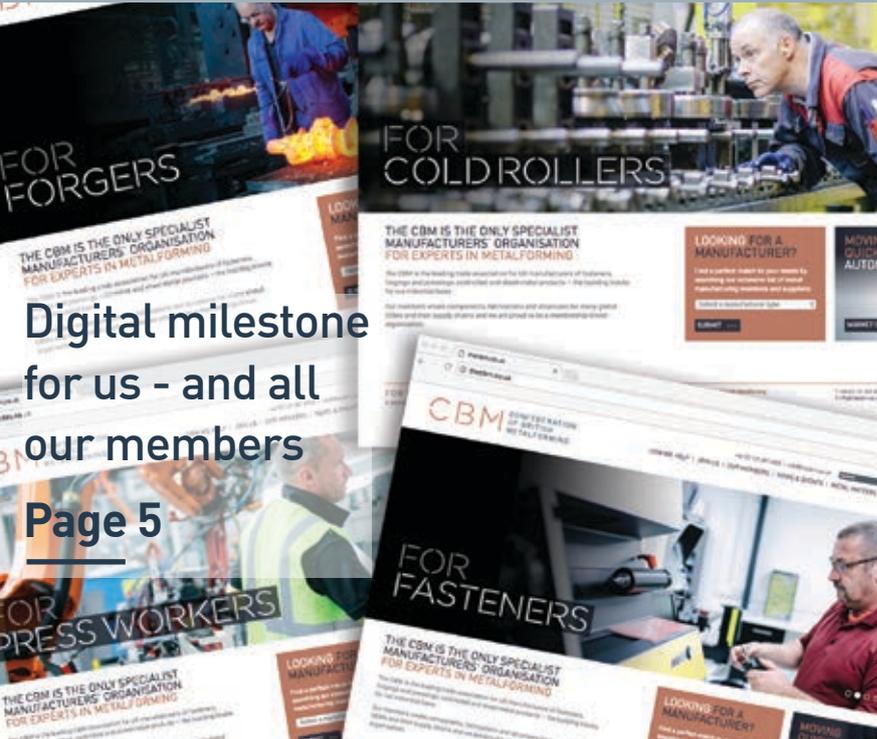
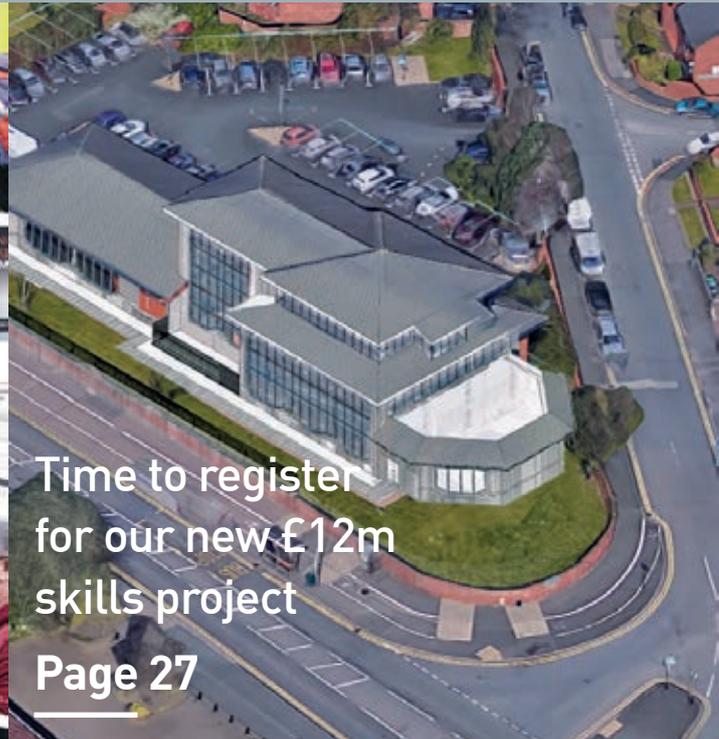


CBM CONFEDERATION OF BRITISH METALFORMING

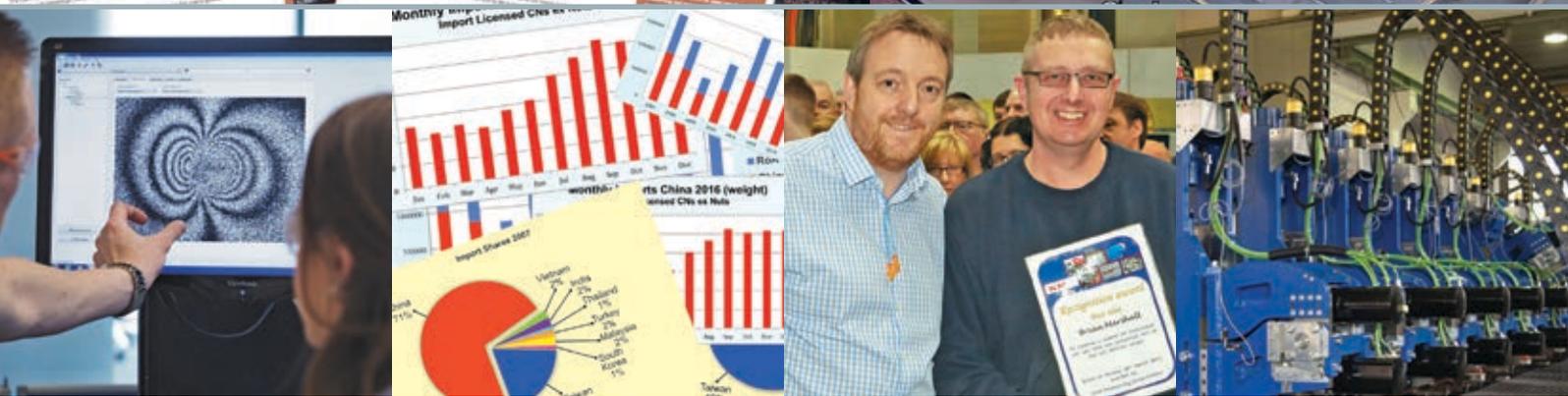
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COLD ROLLED
 3D Roll Forming Center for Rapid Prototyping
Page 15



BROOKS FORGINGS



FORGING, MACHINING AND FABRICATION SERVICES

OVER 20 MANUFACTURING PROCESSES



Counterblow Forging



Split Die Upset Forging



Closed Die Upset Forging



Drop Forging



Open Die Forging



Hand Forging



Hot & Cold Bending



Hot & Cold Pressing



Swaging & Pointing



Machining



Fabrication & Assembly



Flash Butt Welding



Thread Rolling



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ISO 9001



ISO 14001



OHSAS 18001



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CBM REVIEW

OF THE YEAR

2016/17

Looking back over past year, it seems to have been more back-room work than front-of-house but it was all necessary to help speed up future developments and secure our base.

First, we were pleased to appoint Geraldine Bolton as our Chief Executive after several years of her shadowing the job and doing it in all but name. Geraldine has been a tireless worker for CBM and its members and we are fortunate to have her as our CEO.

Geraldine and her team spent a lot of time last year, and continue to do so, developing the training requirements of CBM members and working to get the Elite Centre for Manufacturing Skills' metalforming workshop up and running in our West Bromwich office. This will be operational by September this year, fully kitted out to deliver apprenticeship training for tool and die making training at level 3. The training centre will also be used for up-skilling and bite size training. The CBM is also developing a number of class room based training modules for forging and working with a fastener sector specialist to identify and build up the training requirements of our fastener members.

Over the last year Geraldine and I have spent time working with the recently established UK Metals Council. This is to be the body made of industry leaders that talks directly to government and so should be our natural route for lobbying. The first council meeting was at the same time as the Brexit vote, so with the ensuing changes in government, it has not moved as quickly as hoped. Currently, it is putting together a collective answer for the consultation on the new Industrial Strategy and has started to discuss a Metals Sector Deal. This is using up CBM time so we are looking to maximise the benefits coming from it and ensuring they are of value to our members.

Keeping pace with energy legislation has been onerous this year with the Government looking to make many changes to agreed policies due to Brexit, all intended to reduce the cost to them and increase the burden on energy users. CBM continues to fight for members needs with other trade associations through the Brexit talks to feed into policies which enable the metals supply chains to remain competitive globally. We are fortunate to have the support of Ken Campbell, our energy expert, as we enter into these discussions.

CBM re-visited its working relationship with the Advanced Forming Research Centre (AFRC) during 2016 and intend to build an on-going link to two other catapult centres in 2017, the AMRC Sheffield and MTC Coventry to ensure our members are kept up-to-date with the latest technical developments affecting them.

Turning to member facing activities, we benefitted from having an engineering graduate pushing along the road to digitisation. This resulted in four well-attended tool and die days and a development project with the AFRC. In parallel, CBM won a supplier award from BAE Systems for a long-term technical support project being carried out by CBM technical personnel.

The CBM market sector days have been a success with members too, in particular a day out to Morgan Motors, looking at the opportunities for members in the automotive supply chain. In addition we covered the aerospace and rail supply chains. These three sessions will be followed up with customers and three more sectors are planned for 2017.

CBM also prepared a members Buyers Guide, to help to promote its members to potential customers. This document, which is both hard copy, and an electronic searchable version on the CBM website will be sent out to OEMS, trade missions and trade fairs through 2017.



