

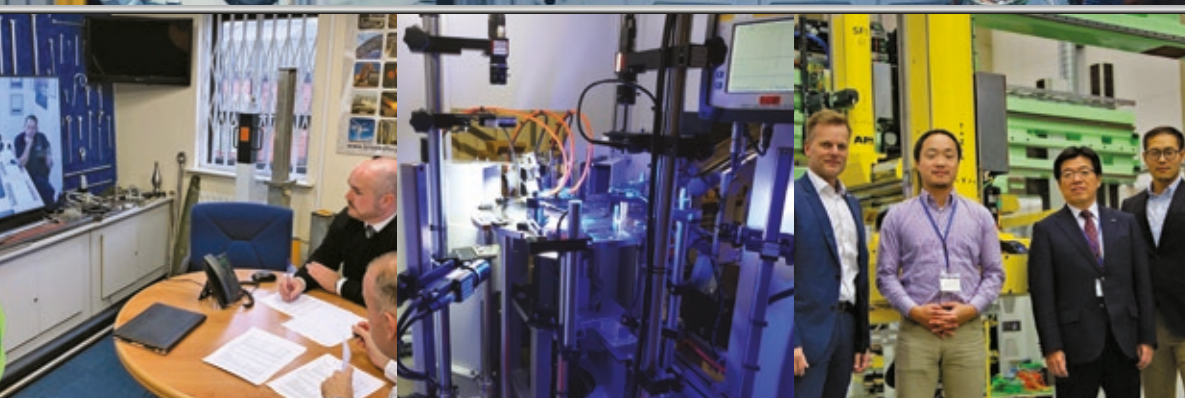
## METAL MATTERS

**'BUSINESS AS USUAL' AMIDST THE CORONAVIRUS CRISIS**

### Forging sector workshops go ahead

CBM Forging Sector hold their automation workshop via web conference link

**Page 22**



### FORGING

Video conferencing suite Reduces carbon footprint & increases productivity

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### FASTENERS

Clevedon installs state-of-art sorting machine

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### SHEET METAL

Unipres has decided to invest in two complete press hardening lines from AP&T

**Page 12**

### NEW TECHNOLOGY

Tenfold growth in robot numbers forecast by 2030

**Page 20**





# BROOKS FORGINGS



## FORGING, BENDING AND FABRICATION SERVICES OVER 20 MANUFACTURING PROCESSES



Robot Forging



Upset Forging



Drop Forging



Counterblow Forging



Open Die Forging



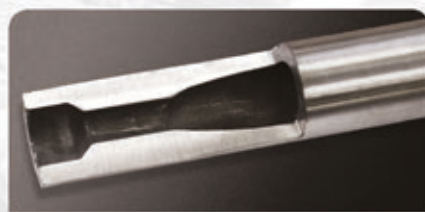
Hand Forging



Hot & Cold Bending



Hot & Cold Pressing



Swaging & Pointing



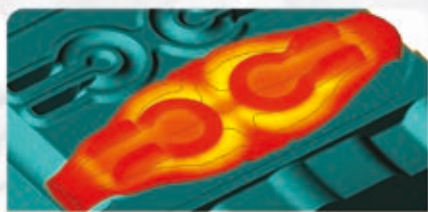
Machining



Fabrication & Assembly



Flash Butt Welding



Forging Simulation



Quality Control



Warehousing



## CBM STAFF

### President

Steve Morley  
president@thecbm.co.uk

### Chief Executive

Geraldine Bolton MCMI, Dip.OCR, MAAT, M.I.M  
geraldine.bolton@thecbm.co.uk

### Forging Sector Champion

Derek Bond  
derek.bond@thecbm.co.uk

### Sheet Metal and Cold Rolled Specialist

Adrian Nicklin ISME  
adrian.nicklin@thecbm.co.uk

### Health, Safety & Environment Consultant

Mark Sutton AIEMA, MRSPH  
mark.sutton@thecbm.co.uk

### Energy Specialist

Kevin Kirk  
kevin.kirk@thecbm.co.uk

### Company Secretary & Office Manager

Louise Campbell  
louise.campbell@thecbm.co.uk

### Membership & Events Secretary

Melinda Jean  
melinda.jean@thecbm.co.uk

### Office Administrator

Rachael Bromley  
rachael.bromley@thecbm.co.uk

### NMC Conferencing Supervisor

Marie Williams  
marie.williams@nmcvenue.com

### Receptionist

Jan Taylor  
reception@nmcvenue.com

### Events Co-ordinator

Charlotte Robinson  
reception@nmcvenue.com

### Confederation of British Metalforming

National Metalforming Centre,  
47 Birmingham Road,  
West Bromwich, West Midlands B70 6PY.

Telephone: 0121 601 6350

### Enquiries & Advertising:

Geraldine Bolton, Chief Executive.

Email: geraldine.bolton@thecbm.co.uk

Web: www.thecbm.co.uk

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Normally this editorial would give an update on where we are in the Manufacturing sector and the work we are doing to support our members. This time, as you will understand, will be very different.

**W**e find ourselves in totally unprecedented times, which none of us has experienced in our lifetimes. Coronavirus has gripped our country, exercising a stranglehold over us all.

Many members are on some level of shutdown or restricted operation, with as many employees as possible working from home. As I write this, we approach the end of the second week of the lockdown, but the curve of those being diagnosed is still upward and unfortunately, the death toll continues to rise.

On behalf of the CBM and all our members we want to thank all NHS workers, from the front line through to all the support teams. We are all very proud of you, shown so clearly when the whole nation applauds you every Thursday, a very uplifting and emotional show of support.

We should also be grateful to everyone else working in essential roles, keeping the nation ticking over in these very difficult times.

Nothing is more important than the nation's health but behind Covid19 our members are trying to come to terms with the biggest economic disaster any of them have had to face. They are having to protect their employees' welfare against the virus, whilst also trying to protect their jobs and navigate their businesses through these stormy times.

The CBM has done its utmost, since the onset of the impact on business, to support our members. We engaged very early with the Department for Business, Energy & Industrial Strategy (BEIS) and with a cross section of our membership, forming a strong communication link with these members and BEIS, together with excellent support from Johnathan Dudley and his team at Crowe UK and Peter Matthews and his team at EY.

The Government has made available substantial and unprecedented levels of support to business. These were widely welcomed by CBM members – particularly the Job Retention Scheme paying 80% of furloughed workers' wages, in the hope of protecting those jobs in the longer term. Government loan schemes were also introduced for SMEs and listed companies and more recently for those companies in the middle sector, who were previously not covered.

All these measures were welcome. However, they were hastily put together and there are some pitfalls – especially with accessing the schemes and understanding exactly how they work. Through our communication group, we have highlighted all of these issues and fed back to our excellent contacts at BEIS to ensure our concerns are heard and to request amendments are made. Throughout we've pulled together, given regular feedback to our members, which has kept them fully updated in these rapidly changing scenarios.

As we have moved on through the process, and despite some positive changes, we still have hurdles to cross. Access to



funding has not been straightforward, with banks originally asking for personal guarantees against all loans. Thanks to lobbying some of this has now been removed but more needs to be done. Then the credit houses started to withdraw trade credit insurance against customers, which presents major cash flow issues to companies, especially those using invoice discounting.

At the time of writing the banks are working now to process applications, which is proving difficult due to staffing issues and the sheer volume of applications. The credit houses still need to be brought in line, so as not to undermine the good intentions of the Government's support initiatives. We are still lobbying directly through BEIS but have also utilised the excellent relationships built up with the CBI, MakeUK and SMMT. Our communications group has articulated the issues and we've then escalated them to these major lobbying organisations, which have direct access to Government at the highest level, including 10 Downing Street and senior Ministers.

As we're still in the midst of all this, all we can hope is that we make enough of an impact to protect all our member companies and their employees' jobs.

For those who have not already seen it, we have published the excellent Crowe flow chart clearly showing the routes to funding, on the adjacent page, as well as additional links on all the new directives for guidance.

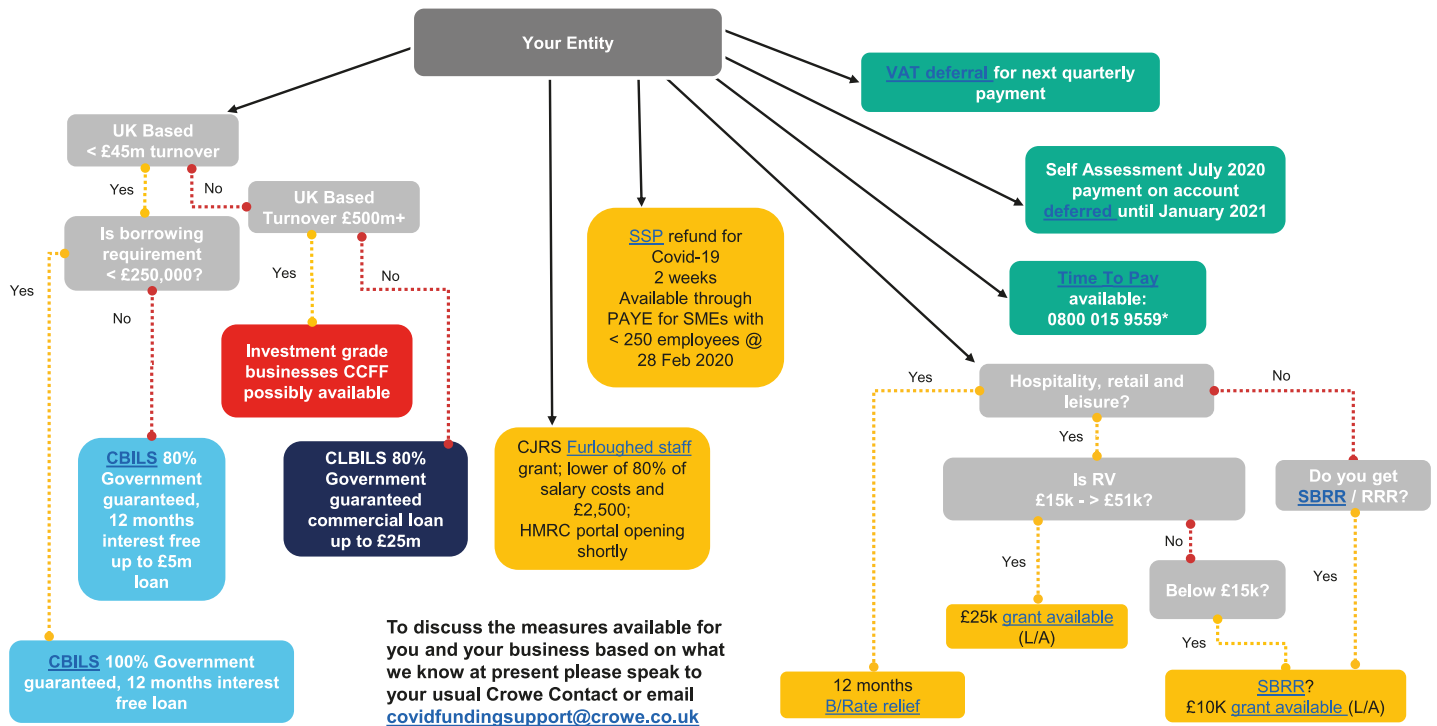
Please look after yourself and your families' health – nothing is more important. We will get through this; our family life will return, and we will rebuild our economy.

