative forming technology for low-cost production of super-light automotive structural parts (SECA)' is funded by the Innovate UK SMART Grant, which is a highly competitive funding for game-changing and commercially viable R&D innovation that can significantly impact the UK economy. Our vision is to disrupt status quo in the UK transportation high value manufacture sector to create new demands for lightweight streamlined extruded aluminium profiles in the transportation supply chain.

#### Challenge

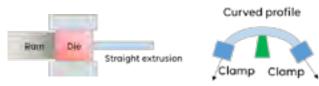
The impetus to save vehicle weight is now a key focus of the UK carmakers to meet the country's net zero target by 2050. Integrating streamlined aluminium extrusion profiles in vehicle body structures make it possible to reduce part numbers and assembly costs while improving profile dimensional precision and aerodynamic performance. Streamlined aluminium extrusion profiles are still difficult to be produced cheaply by conventional extrusion processes.





Typical streamlined extrusion – car bumper

## Conventional Extrusion Multi-step process



#### A. Extrusion

B. Bending/welding/joining

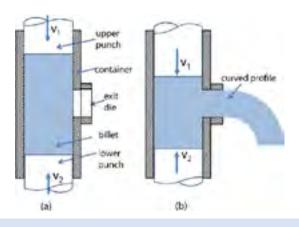
#### Pain points:

- Various defects
- Long lead time
- Low productivity
- High production cost
- Low car design flexibility
- Bottleneck of lightweighting

#### Our solution: Flextrude®

This project consortium is exploiting a UK-invented novel extrusion technology (Flextrude®) to enable affordable manufacture of lightweight streamlined aluminium extrusion profiles in one single operation.

# Flextrude® Single-step process No additional bending/welding



**High strength**: Less defects & improved grain refinement

#### **Design flexibility:**

- Avoids multiple process steps to achieve a curved extruded shape/beam/component.
- Customers can use a mix of alloys / different metals during the extrusion process.
- Gives designers the ability to design profiles which may have been unfeasible before.

#### Low cost:

- Less process steps
- Less tooling
- Reduced forming time
- Less energy

Lightweight: Thinner walled cross sections, lower gauge

**Reduced waste/scrap:** More efficient forming process

#### Wide applications for transportation

# Automotive Front/rear bumpers Engine mount Battery box Longitudinal beam Roof rail Cross rail

# Railway Door frame Body structure Floor structure Window frame Luggage rail ......

# Aviation Body frame Wing structure Floor Seat backrest Longitudinal frame ......



# Delivering hazardous waste solutions





#### **Fastener**

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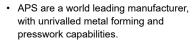
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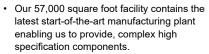
#### Sheet Metal / Pressing

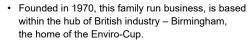
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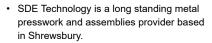


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