David Eales,
President of the
Confederation of British Metalforming

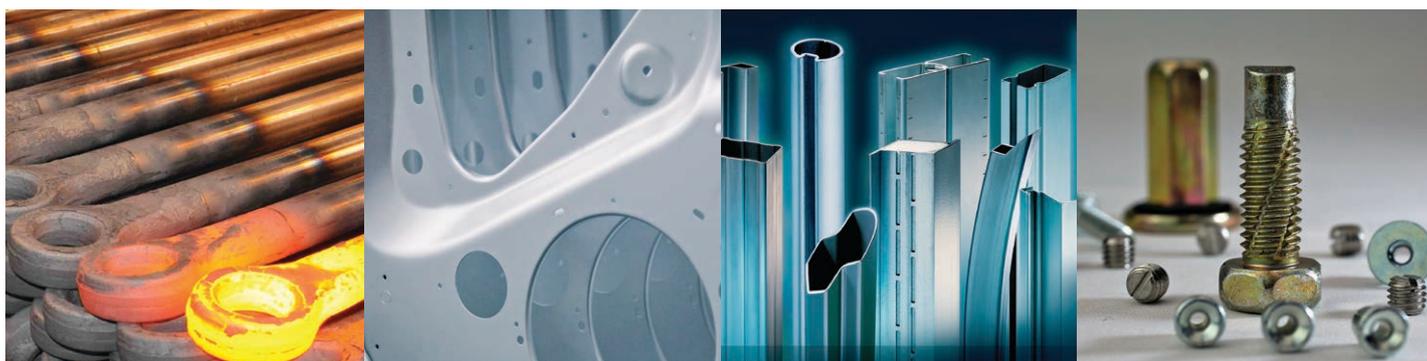


DIARY DATES

- **The Engineering Materials Show** - Derby - 1 June 2017
- **Automechanika Birmingham** - NEC, Birmingham 06-08 June 2017
- **Subcon Show 2017** - 06 June 2017
- **CBM Executive Board Meeting** - 14 June 2017
- **CBM Health, Safety & Environment Group Meeting** - 06 July 2017
- **12th International Conference on Technology of Plasticity** - Cambridge - 17 September 2017
- **International Forging Congress**, China - 17 - 22 September 2017
- **International Council of Sheet Metal Presswork Associations (ICOSPA) Congress** - China - 19 - 22 September 2017
- **CBM Health, Safety & Environment Group Meeting** - 19 October 2017
- **Advanced Engineering 2017** - NEC, Birmingham 1-2 November 2017
- **CBM Executive Board Meeting** - 13 December 2017
- **MACH 2018** - 09 April 2018

FOR FURTHER DETAILS PLEASE VISIT: <http://www.thecbm.co.uk/events.aspx>

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 included 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
- Industrial strategy
- Submissions to government

ENERGY

- Climate Change Levy rebates
- Energy services: measurement, ESOS audits, energy efficiency training and workshops

MEMBER PROMOTION

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

TECHNICAL SUPPORT

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

HEALTH & SAFETY

- Regular health, safety & environment group meetings
- Accident statistics
- Helpline
- Private healthcare scheme
- Occupational health services

TRAINING / SKILLS / ENGAGEMENT WITH SCHOOLS

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

KNOWLEDGE TRANSFER

- Monthly Market Reports
- Project opportunities with Advanced Forming Research Centre (AFRC)
- Regular networking opportunities
- Briefings and Seminars
- Metal Matters magazine
- CBM website

OTHER BENEFITS

- Members' buying group
- R&D tax claims
- Business support helpline
- International links
- National Metalforming Centre
- British Standards Institution

CBM MEMBERSHIP

- 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 are allied to the manufacture of metal formed products but who are not eligible for full membership.

CONTACT CBM NOW ON 0121 601 6350

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Metalube

Metalube is a UK based company who specialise in metal forming lubrication. Metalube's main manufacturing site and head office is based in Irlam, Manchester. Metalube not only has a large customer base in the UK but exports to over 90 countries. Metalube has offices in Brazil, China, India & UAE with support staff in many other countries

Metalube offer dedicated ranges of products focusing on specific industries.

Metalube's **Metaform range** of neat oil, evaporative & water extendable forming lubricants offer the latest in lubricant



performance for presswork, stamping & drawing of ferrous & non-ferrous metals. These grades have been specially designed to offer high levels of lubrication without leaving scorch marks or other stains. They are low odour and offer improved cleanliness.

Metalube's **Tube & Pipe range** offers a comprehensive suite of products for the ERW tube and rollforming industries. Special focus is on cleanliness & corrosion protection.

Metalube's **Meta-Shield range** of rust preventives bring the latest technology for rust prevention. Specialising in thin film thixotropic technology and water based rust preventives our products offer reliable protection whilst providing ease of removal.

Metalube also specialise in non-ferrous wire & tube drawing, high temperature chain oils, wire rope products & overhead conductor greases.

For further information on Metalube please visit our website or email: post@metalube.co.uk or call 0161 775 7771.

Control Energy Costs Ltd

There are 4 main aspects to our service:

1 HISTORIC ANALYSIS -

In depth review of potential refunds/rebates/ discrepancies. This is an in depth analysis far beyond just pricing. We search for opportunities to recover costs and ensure the money owed is returned to you.

2 CURRENT TARIFF ANALYSIS -

Immediate opportunity to review mid contract tariff structure and charges. Many of our clients would like our support immediately but think we are only interested at point of renewal. There are opportunities to achieve immediate cost savings even if a contract is in place which we didn't help with.



Left: Liam Conway,
Business Development Manager.



3 ON GOING BILL ANALYSIS -

We review and monitor the on-going bills to identify further discrepancies. We notify you on an on-going basis of opportunities for further savings. This is particularly useful to ensure the errors identified during the initial audit don't creep back in. Also to ensure any new issues are dealt with immediately.

4 PROCUREMENT & CONTRACT NEGOTIATION -

We offer direct to market pricing after an in depth review and explanation of tariff options and structures. Often just because you have always done things in the same way doesn't mean there isn't a better way of doing it! Unlike utility brokers we do not earn a fee from the supplier and as such are very transparent with our charges, in turn this typically equates to lower cost for you!

All of this is done at no initial cost to our clients. The in depth health check of the current situation is **free of charge**, with any opportunities for refunds and rebates being explained thoroughly before a split share of savings as a fee. We only earn a fee if we can secure results for you... If we are unable to secure results we do not earn a penny.

continued on page 5 >>

DIGITAL MILESTONE FOR US - AND ALL OUR MEMBERS

The CBM's new website went live in May. Chief executive Geraldine Bolton explains why it's an important milestone for everyone concerned.

I must admit, coming up with a detailed brief for the new portal, going carefully through the design process, ensuring it dovetailed with members' requirements and then bringing it forward to launch, was more demanding than I thought possible.

However, now www.thecbm.co.uk is up and running, I really couldn't be happier with the outcome; both in its design and appearance, and in terms of content and membership services.

We are, of course, still able to tweak those services and the content, so any feedback to us at the CBM is very welcome, about what you think of the portal, and what you think might usefully be included in the future.

I believe the new portal is important in several ways.

Firstly - and most importantly - it is a showcase for the skills and the capabilities of Britain's metalforming sectors, allowing members to demonstrate just how much they can contribute to

our modern industrial economy through innovative products and services.

The site features a comprehensive and searchable Buyers' Guide database, so members, OEMs and their supply chains can discover everything they need to know about our community, when looking for new commercial partners or customers.

The guide is also available through the portal as a downloadable PDF, or in hard copy format, according to each member's preferences.

We live and work in such time-sensitive times that this guide will be a great boon, and we'll update it during the months ahead to ensure it's always up-to-date.

Secondly, the portal contains details about every aspect of the CBM's activities, from sector seminars and health and safety meetings, to the latest government legislation affecting members and updates on our energy strategy.

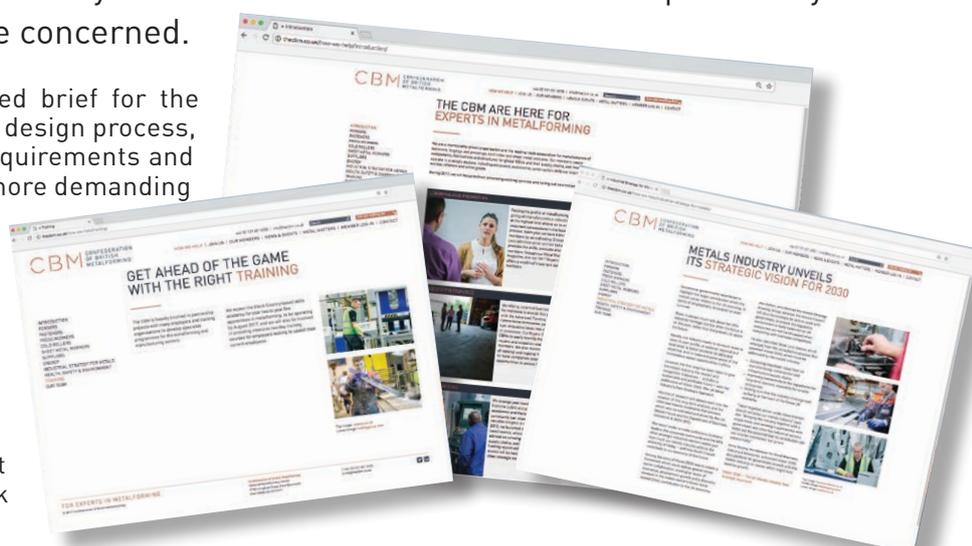
There are also separate sections for our core membership groups; forgers, fasteners, presswork, cold rolling and sheet metal, so everyone can easily keep up with what's happening in their sector.