If you need any support, we are here for you, so please contact us.

**Stay safe everyone.**

Steve Morley,  
**President of the Confederation of British Metalforming**

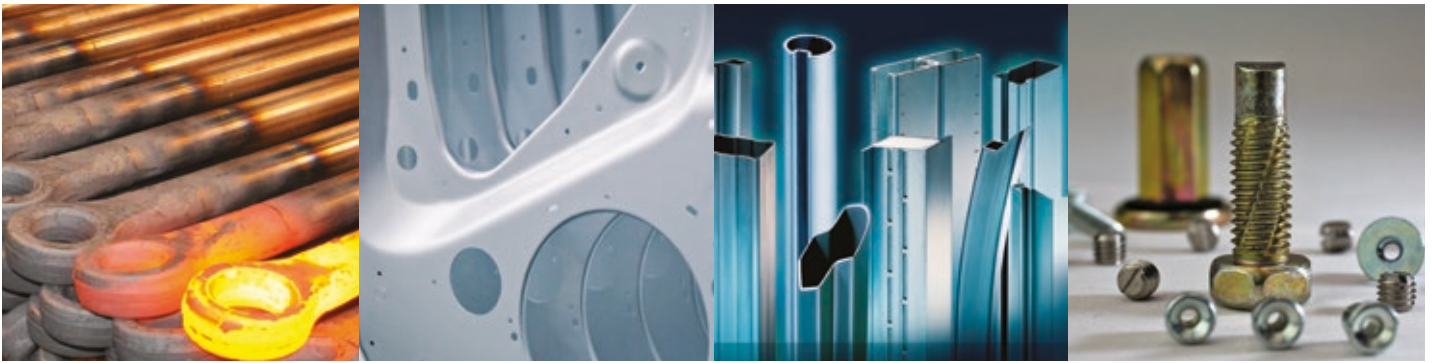
## COVID-19 FUNDING SUPPORT FLOWCHART VERSION 4



### - KEY

- L/A - Local Authority
- RV - Rateable Value
- RRR - Rural Rates Relief
- SSP - Statutory Sick Pay
- CBILS - Coronavirus Business Interruption Loan Scheme
- CLBILS - Coronavirus Large Business Interruption Loan Scheme
- SBRR - Small Business Rate Relief
- CJRS - Coronavirus Job Retention Scheme
- CCFF - COVID-19 Corporate Financing Facility

## THE CBM – HELPING THE UK'S METALFORMING INDUSTRIES TO PROSPER AND GROW



# CBM MEMBERSHIP... WHAT'S IN IT FOR YOU?

CBM is the leading trade association for UK manufacturers of fasteners, forgings, pressings and cold rolled products; the very building blocks of UK manufacturing. CBM members provide high quality components to key industry sectors; indeed virtually every manufacturing sector buys components from a CBM member company, most of which hold a range of third party quality accreditations.

In addition to CBM's manufacturing companies, its associate members include suppliers of materials, equipment, consumables and services, universities and research bodies – a true reflection of CBM's support of a totally integrated metalforming community.

### GOVERNMENT LOBBYING

- Lobbying on sector issues and challenges
- Industrial strategy
- Submissions to government consultations

### ENERGY

- Climate Change Levy rebates
- Energy services: measurement, Energy Saving Opportunity Scheme (ESOS) audits, energy efficiency workshops
- Streamlined Energy & Carbon Reporting (SECR) Reporting Service

### MEMBER PROMOTION

- Enquiries
- Buyers' guide
- CBM website
- Exhibitions
- Metal Matters magazine

### TECHNICAL SUPPORT

- Expert knowledge about fastener, sheet metal/presswork, cold rolling and forging techniques

### HEALTH & SAFETY

- Regular health, safety & environment group meetings
- Accident statistics to reduce accidents
- Helpline for all your health & safety questions
- Occupational health services

### TRAINING / SKILLS / ENGAGEMENT WITH SCHOOLS

- Tackling the skills agenda
- Industry specific courses
- Raise awareness of career potential within our industry
- Metalforming Training Centre

### KNOWLEDGE TRANSFER

- Monthly Market reports
- Project opportunities
- Regular networking opportunities
- Briefings and Seminars
- Metal Matters magazine
- CBM website

### INSURANCE SERVICES

- Cost effective insurance solutions for its members

### OTHER BENEFITS

- Members' buying group
- R&D tax claims
- Business support helpline for all your employment and HR questions
- International links
- National Metalforming Centre Conference Venue – Discounted rates for CBM members
- British Standards Institution

### CBM MEMBERSHIP

- Full Membership is available to companies who manufacture in the UK, by metalforming processes, particularly those who are engaged in hot and cold forging, and the shaping, cutting and forming of sheet metal.
- Associate membership is available to companies and organisations who supply services to the manufacturers.

**CONTACT CBM NOW ON 0121 601 6350**

t: 0121 601 6350 • e: [info@thebcm.co.uk](mailto:info@thebcm.co.uk) • [www.thebcm.co.uk](http://www.thebcm.co.uk)

Confederation of British Metalforming • National Metalforming Centre • 47 Birmingham Road • West Bromwich • West Midlands B70 6PY

# MANUFACTURING OUTLOOK SURVEY – A SNEAK PEEK AT THE HEADLINES

By Johnathan Dudley, Midland & South West Managing Partner and Head of Manufacturing Business Crowe UK LLP

Over late autumn and winter in conjunction with the Confederation of British Metalforming (CBM), we gathered the opinions of the manufacturing industry at a time of significant commercial and political change. The report is shortly to be released but we can now share the main headlines with you.

Many in the sector remain bullish about growth prospects in 2020, and it is clear that businesses are all looking to the same issues that will make-or-break their growth target ambitions for the year ahead. It comes down to three T's: trade, tax and talent.

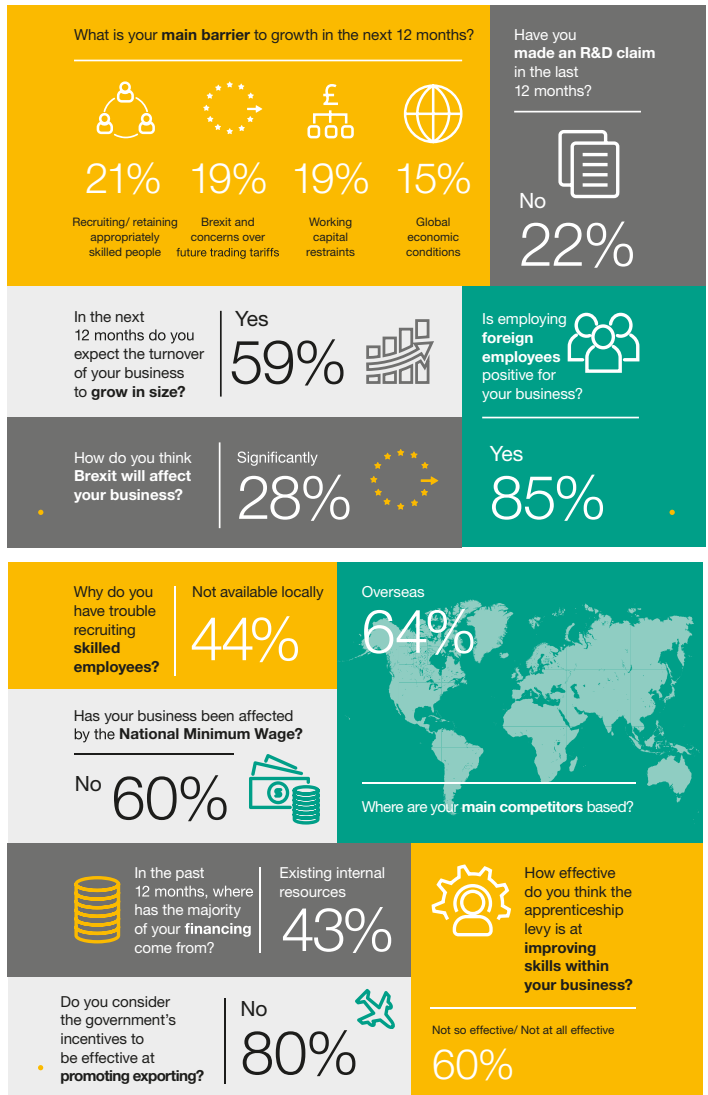
Manufacturing businesses have complex and wide-ranging supply chains, that are not bound by geography and sector, so the picture is complex. Clearly the cost and supply implications of a major economic event like Brexit will need to be monitored, but it may be that reduced friction with non-EU trade partners could counterbalance any rise in friction in terms of EU trade.

On the policy front, our survey already shows that the government must do more. As well as an industry desire for export incentive reform to make the regime more effective, there is a 'communications job' to be done to fix awareness issues. HMRC stats show only 1% of companies are claiming R&D cash tax credits, it is clear that businesses are not taking full advantage of this valuable relief.

There also need to be effective incentives to encourage investment in modernisation and automation that are no longer linked to 'job creation' which has discouraged productivity improvement based investment, in the past and which is inappropriate in a sector with clear skills and manpower shortages and which could be bridged by embracing 'Industry 4.0' technology.

Whilst skills shortage has impacted the sector over the last few years, it is clear that this has now progressed to become a major threat to growth. Limitations both perceived and real, largely driven by the possibility of more restrictive movement post-Brexit, on the one hand will be countered by wider access to non-EU nationals. This is subject of course to the detailed implementation of proposed 'points based' system included in the Conservative election manifesto.

## Key findings





# OPPORTUNITIES IN ELECTRIFICATION FOR THE METALFORMING INDUSTRY

WMG experts from Ready for Electrification team shared their view on opportunities in the electrification market

The event, supported by CBM, took place in the National Metalforming Centre on 3rd March 2020. Over 60 delegates attended the event. CBM President Steve Morley and Head of the SME programmes at WMG Dr Mark Swift gave an overview of the main challenges the industry is facing and shared their forecast.

Thought-provoking presentations from Crowe and the SMMT were followed by an extensive overview of the current trends in the UK automotive supply chain by WMG expert Steve Norgrove. Simon Garwood, Innovation Manager in WMG's SME Group, shared his expertise on how to seize the opportunities created by growth in the EV market in his presentation about the Ready for Electrification programme. Ready for Electrification is a programme tailored specifically for manufacturing businesses of all sizes who want to join the EV market. The programme is funded by the UK Government and provides support on different levels: from networking to R&D or KTP projects depending on a particular issue the business is facing. Phil Asbridge, Manager at C. Brandauer & Co Ltd, one of the business supported by the programme, shared their journey into electrification and challenges they faced on the way.

Please let WMG know what challenges your business is facing on its electrification journey by contacting Simon Garwood at [Simon.Garwood@warwick.ac.uk](mailto:Simon.Garwood@warwick.ac.uk) directly.

If you would like to know more about the Ready for Electrification programme and support available for your business at WMG, at the University of Warwick, please contact [WMGSME@warwick.ac.uk](mailto:WMGSME@warwick.ac.uk).

To know first about WMG future events and latest news follow WMG Business on Twitter and LinkedIn.



## WMG RESEARCH FORGES STEEL INDUSTRY INNOVATION

When the UK's largest independent steel toll processor wanted to improve its production processes, it turned to specialist academic researchers and industry experts from WMG.

WMG is a world-leading research and education group at the University of Warwick, partnering with industry to drive innovation and reinvigorate the UK's manufacturing sector through research and knowledge transfer. Founded in 1980, WMG's multidisciplinary team of academic researchers, ex-industry engineers, business specialists and educators have enabled small and medium-sized firms to develop new technologies and improve their manufacturing processes and products.

Part of WMG's capabilities include a group dedicated to steel research, led by Professor Claire Davis. This team of 30+ researchers is focused on finding innovative ways to develop new and improved steels for industrial use and has particular expertise in micro-structure properties and steel coating.

"Steel is a strong and versatile material that provides the world with expedient engineering properties," says Paul Lansdell, Innovation Manager at WMG. "However, steels manufacture is a high energy process which presents companies with various challenges including a high carbon footprint and significant capital investment." This is why the remit of the steels team is to investigate all aspects of the manufacturing processes for steel and metal products, and has made significant



investment in specialist investigative equipment, such as isotopic tracers, secondary ion mass spectrometry (SIMS) and electron microscopes.

"WMG acts as a crucial conduit between academia and industry," says Lansdell. "We encourage downstream companies to talk to us in order to improve their materials with cutting-edge research."

Last year, WMG's expertise helped Dudley-based Servosteel improve its production processes and make significant efficiency gains.

Servosteel - known in the industry as 'a one stop shop' - is the UK's largest independent steel toll processor with the capacity to process up to 500,000 tonnes of steel annually. However, its management team knew that production bottlenecks were being created on its slitting lines, affecting

*continued on page 7 >*



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the company's ability to achieve its target output, measured in tonnes per hour.

"Finding out how these bottlenecks were forming was something that could have been done in-house, yet we simply didn't have the time to do it ourselves," admits Darryl Macready, Servosteel's Operations Director, explaining that he turned to WMG because of its trusted reputation and extensive knowledge of sustainable manufacturing processes.

WMG suggested that its internship scheme would be the best way to address the company's slitting line challenges. Apart from giving Servosteel access to WMG expertise and equipment, it would also lend them the services of talented interns supervised by WMG's technical experts.

Three manufacturing engineering undergraduates from the University of Warwick - all with expertise in data analysis - were assigned to Servosteel in mid-2019 to begin mapping

out factory floor movements and the production flow from end to end, indicating the value-added at each stage and identifying the main process bottlenecks. The interns used this information to create a data model to predict the best, most frictionless production stream, and identified three main areas for improvement on the shop floor: a prioritisation model, improvements to the changeovers to reduce downtime, and implementing the principles of the '5S' system to organise workspaces, help reduce waste and optimise productivity. Ultimately, this comprehensive analysis from WMG helped Servosteel identify where valuable time was being lost. "On the slitting line machine the interns assessed, we have seen a significant improvement in both productivity and efficiency," says Darryl.

To find out more about WMG and the services it offers email: [wmgsm@warwick.ac.uk](mailto:wmgsm@warwick.ac.uk)

## TRAINING

# PARTNERING FOR BETTER APPRENTICESHIPS

Fastener manufacturer Howmet Fastening Systems (HFS), based in Telford Shropshire, is working with Carlo Salvi UK, also based in Telford, in an innovative way to offer their apprentices exposure to a wider set of engineering skills and learning experiences.

HFS manufacture and supply LockBolts and structural blind fastening systems from their Telford factory, and employ apprentices every year, giving them the opportunity to experience all aspects of engineering and manufacturing from raw material to product design to and from machine maintenance to quality inspection. Each apprentice spends time in key departments learning the fundamentals of the business, exposing them to a variety of management styles and departmental challenges and successes.

Carlo Salvi UK are a supplier of fastener machinery and equipment, including Brankamp process monitoring equipment, and offer a similar apprenticeship program.

In order to widen the range of skills being taught at each company, HFS and Carlo Salvi have formed a partnership to bridge skill gaps together. It is a reciprocal agreement whereby apprentices for each company, who all attend the MCMT (Marches Centre of Manufacturing & Technology) training facility in Bridgnorth, spend time in each other's companies in order to share and advance knowledge and training.

'The idea is to enable our apprentices to learn skills through the training sessions that each company alone would not be in a position to teach them' says Jonathan Craven, Operations Director for HFS. 'The partnership really helps widen the apprentice's skill set and encourages awareness of the way different businesses work.'



The idea is to enable our apprentices to learn skills through the training sessions that each company alone would not be in a position to teach them.

Jonathan Craven, Operations Director for HFS



# FORGING SECTOR SUPPORT GOES UP A GEAR – START TAKING ADVANTAGE TODAY

As part of the ongoing work the CBM is doing to support forging businesses, we have a tailored programme of activity coming up. Our aim is to help members be in the strongest possible position when it comes to capitalising on market trends, innovation and best practice (as well as managing costs and margins). Here are various events in the pipeline – don't miss out on these valuable opportunities.

## Site visit from the CBM forging consultant

Derek Bond has joined us as the CBM Forging Consultant. He's meeting with forging members to understand their specific challenges and identify new ways the CBM can support them.

Derek has visited 70% of forging members so far, and is aiming to complete these one-to-one meetings in the coming months. Please contact him on [Derek.bond@thecbm.co.uk](mailto:Derek.bond@thecbm.co.uk) to arrange a convenient time, if you haven't yet had a visit.

## Innovation support and university links

The UK forging market is diverse, with CBM members filling niche markets. However, there are common issues, and margins across the sector remain very tight. This means that capital programmes and technology investment need to be intelligent – underpinned by a clear understanding of the expected benefits and the timescales for achieving tangible performance improvements.

We analysed productivity levels across CBM forging members. When you look at turnover per employee (and members range from 14 to 500+ staff), the leading companies are the ones introducing advanced technology and collaborating with academia on innovation.

Company ref	Sales/employee (£'000)	Growing	Static	Declining	Investment	Technology	Academia
4	200	Yes			Yes	Yes	Yes
5	187		Yes		Yes	No	Yes
9	166			Yes	Yes	Yes	Yes
10	163	Yes			Yes	Yes	Yes
12	171		Yes		Yes	Yes	No
7	118			Yes	Yes	Yes	Yes
8	100	Yes			Yes	Yes	Yes
1	92	Yes			Yes	No	Yes
5	91		Yes		Yes	No	No
2	85		Yes		No	No	No
11	71	Yes			Yes	Yes	No
3	69		Yes		No	No	No

**Table 1:** Sample overview of sales/employee performance levels for a selection of CBM members

Through CBM membership, you have access to innovation support and university links that will help you make informed investment decisions and maximise impact on productivity.

Contact [derek.bond@thecbm.co.uk](mailto:derek.bond@thecbm.co.uk) to learn more about how to access this in more depth.

## AFRC Open Day at Factory 2050

AFRC open days were very popular last year, giving members a unique opportunity to look at the AFRC's Factory 2050. We're planning other forging sector visits in the coming months, so keep an eye out in e-newsletters and Metal Matters for the confirmed date.

## Specialist advisory and contract support database

Several members have asked for trusted contacts who can provide support for specific requirements.

We're building a dedicated database of service contacts, which you'll be able to access via the Member Log-in on the CBM website. This will be live for use in 2020, so watch for updates.

## Forging workshops for knowledge sharing and best practice

As market conditions tighten and securing new business growth becomes more competitive, forging companies are understandably protective of their market share. However, there are common areas of interest across the sector, and networking and knowledge sharing benefit you and your peers.

We're running a series of forging workshops throughout 2020. They're a valuable opportunity to learn about innovation, academic research, technology advancement and good business practice methodologies – helping everyone collaborate to improve business performance and competitiveness.

Based on member feedback, workshops will be held in a variety of locations (including South Yorkshire and the Midlands) to simplify logistics. The initial workshop programme will focus on

- Automation and Technology
- Business performance metrics and lean manufacturing
- Forging-specific topics, e.g. dies and tools, consumables, simulation and training
- Future leaders networking

Keep an eye out for the upcoming dates. Please contact Louise at [louise.campbell@thecbm.co.uk](mailto:louise.campbell@thecbm.co.uk) if you have any questions or workshop topic requests.

We look forward to see you at these upcoming events – and helping forging members get even more value from the CBM.

# VIDEO CONFERENCING SUITE REDUCES CARBON FOOTPRINT & INCREASES PRODUCTIVITY

The Brooks Engineering Group is now based at several locations throughout the Midlands and deals with an ever-growing global customer base.

As part of our Green & Clean Initiative to reduce carbon footprint and goal to improve communication across our group we have invested in a video conferencing suite at each of our 3 sites in the Midlands. With this system in place, we can communicate simultaneously using video and audio, screen share, display or share documents or simply conduct a company presentation.

Customers can also benefit from the system and its features. Upon receipt of an email invitation, they will be able to join a conference to discuss new or current projects and any aspects of quality and production from the comfort of their desks. We can see this benefiting our international clients by reducing unnecessary travel time and expenses that would include multiple flights and several days of accommodation for a visit to the UK.

The system can also be accessed via tablet or laptop by our representatives or management team when they are on the road, at home or on holiday abroad, meaning an impromptu meeting can be conducted as and when required.

We have already seen many positive benefits from using video conferencing and these include a substantial reduction in travel

requirements between our sites, meeting our aim to reduce the carbon footprint caused by unnecessary travel. It has also increased overall efficiency and productivity with our internal production, quality, and sales team.



## GOVERNMENT PLANS FOR UK BORDER

Michael Gove confirmed that all goods entering Great Britain from the EU will be subject to the same checks and controls as goods coming from any other country in the world.

Mr Gove reiterated the Prime Minister's previous assertion that the UK will leave the customs union and single market at the end of 2020. The Government will not seek alignment with the EU on trade, which means there will be new processes with which exporters and importers of EU goods will need to comply, whether or not a new trade agreement is reached.

Businesses will need to prepare for life outside the EU. The Department for BEIS says it recognises that putting in the same controls as the UK already has for the rest of the world will present significant challenge for businesses and government, and it wants to work with CBM and its members to ensure our views are represented in this development.

Government will continue to design customs and border arrangements that ensure legitimate goods flow into the country and delays are minimised. This will include examining how Freeports may offer the opportunity to trial innovative customs technologies in controlled environments. A public consultation on Freeports has been launched.

[www.gov.uk/government/consultations/freeports-consultation](http://www.gov.uk/government/consultations/freeports-consultation)

BEIS says up to ten Freeports will be introduced across the UK; national hubs for trade, innovation and commerce, helping the UK form partnerships with old allies and new friends around the world. Freeports can unleash the potential of proud historic ports, regenerating communities across the UK - attracting new businesses, spreading jobs, investment and opportunity.