Finally, the site reminds the wider business community that the CBM is the only specialist manufacturers' organisation for experts in metalforming.

We aren't simply a trade association, we have a vast storehouse of accumulated knowledge and expertise about every aspect of the industrial sectors which our members serve, and I believe this portal sets us apart from other industrial organisations.

We always focus relentlessly on both enhancing existing services and devising new ones, to give members the support, advice and information they need to prosper, and will be rolling out further initiatives in the second half of 2017 and into 2018.

Geraldine Bolton
Chief Executive



<< continued from page 4

Blythin & Brown Insurance Brokers

Blythin & Brown has built up an enviable reputation over 45 years providing unparalleled service to our clients both locally and throughout the UK.



Our people are our strength, enthusiastic about our business and committed to our clients. The advice we provide is based upon technical expertise and business knowledge, underpinned by expert understanding of your industry.

With our in-depth knowledge of the insurance industry we are able to understand any risk presented to us, and with our experience and insight of the markets, we are in a situation to use the UK provincial, Lloyds or international markets. We take great pride in dealing with our clients, from individuals to Blue Chip companies, with a personal touch.

We have extensive experience across all industry sectors and in particular an understanding of the metal industry. Whether you are a forge, a sheet metal worker or anything in-between, we have specialist products available to suit your requirements. We understand the metal industry with a passion and know how to provide the correct bespoke insurance programme for your business at a competitive premium.

For further information please contact our Account Director Richard Gibson on 07510 695335 who will be able to assist you with your enquiry. www.blythinandbrown.co.uk

EIFI IS 40 YEARS OLD



"EIFI is 40 years old", is how Anders Karlsson, President of the European Association of Fastener Manufacturers, opened his speech at the Stuttgart Fair held from 28 to 30 March this year.

It was on 6 September 1977, in fact, when the president of the French C.S.B.V.F., Chambre Syndicale de la Boulonnerie et de la Visserie Forgeés, Mr. H. Lorrain, convened the representatives of already existing National Fastener Associations and individual companies from 14 different countries: Austria, Belgium, Denmark, France, Italy, Germany, Great Britain, Liechtenstein, Norway, the Netherlands, Portugal, Spain, Sweden and Switzerland. During their meeting held in Paris, it was decided to establish a European association named the "European Industrial Fasteners Institute", based in Cologne in Germany, as from January 1978.

The steering committee of the newly constituted EIFI was unanimously agreed upon at the same meeting, and the 15 delegates picked to head the European association were Mr. Herdies (Belgium), Messrs. Bergner, Deubert, Kulbe and Schumacher (Germany), Messrs. Biju-Duval, Conchon, Laurent, Layeillon (France), Messrs. Laker, Leek, Lynall (Great Britain), Mr. Huitema (Netherlands), Mr. Fontana (Italy) and Mr. Strauli (Switzerland).

A first working group was also established, with the task of drawing up the EIFI statutes and aims and objectives for the association. This group was comprised of the secretaries of 5 national associations: Messrs. Altmann (B.I.B., Austria), von der Heide (D.S.V., Germany, which was also founded in 1977), Buchart (C.S.B.V.F., France), Peplow (B.I.F.F., Great Britain) and Quaglia (U.P.I.V.E.B., Italy).

At its meeting on 30 November 1977, the newly constituted Steering Committee unanimously voted for Mr. H. Lorrain as the first president of the EIFI.

After several meetings of the working group, the final version of the EIFI statutes was approved on 20 October 1978.

Experts in bolts, screws and nuts have certainly recognised the names of those who have not only written the history of the European fasteners sector, but who, with their commitment, enthusiasm and farsightedness decided forty years ago to found the European Industrial Fasteners Institute.

President Anders Karlsson, vice presidents Enio Fontana and Tillmann Fuchs, the board and all EIFI members today proudly honour the work of these founding fathers, expressing their sincere thanks to them and to their families, as well as to their successors and related companies.

www.eifi.org

EIFI AIMS AND OBJECTIVES

The industry with which the Institute is concerned is the production of bolts, nuts, screws and rivets of both ferrous and non-ferrous metals and other industrial fasteners. The task of the Institute is to look after and further the joint economic, professional, technical and scientific interests of the members in the following ways:

- Exchanges of practical experience in product groups and committees,
- Information and consultation on all matters relating to the Institute's objectives,
- Preparation of aids to decision-making,
- Representation of the interests of the European fasteners industry vis-à-vis authorities, public bodies and other organizations at international level and buyers and suppliers,
- Encouragement of studies and research work and collaboration with scientific institutes,
- Co-ordination of European activities in the technical field and cooperation in the field of international standardization,
- Public relations.

The Institute shall not derive any profit from its activities.

GESIPA® IS CONTINUOUSLY STRENGTHENING ITS CAPABILITIES AS GESIPA GROUP CENTRE OF EXCELLENCE FOR FASTENING TECHNOLOGIES.

GESIPA® has invested in its UK manufacturing facility over the years in order to achieve a strategy to centralise its production of threaded inserts and carry-out a gradual transition of the product range from catalogue parts to specialised products. Growth of the GESIPA® has been very evident in terms of bespoke blind rivets nuts and rivet nut studs manufacturing. Today, around 430 special types of blind rivets nuts and 30 different varieties of rivet nut studs are manufactured in thread sizes M4 up to M12.

Manufacturing with variations such as hexagonal body – giving higher torque to turn, square body – to form a secure lock, profile body – giving a pivot point, wedge head – to provide higher torque to turn in softer materials and, large flange – providing larger load bearing surfaces, there is always a possible variant available to fit specific customer application requirements.

Furthermore with its latest multi-window process control technology, WinTech, GESIPA® is now able to guarantee that the right rivet nuts and nut studs are placed in the right place and in the right quantity in safety critical applications.

The setting process is evaluated with the aid of position and force sensors as well as integrated electronic circuitry. Up to three evaluation windows can be configured with special setup software. If an irregularity is detected, the process is immediately stopped. It is only after the customer has acknowledged the malfunction that the process can continue – making human error more or less impossible.

www.gesipa.co.uk

GESIPA® Threaded Fasteners

**Safe & reliable –
GESIPA®'s complete process control system with blind rivet nuts, rivet nut studs and setting tools**

**Automechanika
Stand 6G31**

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www.gesipa.co.uk

EU TRADE DEFENCE AND FASTENERS

The repeal of EU anti dumping measures on steel fasteners originating in China reignited EU manufacturers' fears of a major influx of low cost fasteners. This report considers the trends in fastener imports revealed by latest Eurostat data.

- SMOKE AND MIRRORS?

China's dominant influence over the global steel sector tops many countries' trade defence concerns. Although some steel making capacity was eliminated during 2016, crude steel output nevertheless increased 1.2% year on year, reaching 808 million tonnes - 49.6% of world production¹. A Greenpeace report² confirmed that most of the eliminated capacity was already unproductive. China's productive capacity actually increased by 36.5 million tonnes in 2016. Output in the first quarter 2017 was 4.6% higher than the same period last year³. Global trade defence measures, however, eroded Chinese steel exports by 1.1% in 2016 to 108 million tonnes, and will limit the potential for China to export its way out of over-capacity.

Air pollution is now a major issue across China with steel and coking coal production major culprits. Government measures to reduce the impact from these sources will, however, be slow to take effect, as provincial administrations drag their feet to protect local employment. Modernisation in the steel industry will reduce pollution but also increase efficiency and consequently output.

- REPEAL OF EU FASTENER ANTI-DUMPING MEASURES

In February 2016, following four adverse rulings by the WTO Dispute Body, the EU repealed 74.1% anti dumping duties on an extensive range of carbon steel fasteners originating in China. European manufacturers immediately requested a new anti dumping investigation. The Commission declined but committed to monitor import patterns.

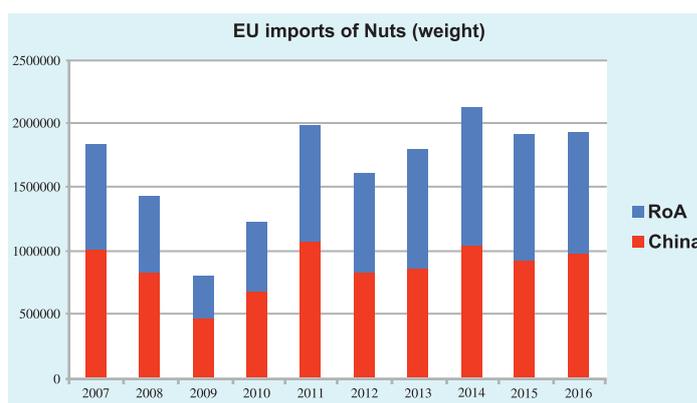
In April 2016 the EU introduced prior surveillance of imports of several ranges of steel products, including fasteners. Licenses are required for imports of all the fasteners previously subject to anti dumping duties plus nuts and two additional make thread ranges, originating outside the EU and EEF.

Inconsistent implementation of import licensing across the EU has brought into question its validity and paper-based systems in Germany and other countries initially disrupted import flows significantly. The European Commission is adamant licensing should not penalise importers and is solely aimed at obtaining advance data on import trends. It is now understood to be considering an increase in the licence threshold for fasteners from 2.5 tonnes per CN code³ to 5 tonnes. This will clearly remove a greater proportion of imports from licensing scrutiny and further skew data. Prior surveillance results are not published, however, making comparison with the usual Eurostat data impossible.

- FASTENER IMPORT TRENDS

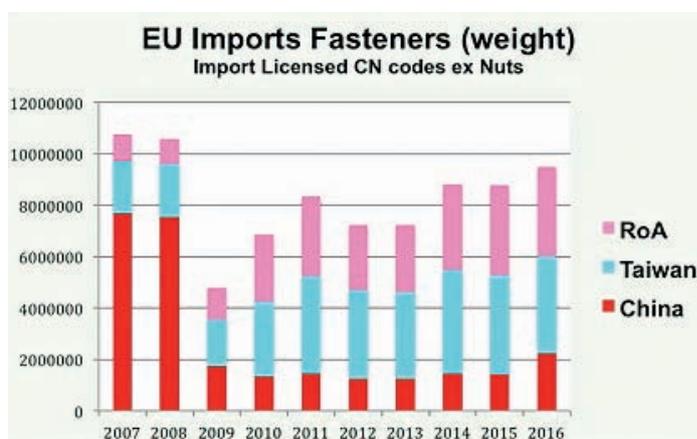
The following is based on EU28 Eurostat import data for the fastener ranges subject to import licensing. Nuts are considered separately as they were not previously subject to anti dumping measures.

Nuts imports from China have changed little over the last nine years, except when impacted by the 2008-2010 financial crisis.



In 2007 China supplied 55% of nuts imported from Asian sources. By 2016 that share had fallen to 50%, with Taiwan's share rising from 35% to 39%. European volume production of ISO or DIN standard has been minimal for many years. European manufacturers may, however, be concerned about possible growth of special nut imports. Unfortunately, the CN codes do not differentiate between standard and special nuts so it is difficult to evaluate. Anecdotally, more than 90% of nuts imported from China are standards so it is probable this concern relates more to Taiwan.

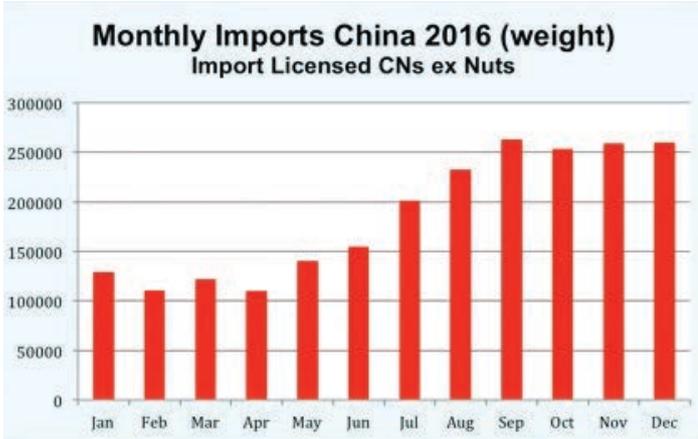
The import pattern for the other fasteners subject to licensing clearly indicates the effectiveness of the antidumping measures introduced early in 2009. Again the general economic climate should be taken into account.



While 2016 clearly saw growth imports from China during 2016 - and corresponding reductions in imports from other Asian sources - the actual volume from China remained substantially lower than 2007.

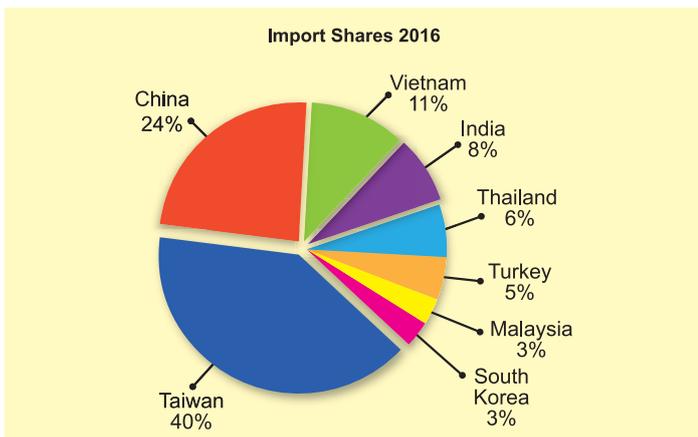
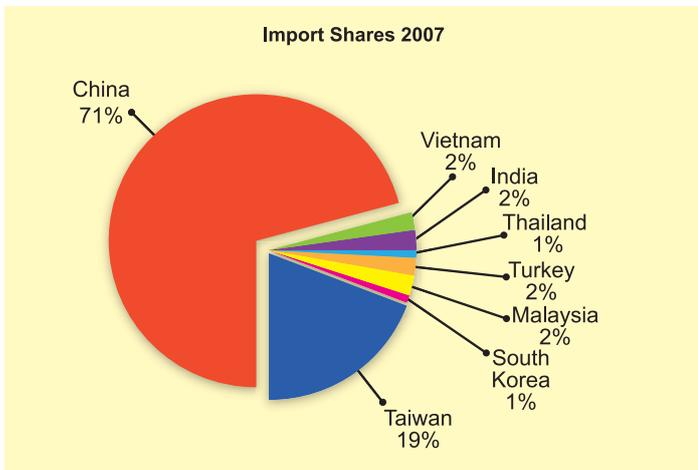
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Monthly statistics reveal a sharp increase in imports from April through to September. The March surge was probably due to direct shipment of product planned to be trans-shipped to evade duties. Thereafter the curve reflects a fairly rapid switch of purchases of washers and lower grade screws to China.

However, the acceleration was slower than generally expected and there was an evident flattening in the final quarter. Volume importers have been cautious about moving purchases of high tensile fasteners to China. Cost differentials against other Asian sources were smaller and importers were concerned about the risk of a new investigation and keen to retain good relationships with existing factories. Volatility in Chinese steel prices also appears to have made for less reliable pricing from Chinese factories.



When duties were applied in 2009 most Chinese volume switched to other Asian sources. This included a strong reversion to Taiwan but the development of other sources during the anti dumping period is also apparent.

- THREAT RATHER THAN CURRENT INJURY

While Eurostat clearly shows import growth from China, 2016 volumes remain substantially lower than in 2007. This suggests a new anti dumping complaint would need to argue threat of, rather than current, injury to EU fastener manufacturers – a legitimate case but inevitably harder to prove.

The flattening of imports in Q4 2016 makes first quarter 2017 trends critical. The Commission may have some indications from import licensing. Having been rebuffed at the WTO so often it is likely to remain cautious and want solid evidence of a change in import pattern before acceding to a request for an investigation.

The European Industrial Fastener Institute, of which CBM is a member, clearly believes the threat of injury from resurgent Chinese fastener imports is very real and growing. CBM members keen to support the EIFI in a new anti dumping complaint should contact Geraldine Bolton on 0121 601 6350 or email geraldine.bolton@thebcm.co.uk.

Source: Based on a FastenerIntelligence report prepared for CBM.

- REFERENCES

1. World Steel Association
 2. Greenpeace Energy Desk: China steel capacity increases despite factory closures
 3. Reuters: China March steel output climbs to highest record. 16 April 2017.
 4. Common Nomenclature or Tariff Code by which imports are categorised and recorded.
- All graphs based on Eurostat 8 digit CN code data for imports by all 28 EU countries by weight (to eliminate year on year price variation).*

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FULLY AUTOMATIC FLASHLESS FORGING



Zhejiang Wanliyang orders fully automatic 25-MN closed-die forging press from SMS group

Zhejiang Wanliyang Transmission Co. Ltd. from Hangzhou, Zhejiang Province, China, manufacturer of high-grade gear components, has ordered a fully automatic closed-die forging press from SMS group (www.sms-group.com). The forging press, type MP 2500, will have a press force of 25 MN and the capacity to forge up to five million parts per year. This press - Zhejiang Wanliyang's first fully automatic closed-die forging press - will provide a significant increase in productivity and guarantee the company's competitiveness in the long run.

The new press, which will be mainly used to produce gear wheels in a highly efficient process of up to four forming steps, is scheduled to start operation in June 2018.

Mr. Wang, Vice General Manager of Forging at Zhejiang Wanliyang: "We have chosen SMS group as plant suppliers because we think that they offer the best integrated package of mechanical and automation equipment. Our objective is to produce flashless forgings in a fully automated and resource- and cost-saving process. SMS group has offered the most suitable solution to achieve this, last but not least due to their consulting expertise and highly competent consulting specialists who understand our requirements and know how to implement those requirements in a customized engineering solution."

The new MP 2500 closed-die forging press will feature programmable ejectors, an electrically actuated automatic walking beam system, a mechanically coupled and retractable die spraying system as well as bolster with quick change system.