Customs intermediaries will be crucial in ensuring businesses are ready to make customs declarations. HMRC has extended the deadline for businesses to apply for customs support funding to 31 January 2021.



Further details on the speech delivered by the Chancellor of the Duchy of Lancaster to the UK Border Conference on 10th February can be read here:  
[www.gov.uk/government/news/government-confirms-plans-to-introduce-import-controls](http://www.gov.uk/government/news/government-confirms-plans-to-introduce-import-controls)



# FATIGUE FAILURE OF AN M16

Bolting Technology News from Bolt Science

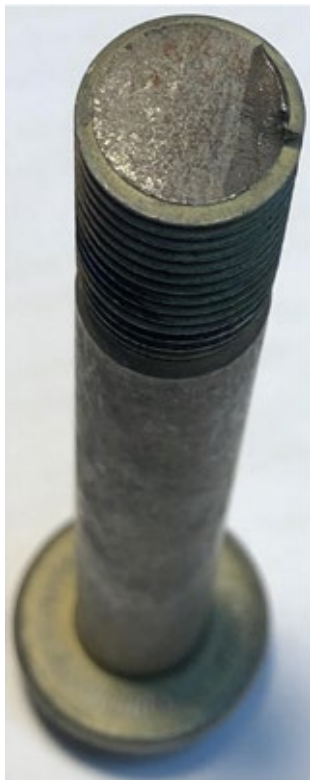
Investigating fastener failure can provide invaluable insight into the correct application and assembly of fasteners.

In the image below we can see the failure of an M16 flanged fastener of strength grade 12.9. This fastener failed as a result of fatigue failure.

Following a detailed investigation of the assembly, the torque specification was too low. The torque specified was 180 Nm that resulted in a preload of 71000 N. This preload was insufficient to prevent the forces applied to the bolt opening the joint causing high alternating stresses to be sustained by the bolt.

The problem was resolved by increasing the tightening torque applied to the bolt so that a higher proportion of its yield strength was used.

The strength of the fastener was not being utilised, reducing the preload that the fastener was capable of providing. A tightening torque of 300 Nm was subsequently specified that resulted in a preload of 119000 N that was sufficient to sustain the forces applied to the joint.



## - UNTIGHTENING OF NUTS & BOLTS

**If a nut is untightened immediately after being tightened, the torque needed to untighten it will be less than that needed to tighten it.**

This is due to the portion of the torque which actually stretches the bolt always acting in the untightening direction. Hence when a nut is immediately untightened, usually about 20% less torque is needed than was needed to tighten it in the first place.

As the time passes from when the nut was tightened, the torque needed to untighten it tends to increase. After half a day or so, the release torque can be typically up 10% greater than the tightening torque. This is due to a number of effects including embedding of the contact surfaces and changes in temperature affecting the friction conditions. Such effects typically increase the friction and hence a greater release torque is required. Because of such friction changes, the use of torque auditing methods (measuring the backoff - or crack-off torque or the tightening or crack-on torque) to assess if the bolt being tightened correctly is only accurate if it is completed shortly after the assembly was tightened.

The greater the changes in the temperature and environment experienced by a bolted joint, the more rapid are the changes in the friction and subsequent change to the release torque. In sub-sea applications, sustaining elevated or low temperatures, significant changes in the friction conditions can rapidly occur. The properties of any lubricant will change over time, which in some applications, can lead to galling of the surfaces resulting in a dramatic increase in the release torque i.e. by as much as 50% to 100% of the tightening torque.

Over a prolonged time period, oxidation and corrosion of the thread interfaces and nut face can occur making removal of the nuts problematic without destroying the bolt. In such circumstances nut splitters and similar measures are needed for nut removal.

When hydraulic torque tightening tools are used, problems can occur in that the tool used to tighten the nut cannot remove it. Hence it is normal practice for the tool to be selected based upon 80% of its rated torque value to allow some margin for subsequent nut removal. Even with such an allowance, a larger rated tool may be needed to remove the nut under certain circumstances.

To assist in preventing problems, avoid having too much thread protrusion past the top of the nut (more than two thread pitches unless hydraulic tensioners are used). Also consider the use of protective caps that pass over the thread/nut to protect the surfaces from the effects of corrosion and incidental damage.

Bolting Technology News is published with the kind permission of Bolt Science Limited.

*Bill Eccles formed Bolt Science in 1992. The company is a provider of independent technical expertise in bolted joint technology. Bill has extensive experience in the design, analysis and installation of bolted joints and has published several technical papers on the subject. He has a Doctorate in Engineering on The Self-Loosening of Threaded Fasteners and has delivered training courses around the world on the analysis of bolted joints and bolting technology.*

To find out more please visit [www.boltscience.com](http://www.boltscience.com).



# CLEVEDON INSTALLS STATE-OF-ART SORTING MACHINE

CBM member, Clevedon Fasteners Ltd, has taken delivery of a latest, state-of-the-art optical sorting machine.

**T**his is Clevedon's most advanced optical sorter having four cameras and an Eddy current checking station which can be used for comparative testing; ensuring parts are to the correct heat treatment specification (property class).

This is Clevedon's most advanced optical sorter – having four cameras and an Eddy current checking station which can be used for comparative testing; ensuring parts are to the correct heat treatment specification (property class).

As Clevedon's sales of threaded parts in general continue to increase, with clinch studs in particular, the Sutton Coldfield company wanted to provide customers with a greater level of security regarding the product's property class – rather than simply supplying a second-party heat treatment certificate.

The cameras not only check for contamination and dimensional inaccuracies, but also incorrect aesthetic elements such as misshapen heads, clinch ring defects, and colour – as well as lettering and other non-dimensional problems.

The parts which pass the camera and Eddy current scrutiny are fed directly into the dispatch boxes ready for shipment to the customer. This ensures no post-sort contamination. The combination of these technologies ensure Clevedon moves nearer to its goal of defect-free products, and to build upon its already impressive quality record.

Last year Clevedon celebrated its 80th anniversary, founded by Bert Godwin and Fred Wood as Clevedon Rivet and Tools in 1939. The company developed carbide steel cold-forming tooling and ventured into aluminium alloy rivets, which were installed on, amongst other wartime aircraft, the iconic Supermarine Spitfire. The company has a fascinating history, well worth a read on its website [www.clevedon-fasteners.co.uk](http://www.clevedon-fasteners.co.uk).

Today, Clevedon Fasteners Ltd specialises in the manufacture of cold-formed components for use in the commercial and automotive markets world-wide. From its roots in the aircraft industry it has always maintained the disciplines of technical competence, combined with outstanding customer service to forge a reputation for quality, reliability and rapid response to customer needs.



**CLEVEDON**



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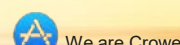
## Covid-19 Funding Support

Support measures and how we can help:

- CBILS and CLBILS - advice, applications and backup information including forecasts.
- Coronavirus Job Retention Scheme (CJRS) - advice on furlough and on claiming the grant
- Calculations of furlough grant and managing the process
- Advice and assistance on cash flow management including securing tax deferrals

Crowe are able to offer a direct route to most lenders and are therefore able to reach key decision makers more often than not.

To discuss the measures available for you and your business based on what we know at present please speak to your usual Crowe Contact or email [covidfundingsupport@crowe.co.uk](mailto:covidfundingsupport@crowe.co.uk)



Audit / Tax / Advisory / Risk

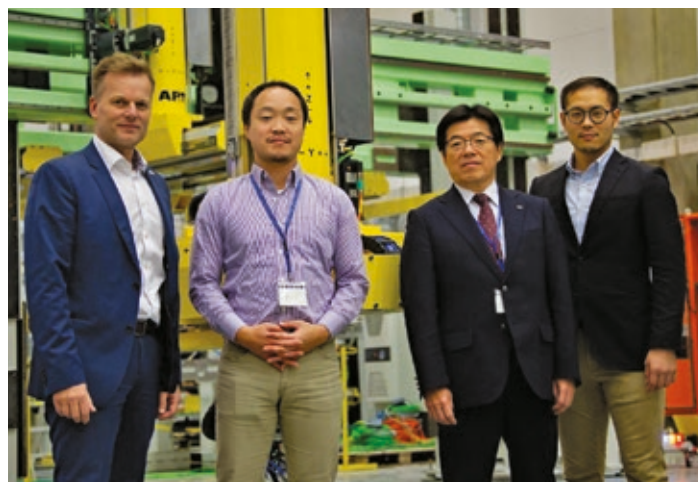
Japanese Unipres supplies many of the world's major car manufacturers with car body parts made out of pressed sheet metal. The global group has now decided to invest in two complete press hardening lines from AP&T. The first of the two lines will begin operating at Unipres's British manufacturing center in Sunderland at the beginning of 2020. The second line will be delivered to the group's French plant in Biache Saint Vaast in March 2020.

"AP&T's reliable technology, extensive experience of press hardening and ability to provide quick service are some of the most important reasons underlying our decision to collaborate with AP&T," says Senior Vice President Ryoji Maeda, Advanced Engineering Development Center, UNIPRES R&D CO., LTD.

"We are naturally delighted to be entrusted with producing complete solutions that meet Unipres's high demands for short cycle times and extensive automation. Both of the lines have advanced technology. For example, all of the tooling and gripper changes are fully automated. The lines are also equipped with sophisticated press monitoring, which ensures a consistently high level of quality for the manufactured parts," says AP&T Technical Sales Manager Peter Robisch.

AP&T's business model - One Responsible Partner® - which entails AP&T taking full responsibility for all of the production equipment and having all of the required expertise in-house also played an important role in the procurement. Another important aspect was AP&T's global operations, which allow the company to offer service and spare parts supply where customers operate.

To date, AP&T has delivered and installed over 120 press hardening lines all over the world.



• Unipres visits AP&T in Ulricehamn, Sweden. Tsutomu Serizawa and Ryoji Maeda from Unipres in the middle, with Peter Robisch and Yuki Yoshikawa from AP&T on either side.

[www.aptgroupp.com](http://www.aptgroupp.com)

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## WIRE AND TUBE DUSSELDORF POSTPONED TO DECEMBER

On 29th February Messe Dusseldorf announced it had postponed wire and Tube Dusseldorf, originally scheduled for the end of March, due to the covid-19 outbreak. The fairs have now been rescheduled for 7-11 December 2020.

Messe Dusseldorf said that in postponing the events is "was following the recommendation of the crisis management team of the German government to take into account the principles of the Robert Koch Institute when making a risk assessment of major events." Added to this, the organisers said, "was the uncertainty of numerous exhibitors and visitors at the events in March and the complicated travel situation, especially for international customers".

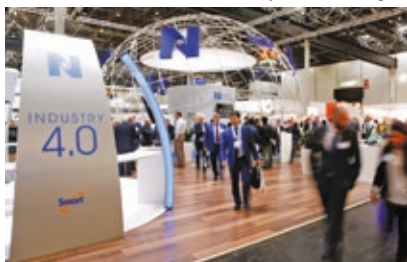
"This decision was not an easy one for all concerned," says Thomas Geisel, Lord Mayor of the City of Düsseldorf and

Chairman of the Supervisory Board of Messe Düsseldorf GmbH. "But the postponements at the present time are necessary for Messe Düsseldorf and its customers in view of the increasingly dynamic developments."