The electrically actuated automatic walking beam system developed by SMS group is a technological highlight. Consisting of four individually encased drive units mounted on the outside of the press frame and safely protected against scale and other contamination, the system moves the forgings

fully automatically within the press. The automatic system guarantees very finely tuned, smooth movements. This is achieved by the special design made up of highly efficient servo motors with downstream gears for each axis. The three axes of movement are horizontal transport, lifting/lowering and opening/closing. The automatic system controls the path, speed, and acceleration or deceleration of each of the three servo axes. In order to achieve both minimum wear of the mechanical equipment and shortest cycle times, the automatic walking beam system operates based on optimized starting and deceleration ramps. By permanently reading in the ram positions of the press, the movement of the walking-beam system adjusts ideally to sequence of press movements.

Another special feature of the press is the SE spraying manipulator, arranged at the rear side of the press and designed to be swung out. This arrangement provides free access to the tool room. The SE spraying device is controlled simultaneously with and relative to the ram movements. By coupling these two processes, the inward and outward movements of the retractable nozzle holder are exactly coordinated with the ram positions and transfer movements of the walking beam in each individual case. During set-up, the spray device is operated pneumatically. For resetting and maintenance activities, the manipulator can be swung out of the press area. The spraying times for the various operations can be programmed separately.

The SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. Its 14,000 employees generate sales of over EUR 3.3 bn.

www.sms-group.com



DATE		PROGRAM		- PAPERS & PRESENTATIONS WANTED Forgers, technicians, experts and the related people would be welcome to submit papers.
		DELEGATES	SPOUSE/ACCOMPANYING PERSON RECEPTION	
Sunday 17th September	Daylight	Registration, Visit the Xixi Westland Park		NO. TOPICS 1 Forging Industry Overview 2 Forging Material 3 Forging Process 4 Forging Die Manufacturing and Application 5 CAD/CAM and Process Simulation, and Other Computer Aided System(ERP/MES) 6 Quality Control and Test & Inspection 7 Heating and Heat Treatment, Energy Saving and Material Saving 8 Forging Lubrication 9 Forging Equipment 10 Forging Automation, informatization and Intelligent 11 Cyber-physical Systems, Big Data 12 Forging Lightweight 13 Standards and Globalization 14 Forging Market and Market Rules 15 Customer and Supplier 16 Production Efficiency, Management and administration 17 Human Resources 18 Environmental Protection
	Evening	Cocktail		
Monday 18th September	Daylight	Plenary Session	Visit the West Lake	
	Evening	Cultural Event		
Tuesday 19th September	Daylight	Plenary Session	Visit the Wuzhen, Liangzhu	
	Evening	Banquet		
Wednesday-Friday 20th-22nd September		Plant Tour (only for overseas)		

22ND INTERNATIONAL FORGING CONGRESS

The 22nd International Forging Congress will be held by Confederation of Chinese Metalforming Industry from 17 to 22 September 2017 in Hangzhou, P. R. China.

www.ifc2017.ccmi.org.cn



AFRC AIMS TO CONTROL RESIDUAL STRESS LEVELS

Residual stress – it’s a term that might not mean much to some engineers; but it’s a significant challenge for industry and an area of focus for the University of Strathclyde’s Advanced Forming Research Centre (AFRC). Estimates suggest that it costs the aerospace and automotive industries, among others, hundreds of millions of pounds in scrapped components annually.

That’s a significant sum by any measure. Yet, few manufacturers realise the scale of the problem, which usually manifests itself in the form of non-conforming, distorted parts.

To a large degree, this is because it’s not taught in undergraduate curricula – only those pursuing post-graduate qualifications tend to come across it during study. Even so, residual stress has only gained recognition as a deteriorating factor by most industries in the last couple of decades.

In practice, residual stress describes the stress within a component or material when all the applied loads and forces acting on it are removed. It can add to or subtract from the applied stresses and lead to unexpected consequences; for example, a part failing or distorting out of required tolerances.

A significant slice of the knowledge gap about residual stress is how it initially comes to be locked into a component: the problem is normally induced from the very beginning of materials’ manufacturing lifecycles.

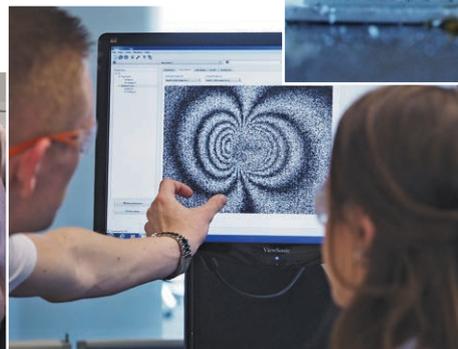
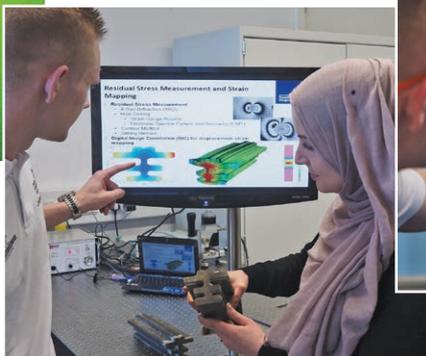
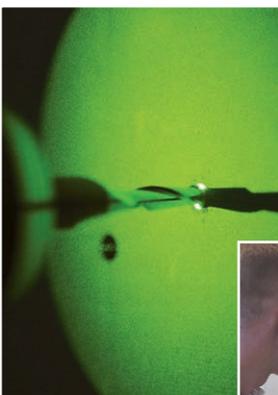
Throughout the manufacturing process, parts can be exposed to a range of sequential processes, applying different pressures – forging, machining, and heat treatment among them, with quenching usually used to achieve their final desired mechanical properties.

But, quenching typically cools the material in an uneven way: even under the most balanced quenching conditions the temperature of outer layers drops more quickly than the core. That results in two contradictory pressures on the part – while the exterior wants to shrink, the interior is trying to expand – causing deformations and stresses.

It’s an expensive problem for many industries, some of which lose most of their manufactured components to distortion. It’s unsurprising then that it’s become a focus of research and the UK has emerged as a global leader in this field. The AFRC is a core part of that capability, developing new, industrial-scale methodologies and working with a range of unique equipment.

Technology has now advanced to the point where, with access to the right expertise manufacturers can detect, describe, and, most importantly, control residual stress. They can trace it back through manufacturing processes to identify where it’s coming from and describe how it evolves throughout a part’s manufacturing cycle. The right kind of residual stresses can even be introduced to a component to improve its performance.

High amounts of waste due to residual stress don’t need to be an inevitable part of manufacturing – steps can be taken to address the problem. With access to the right tools, experience, and expertise, a range of sectors could save themselves huge costs. Working with research centres is the best place to start.



BROOKS FORGINGS ACHIEVES EN1090-1 & EN15048 APPROVAL TO THE CONSTRUCTION PRODUCTS STANDARD FOR CE MARKING

Brooks Forgings is proud to announce that it is the first company to be issued with ISO 9001, EN1090 and EN15048 by Lloyds Register.

This is to comply with the Construction Products Regulation 305/2011. The combination of all three approvals means that our customers can purchase foundation bolting assemblies from one source with improved lead times and in full compliance with CE regulations.

This gives us a greater scope of coverage than most other companies supplying the Construction and Civil Engineering sectors.

Compliance with EN1090-1 enables us to fabricate outer assemblies and the recent addition of EN15048 enables the hot forging and machining of non-preloaded structural foundation bolts.

This demonstrates that we have undergone a rigorous audit, where our capability to comply with the current best practices employed in the Construction and Civil Engineering sector was reviewed in detail.

The Construction Products Regulation (CPR 305/2011) applies to manufacturers, distributors and fabricators of construction products within the European economic area.

To successfully comply with these regulations companies must undergo an assessment by a notified body such as Lloyd's Register, and prove



Brooks Forgings are now CE Approved for Forging, Machining and Fabrication to EN1090-1 & EN15048

their systems and products are fully compliant with all aspects of these regulations. If the organisation is successful they are then awarded the CPR Certification.

This enables them to mark their products with CE Marking indicating their processes and products are fully in compliance and can be

marketed across the region without additional testing or barriers to trade.

For more information please contact: Brooks Forgings Ltd
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 Email: enquiries@brooksforgeings.co.uk
 Website: www.brooksforgeings.co.uk



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BAKER & FINNEMORE

Established in 1850, Baker & Finnemore Ltd also known as 'Bakfin' have survived the test of time and grown to become one of the UK's premier pressings manufacturers, recognised globally for the exceptionally high level of quality they offer in the Starlock® push on fastener range, as well as other bespoke pressings.

Part of the Titgemeyer Group of companies since 2012 they continue to push for future success and have invested substantially to ensure they are using the most cutting edge technologies for every process. At their factory, still located in Newall Street, Birmingham Bakfin boast in house facilities including a tool room, press shop, heat treatment plant, scour / deburr and finishing facilities. Keeping all of these processes in house enables absolute quality control which is evident in the company's extensive portfolio of accreditation to automotive, aerospace and defence standards as well as environmental and health & safety (ISO9001, TS16949, AS9100, ISO14001, OHSAS18001).

In response to the ever changing requirements of the markets they serve Bakfin have invested in a Minster/Nidec The P2H-100 series press. This machine boasts large press bed and increased tonnage – both key requirements for larger more



- Above: New Minster/Nidec 110Tonne Press

complicated, and modern progression tooling. The infinite adjustable stroke provides ultimate flexibility and the cast iron frame along with the oil film technology results in consistent parts accuracy and extended tool life for the entire lifetime of the machine. This investment allows for Bakfin to further satisfy the high demands of their existing customers and also be a competitive option for new clients.

www.bakfin.com

METALLURGY FOR NON-METALLURGISTS

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

2017 COURSE DATES: MONDAY 2ND & TUESDAY 3RD OCTOBER

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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 £310 + vat per person
Non Members £430 + vat per person

Places are limited, so to avoid disappointment reserve your place(s) now: contact Kirsi Lintula at the CBM on 0121 601 6350 or email: kirsi.lintula@thecbm.co.uk.

KMF's PRODUCTIVITY SHARE SCHEME SAVES £530,000 WITHIN CURRENT METAL FABRICATION PROCESSES

This year is year seven of the KMF Productivity share scheme (PSS7). The scheme pays out an annual bonus to any employee, spotting an opportunity for cost saving within KMF and implementing that idea into a new process.

The scheme concentrates on the seven key areas of waste, including: over production, inventory, transport, process, idle time, operator motion and bad quality and aims to bring continuous improvement to KMF's manufacturing operations.

194 employees have contributed to the cost saving scheme this year, with a total PSS7 saving of £530,589.26.

Sam Dutton, KMF's Productivity Scheme Administrator, is responsible for organising the initiative: "PPS7 has seen KMF's greatest ever cost saving and we have had more qualified entrants than ever before. Our employees are our greatest asset and have the best understanding of our processes and how they could be improved. I am confident that our initiative will continue to grow and we will see even more innovative cost saving ideas next year!"

One successful implementation from this year's programme is that of KMF employee, Brian Marshall. Working within KMF's metal forming department, Brian was tasked to carry out a 32-step bend, for eight variations of a customer specific product. This meant that the set-up time for the job was significant. In order to improve the efficiency of this operation, Brian developed a universal programme for the part, which automatically calculates the 32 bend dimensions for each racking unit, from the first set of bend measurements.

Removal of this manual dimension entry is estimated to save three hours of set up time, each time this metal product is fabricated. Brian received a special recognition award for the 'Best Idea' of PSS7.

PPS7 is also unique, as it is the first-time KMF Precision Sheet Metal have extended this project across the group, to KMF Precision Engineering. KMF Precision Engineering joined the initiative with a taster scheme this year, obtaining £31,793.20 in savings from 30 contributors. Ashley Key, an employee of KMF Precision Engineering is one subscriber, implementing a trolley style system to give better utilisation of oil. This has given KMF Precision Engineering both cost savings and health and safety improvements.

Since 2013, the productivity share scheme has saved KMF over £1.8 Million pounds and with the help of KMF's Continuous Improvement Team Leader Dianne Hibell, has significantly increased efficiency and productivity within KMF's metal fabrication service.

For further information, contact Nadine Rowley at KMF Group on 01782 569060 or n.rowley@kmf.co.uk.



- Above: All KMF Employee Contributors of PSS7, at KMF Precision Sheet Metal.

KMF

- Above: KMF Managing Director Gareth Higgins, left and Brian Marshall from KMF Precision Sheet Metal with PSS Recognition Award

19TH ICOSPA CONGRESS 2017

19 – 22 September 2017, China

- PROGRAMME

Date	Delegates		Spouse Reception
19th Sep. Tuesday	All day	Registration To visit MetalForm Exhibition 2017, Shanghai	Registration and Free Time
	P.M.	ICOSPA PC Meeting	
	Evening	Cocktail	
20th Sep. Wednesday	A.M.	Plenary Session	Humble Administrator's Garden- Suzhou Museum, Pingjiang Road, Jinji Lake
	P.M.	Plant Tour Forum For Engineers from China	
	Evening	Cultural Event	
21st Sep. Thursday	A.M.	Plenary Session	Hanshan Temple-TigerHill, Qili Shantang-Kunqu Opera Mueseum
	P.M.	Plant Tour Forum For engineers from China	
	Evening		
22nd Sep. Friday	A.M.	Plenary Session	
	P.M.	Sightseeing on Zhouzhuang	
	Evening	Banquet	

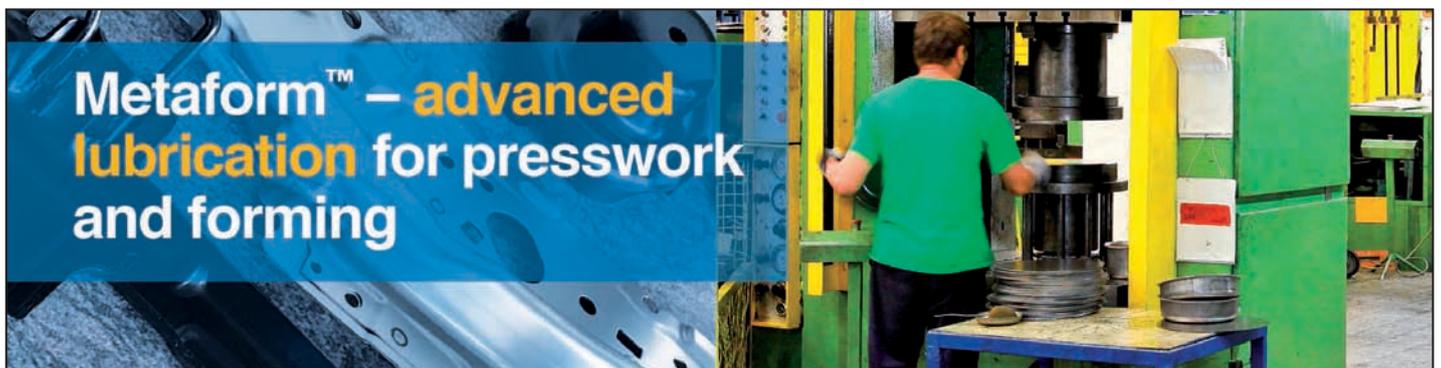


- PAPERS AND PRESENTATIONS

Sheet metal processing companies, technicians, experts and related people would be welcome to submit papers.

www.icospa2017.ccmi.org.cn

No.	Topics	No.	Topics
1	Sheet Metal Processing Industry Overview	10	Automation, Informatization, Unmanned and Intelligent Workshop ,
2	Material & Sheet/Plate	11	Cyber-physical System, Big Data
3	Stamping & Fabricating Process	12	Light Weight
4	Mold Manufacturing and Application	13	Standard & Globalization
5	CAD/CAM & Process Simulation, and Other Computer Aided System(ERP/MES)	14	Market & Market Rules
6	Quality Control and Test & Inspection	15	Customer and Supplier
7	Fine Blanking, Precision High-speed Stamping, Rolling Forming	16	Production Efficiency, Management and Administration
8	High Strength Steel Forming	17	Human Resource
9	Facility & Production Line	18	Environmental Protection



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3D ROLL FORMING CENTER FOR RAPID PROTOTYPING

Over recent years the automotive industry has been focusing heavily on weight-reduction, to meet international requirements for CO2 emission reduction and fuel consumption.

Due to the fact that roll forming is a progressive sheet metal forming process with a high-energy efficiency, characterized by its ability to form high tensile steels there has been a concentration on the improvement of the roll forming technology.

These developments have resulted in 3D roll forming technology, which has extended the limits of this process drastically: it now allows the production of profiles with variable cross sections, which brings advantages such as high productivity and energy efficiency over other processes such as stamping.

The starting point of any such process chain is Computer Aided Design, (CAD), whereby the CAD model of the desired profile is the foundation for the development of forming tools and a suitable forming machine selected.

During initial stages, a so-called “flower pattern” is developed, which defines the incremental forming steps from flat strip to the finished profile. The individual cross sections of each bending step are then the basis for the subsequent design of the required roll tooling.

Simulation using special FEA-solvers allows for a quick validation of the modelled forming process, allowing tooling engineers to easily investigate and benchmark different variants of forming strategies to find an optimum. Since the normal and quite often time consuming and error-prone “manual” FEA modelling process has been eliminated, product development is accelerated substantially and product quality becomes much more predictable.

single cross sectional geometry occurring in the 3D profile to be developed.

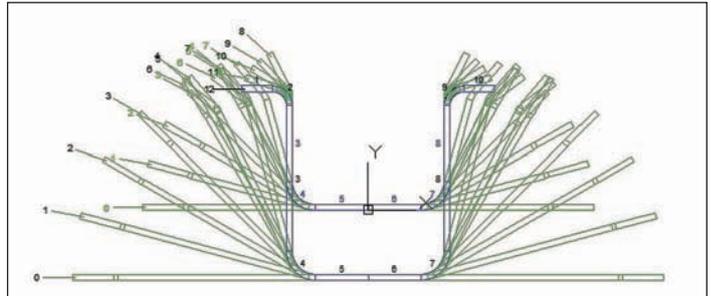


Figure 2: Flower Pattern of a load-optimized Profile

Depending on the shape of the load matching profile to be produced, the work space and mechanical requirements of all the roll forming stations must be determined, but up until now there has been no way of prototyping such a 3D part successfully, and thus to help justify the investment and expense of such a 3D Rollforming machine.