The world's leading international trade fairs for the wire, cable, tube and pipe industry, wire and Tube, will now take place from 7 to 11 December 2020 at Düsseldorf Fairgrounds. 2,600 exhibitors in 15 halls are expected to present their latest machinery and equipment for wire and tube production, processing and finishing, end products, products and services.



[www.wire-tradefair.com](http://www.wire-tradefair.com)



images: ©Dusseldorf



# 'EUROPEAN FIRST' FOR SDE TECHNOLOGY AS IT TARGETS £ MULTI-MILLION OF NEW LIGHTWEIGHT OPPORTUNITIES

One of the UK's leading manufacturers of pressings and assemblies has signalled its intentions to be a world leader in lightweight components by investing in a new process.

SDE Technology, which prior to the recent rebrand was known as Salop Design and Engineering, is the first company in Europe to hold a production licence for Hot Form Quench (HFQ®), a revolutionary hot forming process for producing high strength aluminium parts for use in the automotive, aerospace and renewable sectors

This new technology gives designers the freedom to create parts that offer significant weight savings, yet still deliver higher structural strength, with improved formability in six and seven thousand series alloys, that cannot be formed cold. In some instances, it can also reduce the part counts from multiple components to just one.

Because HFQ lends itself to higher strength aluminium, it is ideally suited for the vehicle safety cell in the automotive sector and has also been used to develop a prototype aircraft armrest.

The initial investment of £1 million in 2019 enables the laser profiling of HFQ blanks, with a £multi-million investment scheduled to be in place at its Shrewsbury facility over the next eighteen months.

"This is a real gamechanger for our business and industry as a whole - thanks to HFQ® we can now offer new and existing customers a lightweight solution for making complex parts



• Richard Homden CEO  
of SDE

in one pressing, reducing weight, time to manufacture and cost in the process," explained Richard Homden, CEO of SDE Technology.

"HFQ® was developed by Impression Technologies (ITL), who industrialised research by Birmingham University and Imperial College London. This is a great example of British research being utilised by British manufacturing."

He continued: "You simply cannot form this high-strength aluminium in any other way, unless you use a Super Plastic Forming process. Even then, SPF makes one part every 15 to 20 minutes, where the cycle time for our technology is one part every 15 to 20 seconds. That is a design and manufacturing dream.

"This is the start of an ambitious growth and investment strategy that positions us as the first production intent company for this process in Europe."

SDE Technology is currently in talks with a number of OEMs about the Hot Form Quench offer.

Initial feedback from clients point to the fact you can exchange steel parts for aluminium and achieve part integration and less weight as the key drivers for adoption. The fact you can also remove reinforcements and replace extrusions and castings with HFQ® pressings are other big wins.

Christopher Greenough, Chief Commercial Officer, said: "As a company, we are focused firmly on how we can deliver lightweight manufacturing solutions that can help solve a lot of industry's current and future requirements.

"The Government is obviously pushing hard for electrification and this is something that our technology can assist with and we believe this will be a big driver in helping quadruple our turnover over the next 5 years."

Mark White, a leading technical specialist in lightweight vehicle structures, added his support: "I have been actively involved in the trend for lightweighting and, now that the Government's push to EV is accelerating, it is more important than ever to find innovative ways to enable it to become the design norm.

"SDE Technology is leading the way with its HFQ licence and will provide the production route for OEMs to access this exciting process."

Christopher concluded: "We are looking to be at the forefront of the emerging EV and lightweighting markets, whether it is through HFQ or other innovative processes for joining different materials, battery technology and surface coating."

Two of CBM members have come together to create a better future for manufacturing.

For further information, please visit [www.sde.technology](http://www.sde.technology) or follow @sde\_technology on twitter.

# CBM ENERGY SERVICES

## STREAMLINED ENERGY AND CARBON REPORTING - SECR MANDATORY REPORTING SERVICE

### - DOES YOUR COMPANY OR ANY OTHER COMPANY IN YOUR GROUP MEET ANY 2 OF THE SECR CRITERIA?

- Turnover of £36 million or more
- Balance sheet of £18 million or more
- 250 employees or more

SECR is a mandatory requirement for those companies that meet the criteria and is required that as part of the company's annual accounts (filed at company's house) you must disclose:

- UK energy use including transport
- Greenhouse gas emissions
- At least 1 intensity ratio (e.g. co2 per ton output)
- Information about energy efficiency action taken in the organisation's financial year
- Methodologies of calculations
- Previous year's figures for comparison

The CBM is offering a SECR service to all its members that fall under SECR umbrella.

The items included within the service are:

- Data collection
- Assistance in putting systems in place to collect the relevant data e.g. transport.
- Setting a base year and calculating the relevant Co2 figures
- At least 2 meetings to discuss and finalise the energy efficiency narrative that forms part of the report
- Compiling a SECR report that can be added to the company's annual report.

For more information, please contact our CBM energy specialist Kevin Kirkby.

e: kevin.kirk@thecbm.co.uk  
t: 0121 601 6350.  
m: 07789 502850

## CLIMATE CHANGE LEVY RATES

In line with the government's intent to bring the CCL rate charged on gas and electricity closer together, the CCL rates are due to change again this April. The levy on electricity will fall slightly to 0.811 pence per kWh however the maximum percentage will also fall from 93% to 92%. This means for a company using 1,000,000 kWh and claiming maximum rebates will pay an additional £55.90.

The CCL on gas is increasing but to off-set this the maximum percentage is also increasing by 3%. This means for a company using 1,000,000 kWh and claiming maximum rebates will pay an additional £25.60.

	1st April 2019		1st April 2020		1st April 2021	
Commodity	Charge per kWh	Max rebate	Charge per kWh	Max rebate	Charge per kWh	Max rebate
Electricity	£0.00847	93%	£0.00811	92%	£0.00775	92%
Natural Gas	£0.00339	78%	£0.00406	81%	£0.00465	83%
Other	£0.02653	78%	£0.03174	81%	£0.03640	83%

The CCL on gas is increasing but to off-set this the maximum percentage is also increasing by 3%. This means for a company using 1,000,000 kWh and claiming maximum rebates will pay an additional £25.60.

On a practical side this means that every April, members who reclaim the CCL through a CCA or a combination of both Metallurgical exemption and CCA will need to complete and submit new PP10 and new PP11 forms to prevent over or underpayment of CCL.

If you want to take advantage of either of these services or require more information please contact Kevin Kirk at the CBM.

e: kevin.kirk@thecbm.co.uk  
t: 0121 601 6350.  
m: 07789 502850



# FREE ANNUAL LEGAL REVIEW FOR CBM MEMBERS

West Midlands based law firm FBC Manby Bowdler is offering CBM members a free Annual Legal Review to help them safeguard their future.

The firm – which has offices across Shropshire, the Black Country and Redditch – says the no-obligation review highlights areas where a company may be legally at risk.

The review is carried out by one of the firm's dedicated client relationship managers and produces a comprehensive report for directors and business owners pinpointing areas where legal help could protect and future-proof a business.

FBC Manby Bowdler – which has built a reputation as the region's go-to law firm for the manufacturing sector over the last 18 months – says the review is part of a package of measures specifically designed to help manufacturers across the region.

Sales director Neil Lloyd said: "The Annual Legal Review provides directors and business owners with a comprehensive written report that outlines where a company may be legally exposed. This is an ideal opportunity to plan ahead and address any areas of risk."

The firm has specialists across commercial property, corporate (including debt/equity capital raising, mergers and acquisitions), employment & HR, litigation, debt recovery, intellectual property and international matters.

Neil added: "Our aim is to work in collaboration with CBM members so we can understand the challenges they face and deliver proactive legal advice that supports their objectives."

To take advantage of the free review contact Dawn Tuck on dawn.tuck@fbcmb.co.uk or 07519 122996.

FBC Manby Bowdler are delighted to be the headline sponsor of the CBM Annual Dinner and Awards which has been postponed, new date to be confirmed soon.



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- Shareholders & Partnership Agreements
- Banking & Finance
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**Free Annual Legal Review for CBM Members**



# LATEST REPORT FROM CBM HEALTH, SAFETY AND ENVIRONMENT GROUP

The CBM HS&E Group met on 18th February. Here is a summary of some of the key outcomes from the meeting.

## - ISSUES FOR DISCUSSION AT CBM HS&E GROUP MEETINGS

Group members were asked to identify key issues for discussion at future meetings via a feedback form. Multiple requests (number in brackets) were made for:

- FLT/Pedestrian Segregation (4);
- SHIMS – further interrogation into incidents. Sharing of best practice in successful CAPA's (4);
- Manual Handling management & best practices (3);
- Presentations from Mist/Fume Extraction specialists in line with HSE requirements (2);
- Best EHS Practices in Warehouses (2);
- Environmental Legislation update, look forward to what may be coming (2);
- ISO45001. Sharing of implementation methods by members who have migrated or recently achieved (2);
- Packaging (Timber). Disposal, substitution, recycling, reusing (2);
- Permitting requirements, i.e. Medium Combustion Plant, Emissions Directive (2);
- Advice/Guidance on CCTV use (2);
- Environmental 'big wins.' Best practice sharing (2).
- Longer meetings, i.e. include an afternoon session finishing at 2pm (2);

The full list may be viewed, along with the Chairman's full report, in the Health, Safety & Environment section in the members' area of [thecbm.co.uk](http://thecbm.co.uk)

## - POWER PRESS GUIDANCES

Working with the Health & Safety Executive, CBM members have been asked to review the following Power Press Guidances:

- HSG 236 - Power Presses; maintenance and thorough examination
- Indg 316 - Procedures for daily inspection & testing of mechanical power presses & press brakes
- EIS 30 - Safety in the use of hand presses.

In addition to CBM members the review also involved: SAFED, press maintenance contractors, an insurance company and power press manufacturers. The review took place last September at the NMC with twenty-five in attendance. From the review the following changes were identified as being required.

### - HSG 236:

The major issue related to the definition of a Power Press in PUWER as: "a press or press brake for the working of METAL by means of tools or for die proving, which is power driven and which embodies a flywheel & clutch."

The use of and types of power presses have changed dramatically since the second issue of HSG 236 was published in 2003. From

the 3rd September meeting it was recommended to change this statement to: "Power presses & press brakes not only work sheet metal, they also process a variety of other materials such as: carbon fibre, castings, forgings, plastic, composites & fibreboard, etc.

Presses are also used for making hot formed metal pressings.

Presses to which this guidance should apply will include mechanical presses that use a flywheel & clutch, hydraulic & pneumatic presses, press brakes, servo driven presses, and hybrid presses."

Throughout the meeting the HSE position was that the law relating to power presses is set out in the Provision and Use of Work Equipment Regulations 1998 (PUWER) explaining that:

- 1) The definition of a power press is set out in Regulation 2. "Power press" means a press or press brake for the working of metal by means of tools, or for die proving, which is power driven and which embodies a flywheel and clutch. This excludes presses which do not have a clutch mechanism, for example pneumatic and hydraulic presses and presses used for working other materials.
- 2) Regulations 32 to 35 set out the requirement for power presses to be thoroughly examined and inspected within the first four hours of a shift. Schedule 2 of PUWER lists power presses to which these regulations do not apply, this includes 'A power press for the working of hot metal'.
- 3) The guidance documents under review need to be aligned to the law as set out in PUWER and to L112 Safe Use of Power Presses: Provision and Use of Work Equipment Regulations 1998 (as applied to power presses) Approved code of practice and guidance.

HSE said it would find out the process for changing the law. However, it did not confirm support for any change. HSE would need to look at the work done for the 2014 ACOP review and speak to policy lead on PUWER and to our Legal Advisors' Office, which would take some time and was not available for the February meeting.

## - OTHER DISCUSSIONS ON POWER PRESS GUIDANCE

The other main discussion was regarding the 'Competent Person' and the specific question whether the following personnel were defined as a competent or appointed person:

- Press Shop Manager
- Supervisor/Team Leader
- Tool Setter
- Tool Setter/Operator
- Maintenance fitter/Electrician
- Operator

All were in agreement that all of these personnel needed training, but the questions were: who carried out the training? Was it recorded? Are staff aware of the person?

Alternatively, do these personnel need to have some form of accredited training and assessment by an outside body? This raised the question whether the CBM needed to pursue a source for qualified competent training. The other thought that was raised was: If you use Contract Maintenance Engineers for M&TE do you check their qualifications?

The review is ongoing and updates would be provided on progress when appropriate.

### - WELDING & METAL WORKING FLUIDS

In relation to about what to know on welding and metal working fluids, the meeting was presented with the following from Fiona McGarry, HM Inspector of Health and Safety - Metals, Minerals and Engineering Sector:

"I am writing to you to bring to your attention the current inspections and new developments in the Health and Safety Executive's (HSE) guidance.

HSE is reminding employers that they must protect their workers' health by controlling the risks from welding fume.

HSE's current programme of inspections will review health and safety standards across the country and businesses are encouraged to visit HSE's revised guidance to remind themselves of the changes to enforcement expectations.

The inspections follow a safety alert that was issued after new evidence shows exposure to mild steel welding fume can cause cancer. HSE has updated guidance to reflect this.

The Control of Substances Hazardous to Health direct advice sheets<sup>1</sup> for welding, and the updated metalworking fluid sheets<sup>2</sup>, will help to make sure exposure to any welding fume<sup>3</sup> or metalworking fluid, is adequately controlled.

You can also receive information on HSE's latest inspections and campaigns by signing up to our newsletter<sup>4</sup>"

These links and publications were also noted by the meeting as relevant to review:

### Welding:

Welding COSHH essentials sheets<sup>5</sup>

Welding webpages<sup>6</sup>

### Metalworking fluids:

Metalworking fluids COSHH essentials sheets<sup>7</sup>

UKLA Good practice guide for safe handling and disposal of MWF<sup>8</sup>

### - CBM GUIDANCE ON SAFETY REQUIREMENTS FOR HOT FORGINGS

The document is currently in draft form. It has been reviewed by Fiona McGarry and an HSE colleague and she is, in principle, happy with the content but may wish CBM to change the layout, and possibly the order of some of the chapters. Fiona also requested an invitation to a forging plant to view the forging operations to enhance her familiarity with the processes.

Subsequent to the meeting, Chairman of the CBM HS&E Group, John Darlington, reported that he had invited Fiona to visit the Blaenavon Forgings facility, at which she would be able to view all the processes detailed in the document. A date for the visit is to be agreed, hopefully prior to the next CBM HS&E Group meeting currently scheduled for 20th May 2020.

### - USEFUL LINKS

1. [campaigns.hse.gov.uk/subscribe/1](https://campaigns.hse.gov.uk/subscribe/1).  
[www.hse.gov.uk/welding/guidance/index.htm](https://www.hse.gov.uk/welding/guidance/index.htm)
2. [www.hse.gov.uk/coshh/essentials/direct-advice/metalworking-fluids.htm](https://www.hse.gov.uk/coshh/essentials/direct-advice/metalworking-fluids.htm)
3. [www.hse.gov.uk/welding/index.htm](https://www.hse.gov.uk/welding/index.htm)
4. [campaigns.hse.gov.uk/subscribe/](https://campaigns.hse.gov.uk/subscribe/)
5. [www.hse.gov.uk/coshh/essentials/direct-advice/welding.htm](https://www.hse.gov.uk/coshh/essentials/direct-advice/welding.htm)
6. [www.hse.gov.uk/welding/](https://www.hse.gov.uk/welding/)
7. [www.hse.gov.uk/coshh/essentials/direct-advice/metalworking-fluids.htm](https://www.hse.gov.uk/coshh/essentials/direct-advice/metalworking-fluids.htm)
8. [www.ukla.org.uk/wp-content/uploads/UKLA-HSE-Good-Practice-Guide-for-Safe-Handling-and-Disposal-of-Metalworking-Fluids.pdf](https://www.ukla.org.uk/wp-content/uploads/UKLA-HSE-Good-Practice-Guide-for-Safe-Handling-and-Disposal-of-Metalworking-Fluids.pdf)



# TOOL PROCESS DESIGN ENGINEER APPRENTICESHIP RECEIVES FORMAL APPROVAL

By Howard Boswell

**The Institute for Apprenticeships and Technical Education formally approves the end point assessment plan for our Tool Process Design Engineer Apprenticeship.**

**T**he Institute for Apprenticeships and Technical Education formally accepted our end point assessment plan for the new Level 6 Tool Process Design Engineer Apprenticeship on the 20 February 2020.

This encouraging news is the culmination of over 20 months detailed work by our trailblazer group who have created both the apprenticeship standard and the means of validating the ability of the apprentice with an industry specific end point assessment plan.

With this good news came an improved funding band for this apprenticeship and although greatly improved, the CBM will continue to try and further improve the amount employers can access from their levy pot towards the total cost of the apprenticeship.

Fine tuning of the end point assessment is taking place together with consideration of improving the funding band even further to allow members to access the maximum value from their companies training levy pot.

This degree level programme has been specifically created by the CBMs Trailblazer group and ensures the apprenticeship meets our sectors specialist technical requirements. The skills knowledge and behaviours are specific to our members needs and the employing organisation can choose which university they work with to achieve the standard. A key component of this programme is the opportunity for the apprentice to work on industry standard training equipment. This equipment was obtained by the CBM on behalf of members and is sited at the In Comm training workshop in Aldridge.

We are now entering the next phase and are asking members to become actively involved to ensure this apprenticeship standard adds real value to our sector.

There are three areas which members can support this initiative and in doing so will ensure both the sector and employers are gaining from this investment.

We ask that you undertake both a demographic and skills analysis of the Tool Process Design capability in your organisation. Using the analysis consider whether to recruit new talent who can undertake this apprenticeship, or whether to up skill your existing workforce as a means of staff retention and to ensure business continuity.

The Covid 19 crisis has highlighted manufacturing's vulnerability when exposed to global supply chains. It is vital that we maintain United Kingdom's skills and build our internal capability in order to face these global challenges. Therefore, consider how this apprenticeship can reduce dependency on overseas skills in these uncertain times.

Throughout the creation of both the standard and the end point assessment plan it has been evident that the sectors contribution to UK manufacturing is misunderstood. We ask that member companies continue to raise the profile of sheet metal process sector at every opportunity. This will ensure funding for our apprenticeships and any future government support for skills will achieve the highest monetary values available.

For further information please contact either Geraldine Bolton, Steve Morley or Adrian Nicklin.





# FILLING SKILLS GAPS: THE STORY OF A NEW, MUCH-NEEDED APPRENTICESHIP

The CBM have been spearheading development of an apprenticeship to meet requirements specific to the metalforming industry. This has been a 3-year process culminating in approval of the Tool Process Design Engineer level 6 (degree) apprenticeship, which is preparing to recruit its first intake for September 2020.

Here, Adrian Nicklin, CBM's Sheet Metal Specialist, tells the story of how this initiative evolved – and how it will help our industry fill strategic skills gaps.

## Q: HOW DID THE IDEA FOR THE TOOL PROCESS DESIGN ENGINEER APPRENTICESHIP COME ABOUT?

**A** 2016 CBM member survey identified a major shortage of qualified toolmakers in the UK. This was a trend across domestic toolrooms and contract toolmaking companies. The long-term solution was to cultivate UK talent in this key area, so we could reshore the skills rather than continue depending on (mostly) Asian tooling suppliers.

We put together a Trailblazer Group of 10 member companies to drive the process of creating an apprenticeship. These 10 companies were a mix of Tier 1 and 2, SMEs and those with 200+ employees. That way, we could create an accurate picture of the specific training needed to meet business needs.

## Q: WHAT'S THE PROCESS FOR ESTABLISHING A NEW APPRENTICESHIP?

**A** It's a rigorous, time-consuming process through the Institute for Apprenticeships & Technical Education. It started with a formal Expression of Interest and proposed apprenticeship standard from the Trailblazer Group, which was prepared with the help of an industry specialist and an expert commissioned writer.

Once the Trailblazer Group approved the proposal, it went to our designated relationship manager at the Institute for Apprenticeships & Technical Education. This kick-started a 3-month process of review and revision with the relationship manager before the proposal could be formally submitted. Part of this was educating them about what tooling is and how sheet metal press tooling differs from, for example, plastic mould making. The CBM's backing played a vital role in championing the unique requirements of the metalforming industry, supporting the Trailblazer Group to get the clear need for this specific qualification recognised.

## Q: HOW WERE UNIVERSITIES AND TRAINING PROVIDERS INVOLVED IN THE PROCESS?

**A** The Institute for Apprenticeships & Technical Education required 3 universities, as well as a training provider, to be on board.

Wolverhampton University, Sheffield University's AMRC and Warwick University agreed to put cost packs together. In-Comm was immensely helpful in this process, collaborating with the Trailblazer Group and the CBM to ensure we had the specific facilities required.

## Q: WHAT'S ON THE SYLLABUS?

**A** The apprenticeship develops the ability to take component CAD drawings through the tool process design steps to mass production, meeting customer criteria. The syllabus includes

- Manufacturing process development
- Cost estimating
- CAD tool design & forming simulation CAE
- Capacity planning
- Pre-production component manufacture
- Related H&S
- Metrology
- Metallurgy
- Related maths

## Q: WHEN DID THE APPRENTICESHIP RECEIVE APPROVAL AND WHEN CAN PEOPLE START WITH IT?

**A** We received final approval on 20th February 2020, which means the first intake of the Tool Process Design Engineer Trailblazer Degree Course can begin in September 2020. It's open to people of all ages – existing staff and new starters.

Gaining approval was an arduous process that could benefit from streamlining to make it easier for employers and industries to build up vital skills. Our success reflects the commitment of the employers in the Trailblazer Group, In-Comm, universities, commissioned writer Howard Boswell from Inspired Leadership Support Ltd, and – crucially – CBM staff. It's a testament to CBM's organisation and drive in this that they won the Skills Development Award at the 2019 Trade Association Federation Awards.

The industry now has a new, much-needed way to future-proof its tooling workforce and use their Apprenticeship Levy effectively.