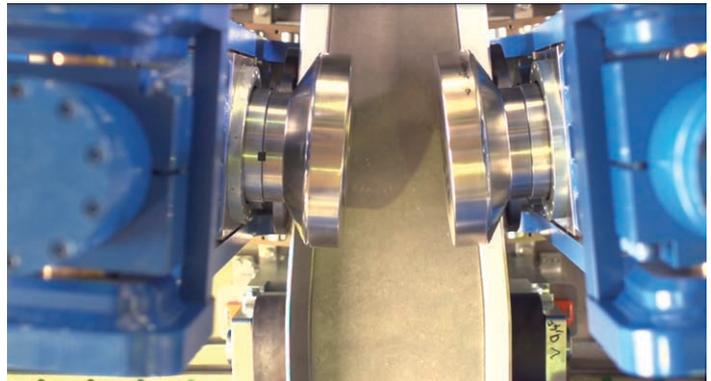


Figure 3: Top view of a load-matching U-Profile in a 3D roll forming line – rotation and translation of stands in one roll forming station



Figure 4: Example of a Chassis Frame with load optimized Long Members

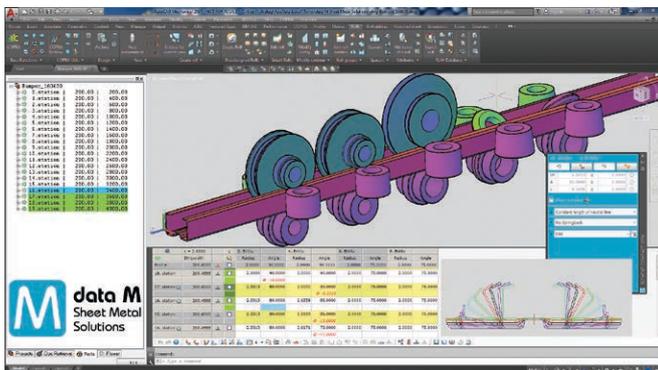


Figure 1: COPRA® - Leading Roll Tool Design and Simulation Software

Compared to “classic roll forming” the so-called “3D roll forming” widens the range of possible application, by profile shapes having a variable cross section over its longitudinal axis. This necessitates also further development of the proven planning workflow and requires new tooling concepts.

A single flower pattern for all subsequent forming steps is no longer sufficient to describe a 3D roll forming process. Instead it is necessary to develop individual flower patterns for every

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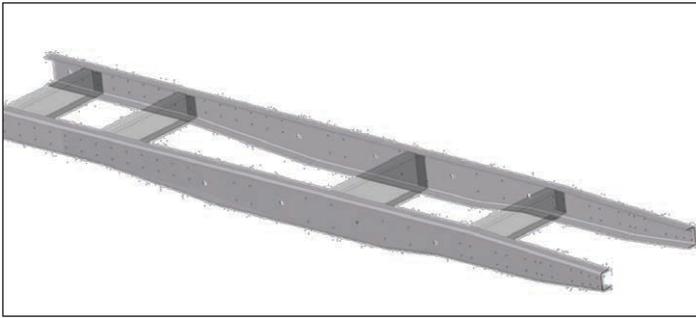


Figure 5: 3D roll forming line for truck beams developed by data M

- THE 3D ROLL FORMING CENTER

Traditional Roll Forming is usually not suitable for small batch sizes; however, these are common in the production of high-class products like sports cars, premium SUVs or aircrafts, meaning roll forming has been literally “locked out” from complex geometries. With variable cross sections being used in the automotive industry, this is the reason for presenting a new machine and forming concept.

Using advanced robotics, the 3D Roll Forming Center positions roll tools freely in space, with the added combination of modern control technology and simulation technology, this has led to a complete digitization of the production process, allowing production of the smallest batch sizes of load optimized and classic linear profiles.

More importantly, this concept can also be used for rapid prototyping in roll forming as well as process development and optimization. Moreover for applications in material research – especially regarding hybrid/multi materials or high tensile materials. All of this comes with the added advantages with this machine concept, of very low tooling costs, compared to other forming methods.

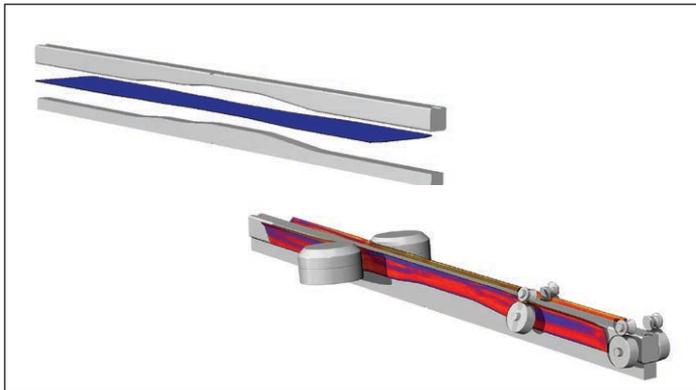


Figure 6: A flat raw sheet is placed in a die taking the shape of the profile's web. Roll forming tools move along the die [trajectories]

The 3D Rollforming Center could be likened to a roll form simulator, consisting of a single pair of forming stands. The sheet, clamped in a die and mounted on a linear slide, passes the roll forming stands in alternating direction. The roll forming stands, (one on each side), are mounted on a robot which aligns the forming rolls into the correct forming position.

Several bending operations are achieved with one and the same rolls, although the robots have a tool changing system for fast and precise tool changes during production in the event they are needed.

The 3D Rollforming Center consists of a machine bed with a linear slide, hydraulically holding the driven upper and lower dies. Perpendicular to this slide are a pair of hexapod robots (left and right), each with moveable platforms holding the roll forming stands. The control system synchronizes the movements of the linear slide with the hexapods.

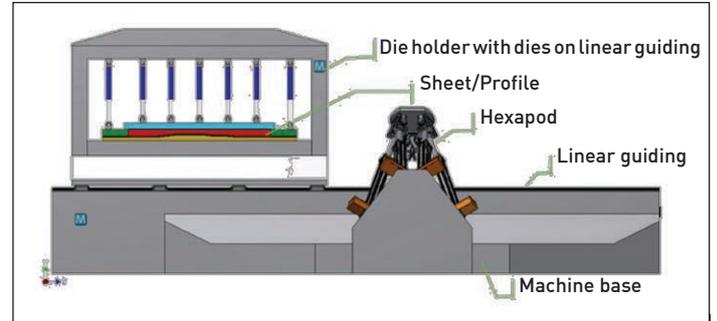


Figure 7: 3D Rollforming Center with Hexapod Robot and Roll Tooling

Whilst forming a 3D Profile, the robots change their position whilst the linear slide is moving from left to right (or vice versa). The hexapod mechanism follows every combination of translational or rotatory movements. The greatest advantage of this machine is its high flexibility due to the digitization of the roll forming tooling. The system can react instantly to changes in material behavior, for instance, by programming additional intermediate forming steps.

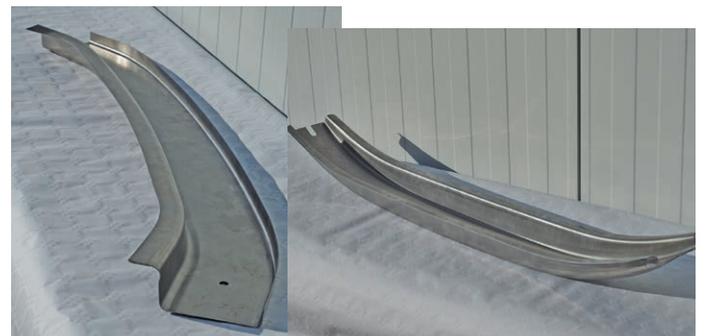


Figure 8: Parts already roll formed on 3D Rollforming Center®

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With the 3D RF Center it is now possible to investigate and validate new concepts for industrial lines at a very early development stage. Profile quality, feasibility as well as prototype parts can be investigated in the forefront of any subsequent planning steps, both cost effectively and quickly.

At the author's company a concept for high volume industrial production has been developed. In a first step, the part has been formed on the 3D RF Center and the whole forming process optimized. Additionally, by analyzing the profiles trajectories, the number of forming tools and the number of required degrees of freedom (controlled axis) could be reduced significantly in any future, proposed or planned 3D RF machine.

The 3D Rollforming Center has been shipped to a large material research institute, with the target of their investigation is of course being new materials, such as high tensile steels and their forming behavior.

The concept of this prototyping machine is also suitable for the cost effective and flexible production, of small batches of profiles. Due to this highest flexible machine concept, both conventional as well as 3D geometries can be produced in a "rapid prototyping" manner.

At the author's company a prototype of a new 3D laser triangulation sensor has also been developed. This can scan the full profile length in the machine, along with respective control technology and integrated sensors, meaning the subject "big data" for roll forming 4.0 can be pushed forward.