## Q: HOW CAN WE BOOK STAFF ON TO THE APPRENTICESHIP?

**A** Go to <https://www.instituteforapprenticeships.org/apprenticeship-standards/tool-process-design-engineer/> For more information, contact Adrian Nicklin, CBM Sheet Metal Specialist, at [adrian.nicklin@thecbm.co.uk](mailto:adrian.nicklin@thecbm.co.uk).

# TENFOLD GROWTH IN ROBOT NUMBERS FORECAST BY 2030

There is now mainstream recognition that Industry 4.0 /4IR benefits were oversold, for example, The Times “What is driving apathy to 4IR” insert. The fourth industrial revolution was always going to be spread over many years, just like the first three !

**N**ormally, SMEs in metal forming do not rush out to buy the latest gizmo – they prefer to let someone else be the guinea pig, wait for good results and the prices to drop. Additionally, most have already incorporated automation at the cell level at least, (presses, welders, paint lines) taking the easier wins.

It's been large companies that mainly took up the 4IR challenge as they have the most to gain and can share the cost of support services across several sites. It's seen as a direction and a journey, more about still being in business in five years time than making a financial payback.

The result from this is that robots, predictive maintenance and enterprise resource packages are now all proven, abundant and realistically priced, you can even rent them for a short period.

**Robots.** There are several examples at CBM members, mainly loading and unloading machines, again with larger companies leading the way. I have not seen a cobot in operation yet but they lend themselves to assembly jobs where they complement operators, one giving the experience and intuition, the other the physical power to keep doing the repetitive tasks.

Robots have really been taken up by the car suppliers so maybe it's not too surprising that the UK is 22nd in the world for robot density in manufacturing, at just under one robot per 100 employees.

That's not so many when you consider Footprint Tools, a CBM Member in Sheffield, with a employ13 has one robot, putting

them seven times over the national average. All the feedback we have on robots is that they are reliable and consistent, tireless and well-behaved once you define the job correctly. Look on CBM Members area for information on some robots in forging.

**Predictive/Prognostic/Smart Maintenance** is well-proven in several industries and many applications, it's readily available, and can give feedback after two weeks recordings. It has helped reduce maintenance costs and improve service life.

**ERP and MES** have been around for years. There are a variety of suppliers with reliable solutions, proven results, now with packages specifically made and priced for SMEs.

On the other hand, Machine Learning works by sifting through mountains of production records looking for patterns to optimise process routes. Its insights are forecast to give significant productivity improvements. ML is therefore of more interest to global players with many machines and is some way off for most of us. In the meantime you may notice some organisations trying ways to get hold of your data as ML has a huge hunger for data.

If nothing else, you should be thinking of installing **sensors** on your production machines now. Packaged activity meters will tell you the availability, stoppage times and working speed of any machine directly on your network or phone and are the gateway to live OEE. One step further, condition monitors are the way into predictive maintenance. Make sure you keep all the data too.

David Eales  
e: david.eales@thecbm.co.uk



Links: [www.bots.co.uk](http://www.bots.co.uk) [www.raconteur.net/technology/apathy-iot-challenge](http://www.raconteur.net/technology/apathy-iot-challenge)



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# FORGING SECTOR WORKSHOPS GO AHEAD

## CBM Forging Sector hold their automation workshop via web conference link

To continue supporting the Forging sector with 'business as usual' amidst the coronavirus crisis, the CBM decided to go ahead with planned workshops this year. However, to adhere to Government guidelines and safeguard members, this was switched to a web-based format to include both members at work and those working from home.

The first workshop, hosted by CBM Forging Consultant Derek Bond, was based on automation and focussed on updating members with technology advancements and how to approach the introduction of automation within a forging environment. Presenters were a mixture of industry experts and successful case studies shared by members. Keynote speakers were:

- John D'Angelillo – Bauomat – a robotic systems integrator
- Paul Williams – Kuka robots – specialist robotics provider
- Richard Jewitt – Footprint – introduced robots into their ancillary processes
- Paul Morgan – ex Stokes Forge – introduced robots into their forging production
- Andrew Hancox – AED – advances in automated lubrication on forging units
- Adrian Leek – Corewire – semi automation of die weld repair process

For members who were not able to join the webinar, there is now a video upload on the CBM website.



Feedback from attendees was very positive so this format will be repeated for future workshops, 90 minutes duration, with the next one scheduled for **Tuesday 28th April at 8.30am** and will be on the subject of lean manufacturing techniques, with the keynote speaker being Steven Croft a six sigma blackbelt specialist with extensive experience in our industry.

For details of the next workshops and to register for login details please contact [louise.campbell@thecbm.co.uk](mailto:louise.campbell@thecbm.co.uk)

### Introduction

- CBM have committed to conduct member visits – now 70% completed
- Common interests understood and these will form the basis of the workshops
- Every business needs to find market advantage and improve competitiveness

Company ref	Turnover (£m)	Forging	Blank	Blanking	New investments	Technology	Automation
4	2000	Yes			Yes	Yes	Yes
6	100		Yes		Yes	No	Yes
9	100		Yes		Yes	Yes	Yes
10	100	Yes			Yes	Yes	Yes
12	1.5		Yes		Yes	Yes	No
17	1.1		Yes		Yes	Yes	Yes
18	200	Yes			Yes	Yes	Yes
1	60	Yes			Yes	No	Yes
5	50	Yes			Yes	No	No
2	80	Yes			Yes	No	No
15	75	Yes			Yes	Yes	No
8	60	Yes			Yes	No	No

Forging Sector workshops

[Webinars@thecbm.co.uk](mailto:Webinars@thecbm.co.uk)

## ENERGY

# WHOLESALE ENERGY PRICES FALLING

**Over the past six months the wholesale price of energy has dropped significantly. Gas has fallen approximately 40% over the past year with electricity falling 25%.**



If your business is looking at ways to save business running costs, then looking at your energy procurement strategy now should be top of the list.

With the wholesale energy kWh unit price accounting for approximately 40% of a business energy bill, there has never been a more appropriate time to analyse spend, review strategy and look at your appetite for risk. Purchasing energy flexibly means you business can take advantage of the current market fluctuations in wholesale pricing and there has never been a better time to do this.

*"I've worked with several members and I understand that it's an energy intensive process to form metal, so I have been able to secure significant savings, with the wholesale prices we are currently experiencing. I'm keen to speak with members and talk to them about their energy procurement strategy and how I can help save them money"*

Liam Conway

**Head of Business Development Control Energy Costs Ltd**  
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# SHEAR IMPROVEMENT FOR HADLEY GROUP

Reaffirming its pursuit of innovation and improvement, Hadley Group is pleased to announce a new flying shear at the end of its rolling mill at its Downing Street production site, which will improve UK capabilities.

After many years of service the existing shear was at maximum capacity and struggling to meet demand. The 125t machine was limited on tonnage and tool capacity, as such a team of Hadley Group staff were challenged to design and manufacture an improved model. After much research and development, the team decided that a high-speed 250-ton machine would provide the optimum solution allowing heavy profiles up to 8mm to be accurately pierced and cut-to-length.

The advancement marks the culmination of more than two years of hard work. A team consisting of four design engineers and four build engineers has worked tirelessly to design the shear from scratch, from buying the parts to manufacturing the item. The team is beginning to see the fruits of their labour, with the build now in the late stages of construction with a view to entering the test phase soon.

Weighing nearly 15-tons, the moving carriage on the new shear is driven by two servomotors, which drive through two precision gearboxes and finally through twin high precision rack and pinion. The machine has been created to be far more accessible than its previous incarnation. To achieve this, the team of developers has motorised everything that could be.

What's more, because of the scale of this machine, practically all adjustments are via the HMI display. The HMI display gives the operator numerous programming benefits over the old

machine. All programming, operating and troubleshooting documentation is readily accessible on screen. All job specific settings can be saved either on the machine as special jobs or to the network server.

Speaking on the new model, Ben Towe, Group Deputy Managing Director at Hadley Group commented: *"We put innovation at the forefront of everything we do and constantly try to find efficiencies within our operation. This new shear represents a big step for us in that process and will significantly improve capability and repeatability of heavy gauge profiles. It's testament to our incredible team of design engineers and build engineers who have devoted almost two years of effort to helping us design and manufacture the new model."*

With a range of additional features and benefits, the new shear will deliver new capabilities to UK operations. Unlike the previous machine the new model is equipped with a high-speed actuation with a fully programmable stroke length, which will be used for all existing and future tooling. Also, the new machine has automated height adjustment, front/rear adjustment and the ability to cater for complex features including swept sections.

For more information on the Hadley Group please contact us.

t +44 (0) 121 555 1300

e ask.hadley@hadleygroup.com

www.hadleygroup.com.





# MENTAL HEALTH MATTERS: STATS AND SUPPORT

Glyn Morris, psychotherapist and mental health trainer, MOHS Workplace Health, explains the impact of mental health problems on the UK workforce and what information and resources are available to help those in need.

**T**rends come and go, buzzwords do their thing before being consigned to history, replaced by something more current but with each passing phase we learn something new

We have all become accustomed to health and safety and whilst it can sometimes feel frustrating fulfilling the requirements that associated legislation brings, we can at least expect to go home from work after a hard day under our own steam and not in an ambulance (or worse).

## - THE CURRENT TREND IS MENTAL HEALTH. BUT WHAT DO WE MEAN BY THOSE TWO WORDS AND ISN'T IT ALL JUST STRESS ANYWAY?

The HSE have long told us to take stress in the workplace seriously and have made it clear that this issue is seen as no different to any physical health and safety issue. However, this message is taking its time to resonate. When I teach managers about mental health in the workplace (via a half- or a full-day course) I rarely encounter a delegate who knows and understands their legal responsibilities, at least until the end of the training - yet the impact on a poorly-informed organisation can be huge.

The National Institute for Health and Care Excellence (NICE) suggests that UK employers are losing £24 billion every year through stress at work alone. That's not taking into account that the HSE now implores us to recognise anxiety and depressive disorders at work (not to treat or diagnose). NICE also suggests that sickness absence through stress is only half of the problem; 'presenteeism', defined as the effects of turning up to work but being too ill to be productive, is in fact far more costly.



## - BUT WHAT IS STRESS? AND FOR THAT MATTER, WHAT ARE ANXIETY AND DEPRESSION?

The three need to be seen as different but somewhat overlapping conditions. Stress tends to be a reaction to feeling overwhelmed, caused by a sense of low control in a world of high demands and unrealistic expectations. Anxiety disorders are characterised by fear and worry, with the sufferer frequently engaging in avoidance behaviours and performing actions to provide short-term relief from the angst. Depression has common symptoms, including low mood for two weeks or more, attached to demotivation and negative introspective thoughts about the self, the world and the future.

## - SO HOW DOES THIS RELATE TO WORK AND INDUSTRY, OTHER THAN THE AFOREMENTIONED COSTS?

The Chief Medical Officer for the UK explains that 70 million working days are lost each year as a result of mental health issues. A recent survey from BUPA found 50% of respondents would not feel comfortable telling their employer about a mental health problem. Beyond these issues are the costs associated with legal action taken against employers for failing in their duty of care, and the loss of reputation and business to rivals when this occurs.

However, mental health is now a prominent discussion point in mainstream media as well as amongst high-profile public figures and the UK workforce. Attitudes towards those suffering with a mental health condition are starting to change. As a result, there is much more information, support and professional training courses available to help industry, not only to stay legally safe but also to reduce the phenomenal and negative impact of failing to manage mental ill health effectively.

Mental health training can be extremely cost-effective to an organisation; providing invaluable skills for managers and workers alike to spot the signs of mental ill health and signpost those in need to relevant support services. There are also government tools and free-to-use templates readily available to make addressing stress, anxiety and depression amongst staff easier than ever before, with the aim of keeping people healthy and in work.

For more information, support or guidance get in touch with MOHS Workplace Health: [mohs.co.uk](http://mohs.co.uk).

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# 2019 WAS A BUSY YEAR FOR EMPLOYMENT LAW, BUT 2020 IS SET TO BE EVEN BUSIER



Key areas of employment law are changing. Croner, the CBM's trusted HR partner, explain the changes members need to be aware of.

For further advice and guidance on these matters, or wider employment law, contact your dedicated CBM member support helpline on 0844 561 8133

## - 2020'S TOP LEGAL DEVELOPMENTS

### 1. CEO pay ratio reporting

If you've had in a year an average of more than 250 employees you're expected to report your executive pay gap. This means you must compare your CEO's most recent remuneration against your full time employees. You must also accompany this report with explanatory information.

The government hopes that this will allow interested parties to understand the remuneration policies across the organisation and how it compares to the executive pay policy.

### 2. Statement of main terms (SMTs)

The provision of SMTs will become a day one right for employees and workers from **6 April 2020**.

The statement will also need to contain additional details for the first time. This includes:

- Entitlement to family friendly leave
- Clarification of any probationary periods
- Confirmation of which specific days and times individuals are required to work.

### 3. Extension of holiday pay reference period

The holiday pay reference period will be extended from 12 to 52 weeks from **April 2020**.

This period is used to calculate the average pay of those who work irregular hours. The aim of extending it is to provide a fairer approach to holiday pay. Particularly when workers are carrying out flexible hours.

It will be important for organisations to keep track of employees' working time throughout the year. This includes overtime, to ensure they are correctly remunerated whilst on annual leave.

### 4. End of Swedish derogation contracts

Organisations will no longer be able to make use of Swedish derogation contracts from **6 April 2020**.

These contracts, which allow employers to avoid providing agency workers with equal pay after 12 weeks' of an assignment, will become unlawful.

Once in force, all agency workers will become entitled to equality of pay once they reach 12 weeks' service within one assignment. 'Equality of pay' refers to pay when compared to comparable full-time employees. Employment businesses will have to notify their agency workers of this change by providing them with a written statement by 30 April 2020.

### 5. Agency Workers 'Key facts' page

From **6 April 2020**, agency work-seekers will have a right to receive a key information document. This is to help them make informed choices about the work they accept.

The document must clarify specific matters including the type of contract the worker is employed under and their minimum rate of pay.

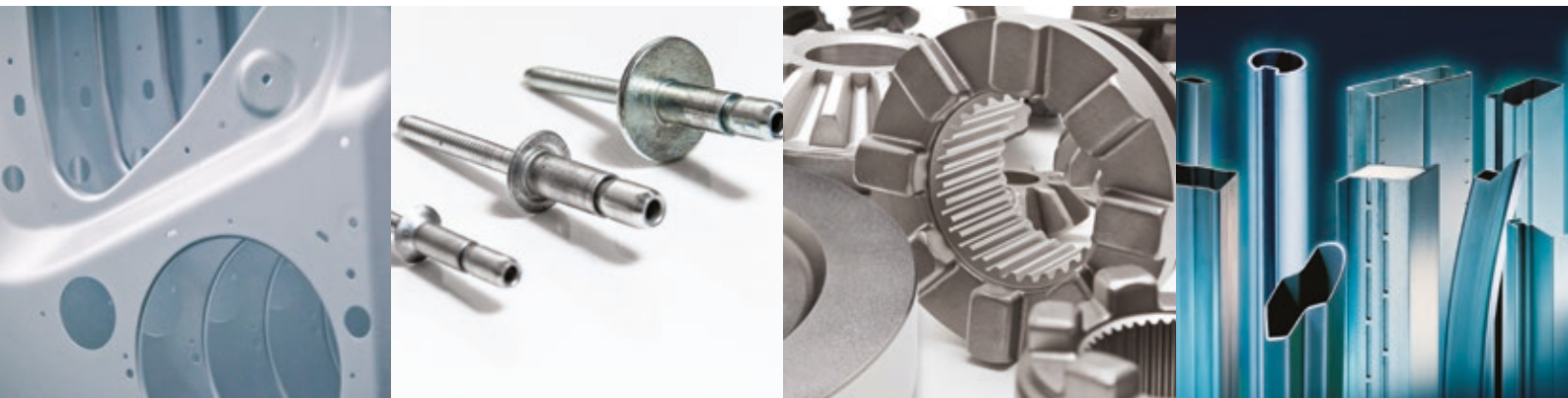
## - HOW TO PREPARE FOR CHANGE

Many changes are on the horizon. That's why it's important to remain fully up to date with the legal requirements. Further provisions of the Good Work Plan are still in the pipeline. Brexit is now very much a reality. These are just the changes we're aware of.

Employment law is likely to see even more developments over the next few years. So prepare yourself by enlisting the help of the employment law experts.

Call **0844 561 8133**  
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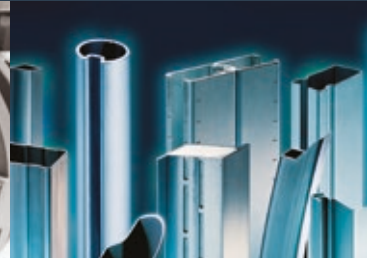
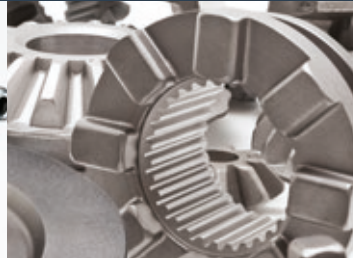


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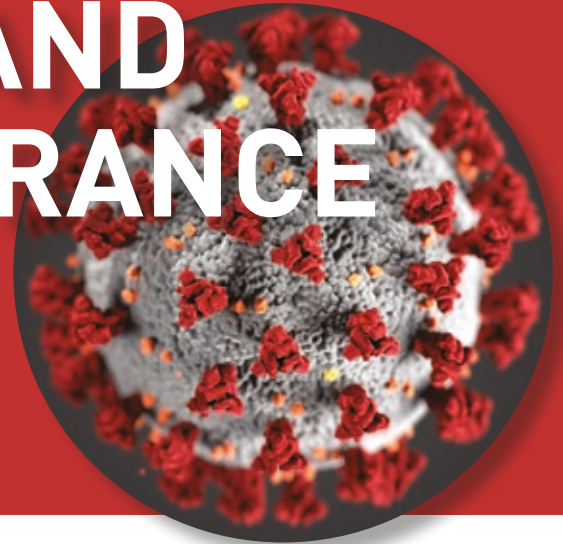
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# CORONAVIRUS AND BUSINESS INSURANCE

## WHAT YOU SHOULD KNOW



The effects of the Corona Virus (COVID-19) is causing unprecedented challenges to businesses. As no country in the world offers extensive pandemic insurance governments are providing businesses with financial packages to support them through these challenging times.

Insurance cover for pandemics would be too expensive for most firms to afford. Millions of firms, large and small, rely on insurers to protect them against the day to day risks like fire, flood, and workplace injuries, on which insurers pay out over £22m every day to help UK businesses continue trading.”

Certain insurance policies may have disease extensions under their business interruption policy but differ in whether they define diseases or not. Also, insurance policies have different approaches to premises, wide area and public authority closure risks. They sometimes have clauses that we're pretty sure even they don't understand. And different insurers exhibit very different attitudes to Covid-19 claims.

Your insurance broker should already be helping you to understand the interpretation of your insurance policy but is there anything else they can assist with?

Here are some areas we are presently helping our clients with:

- Mid-term reviews of their insurance arrangements to remove any covers viewed as 'non-essential'
- Reviewing fleet insurance and arranging some vehicles on a laid-up basis
- Ensuring people working at home with business equipment have free cover
- Request return premiums for manual wages where they have had to temporarily close
- Ensure insurers are relaxed on unoccupancy conditions with regards to property insurance whilst businesses are closed.

- At renewal we negotiate policies to be designed on a declaration linked basis to allow return premiums should estimates for turnover and wage roll be lower than anticipated.
- Payment breaks for insurance premiums payable on instalment plans

Gravity Risk Services are the exclusive insurance broker partner for the CBM and are here to help members with any queries or assistance they may have during these difficult times.

**Please contact Richard Gibson at  
Gravity Risk Services on 0116 478 2999  
or email [richard@gravityriskservices.co.uk](mailto:richard@gravityriskservices.co.uk)**





# METALLURGY FOR NON-METALLURGISTS

**TUESDAY 15TH AND WEDNESDAY 16TH SEPTEMBER 2020**

THE METALLURGY FOR NON-METALLURGISTS PROGRAMME IS A TWO DAY COURSE DESIGNED FOR ANYONE WHO NEEDS TO KNOW MORE ABOUT METALS AND PROCESSES USED IN THEIR COMPANY.

## OUTLINE OF COURSE CONTENTS

- Metal properties
- Metals structure
- Ore smelting
- Metals making & casting
- Rolling and metal forming
- Mechanical Testing and NDT
- Hot & cold working/shaping/forming
- Heat treatment
- Metal alloy classification
- Corrosion

## BUSINESS BENEFITS

The Metallurgy for Non-Metallurgists programme will enable participants to:

- communicate more effectively with technical colleagues
- be better informed and more efficient when dealing with customer enquiries
- avoid mistakes caused by lack of understanding
- understand the production, processing and testing of relevant metals and alloys
- appreciate the properties and applications of relevant industrial alloys

## PROGRAMME CONTENT

Courses commence with delivery of core knowledge components and progress onto a series of extended knowledge modules.

## PROGRAMME DELIVERY

Courses take the form of participative workshops, led by an expert metallurgist with extensive metals industry experience.

The content, length and structure of the course can vary according to individual company needs.

A folder of course materials is supplied and all attendees will receive a certificate after completing the two day course.

## COST

CBM members £325 + vat per person,  
Non Members £445 + vat per person

Places are limited, so to avoid disappointment reserve your place(s) now contact:  
Melinda Jean at the CBM on 0121 601 6350 or email: [melinda.jean@thebcm.co.uk](mailto:melinda.jean@thebcm.co.uk)

NATIONAL METALFORMING CENTRE,  
WEST BROMWICH, WEST MIDLANDS B70 6PY

The above course dates  
are provisional.  
If you would like to express  
an interest to attend,  
please email Melinda Jean,  
[melinda.jean@thebcm.co.uk](mailto:melinda.jean@thebcm.co.uk)