ENERGY

COMMERCIAL DIRECTOR OF SALOP DESIGN AND SALOP POWDER COATING TALKS ABOUT WORKING WITH CONTROL ENERGY COSTS AND ENCOURAGES OTHER MEMBERS TO HAVE A CONVERSATION WITH THEM TOO

Christopher Greenough, Commercial Director of Salop Design & Salop Powder Coating in Shrewsbury engaged with Control Energy Costs six months ago and now talks about the value they have added to managing their energy costs and arrangements.

'Historically we have used an energy broker to aid us with our arrangements as across our pressing and powder coating lines we spend a significant amount on energy. We contacted Liam Conway at Control Energy Costs after reading their case study for Petford Tools and thought it would be worth a conversation to see if they could help us too'.

'Over the first six months of working with Control Energy Costs they have helped us secure a new electricity supply contract reducing costs versus our historic energy broker. In doing so they also changed our billing to a half hourly electricity data and supply capacity, as this will impact our ability to get accurate pricing for the tender. Control Energy Costs now get immediate access to our data via a new data collector agreement which allows them as our appointed analyst to validate our supplies and correct any errors in billing'.

'Lastly they are also addressing a point in a tax section of our non-commodity costs, which will result in an immediate refund and on-going monthly savings for us'.

In summary Chris suggests it would be beneficial for other members to talk with Liam Conway, 'I'm aware that Control Energy Costs might already work with some members and anything they can do to reduce costs or secure retrospective refunds for our manufacturing companies should be embraced.'

www.cec.uk.com



Left to right: Christopher Greenough, Commercial Director of Salop Design & Salop Powder Coating & Liam Conway, Business Development Manager, Control Energy Costs Ltd.

 Control Energy Costs Ltd

HAMMER YOUR ENERGY COSTS – VARIABLE SPEED DRIVES KEEP YOUR MOTORS IN CHECK

As with any industry, metal forming relies on that workhorse, the electric motor. Whether it's extrusion, forging, sheet metal slitting or rewinding wire, somewhere in the process there will be motors providing the power.

On a typical industrial site with an electricity bill of £150,000 per annum, around £100,000 of this will be spent on electric motors. As electricity prices continue to rise and new regulations govern the efficiency of motors, there has never been a better time for the metal forming industry to look at its motor stock and see where improvements can be made.

Yet it is not only energy efficiency that is important to the industry. Processes also need to offer high productivity and give quality products.

- BETTER CONTROL OF MOTORS

Both these goals can be achieved using variable speed drives or VSDs. These work by running a motor at the speed demanded by the process rather than the maximum speed of the motor, cutting energy use.

The savings depend on the type of load – variable torque or constant torque.

Variable torque loads include centrifugal pumps and fans, employed in applications such as air handling units and cooling pumps. For example, using a VSD to reduce the speed of a motor driving a fan to remove dust from a descaling plant will often save 30-50 percent of the energy used, while savings of up to 80 percent are not uncommon.



The VSD can also match the exact process needs such as cooling, lubrication, airflow or pressure, increasing product quality and reducing wear and tear.

An example is metal forging company Firth Rixson, now part of Alcoa. The company had centralised dust extraction in its fettling and de-scaling plant. This is provided by a 75 kW extraction fan motor, run constantly, direct-on-line. Not all of the machines were running simultaneously, giving more dust extraction capacity than needed.

Installing an ABB industrial drive to power the extraction fan motor produced energy savings of 20 percent, saving 44 tonnes of CO2 per annum and reducing metal dust erosion in the ducting.

- ENERGY COSTS UNDER PRESSURE

Typical constant-torque load applications include air compressors and hydraulic power packs, rotary kilns and crushers. Although not as dramatic as for variable torque applications, air compressors and hydraulic power packs can achieve significant savings depending on cycle times.

Hydraulic systems waste much of their energy because a constant amount of fluid circulates at all times, although work is only carried out in short bursts.

Systems with longer idle times provide the greatest savings. Here, VSDs can produce savings by matching the output of the hydraulic power pack to the system requirements and reducing motor speed when in recirculation.

VSDs also help reduce maintenance by smoothing out pressure changes and improving system control, giving greater reliability and availability.

Corus Colors at Deeside, now part of Tata Steel, used an ABB VSD to save 70 percent on the energy costs for a hydraulic system. This is located on a production line used for retreating and inspecting strip material, driving actuators and web guiding systems in a 24-hour process.

When in neutral, power consumption was initially around 9kW. Under drive control, power consumption was reduced to 2 kW, a reduction of 77 percent. With the system under load, power consumption was reduced from 22 kW to 12 kW, a saving of 48 percent. Average energy saving over time was 70 percent.

Combining VSDs with high efficiency motors and using the free appraisal and analysis services offered by ABB, metal forming companies can make major improvements to their energy use and productivity.

FINANCIAL MECHANISMS TO SUPPORT BUSINESSES FOR LOW CARBON TECHNOLOGIES IN THE UK

- ENERGY TECHNOLOGY LIST (ENHANCED CAPITAL ALLOWANCES)

Overview

The ETL (or Energy Technology Product List, ETPL) is a government-managed list of energy-efficient plant and machinery, such as boilers, electric motors, and air conditioning and refrigeration systems that qualify for full tax relief. It is one of the world's largest databases of top performing energy saving products. For a product to be on the ETL, it must meet specific energy-saving or energy-efficient criteria. It is part of the Enhanced Capital Allowance (ECA) tax scheme for businesses and consists of nearly 17,000 listed products.

Purchasers can claim an Enhanced Capital Allowance (ECA) for energy-saving equipment in the same way that they claim capital allowances. This is through their income tax self-assessment or their corporation tax self-assessment return. If their business or organisation does not undertake income or corporation tax self-assessment then it cannot claim capital allowances including ECA. Manufacturers can register on the ETL to be informed of news relating to the scheme, or to make new product applications.

The Department for Business, Energy and Industrial Strategy (BEIS) annually reviews the technologies and products that qualify for inclusion. The ETL is managed on behalf of BEIS by the Carbon Trust.

Products included

- Air to air energy recovery
- Automatic monitoring and targeting (AMT) equipment
- Boiler equipment
- Combined heat and power (CHP)
- Compressed air equipment
- Heat pumps
- Heating, ventilation and air conditioning (HVAC) equipment
- High speed hand air dryers
- Lighting
- Motors and drives
- Pipework insulation
- Refrigeration equipment
- Solar thermal systems
- Uninterruptible power supplies
- Warm air and radiant heaters
- Waste heat to electricity conversion equipment

Contact

Email: ECAQuestions@carbontrust.co.uk
Telephone: 0300 330 0657

- SIEMENS FINANCE SCHEME

Siemens supports investments in low carbon technology by offering project finance, equipment and leasing solutions, structured finance, capital loans and advisory services. Regarding financial solutions to enable optimised energy efficiency, they offer energy finance for equipment and technology, debt solu-

tions for the energy sector and equity investments to support energy projects.

Contact

Telephone: 01753 434126

- THE CARBON TRUST GREEN BUSINESS FUND

The Carbon Trust Green Business Fund is the brand new energy efficiency support service for small and medium-sized companies in England, Wales and Scotland. It provides direct funded support through energy assessments, training workshops, equipment procurement support and up to £10,000 capital contribution towards energy saving equipment purchase.

Contact

Email: greenbusiness@carbontrust.com
Telephone: 0207 832 4773

- THE CARBON TRUST ENERGY EFFICIENCY LOANS

Wales

The Carbon Trust can help to overcome financing hurdles by providing interest free, unsecured loans from £3,000 to £200,000.

Northern Ireland

The Carbon Trust, with funds provided by Invest NI, can help to overcome financings hurdle by providing interest free, unsecured loans from £3,000 to £400,000.

Key features of the loans

- Interest free and unsecured
- Borrow from £3,000 to £200,000 (Wales) or from £3,000 to £400,000 (Northern Ireland)
- Loans are designed such that in most cases the monthly energy savings should exceed the monthly repayments
- No set-up or administration fees

Contact

Email: loans@carbontrust.com
Telephone: 028 9073 4398

- RESOURCE EFFICIENT WALES (REW) SERVICE

The Resource Efficient Wales (REW) Service is funded by the Welsh Government. Through the REW Service, Carbon Trust and Wrap Cymru can provide free support to assist public bodies in Wales to identify opportunities for resource efficiency and renewable energy measures and support organisations as they move towards implementation.

Contact

Telephone: 0300 123 2020

- RESOURCE EFFICIENT SCOTLAND SME LOAN SCHEME

The Scottish Government provides unsecured, interest free SME Loans of up to £100k for energy, water and waste saving

continued on page 220>>

<< continued from page 19

equipment and systems. They also offer expert advice every step of the way from planning and funding to implementation.

Contact

Telephone: 0808 808 2268

- NON-DOMESTIC RHI

The Non-Domestic Renewable Heat Incentive (RHI) is a government environmental programme that provides financial incentives to increase the uptake of renewable heat by businesses, the public sector and non-profit organisations. Eligible installations receive quarterly payments over 20 years based on the amount of heat generated. The scheme covers England, Scotland, and Wales.

Contact

Email: rhi.enquiry@ofgem.gov.uk

Telephone: 0300 003 2289

- FIT SCHEME

The Feed-in Tariffs (FIT) scheme is a government programme designed to promote the uptake of small-scale renewable and low-carbon electricity generation technologies. Introduced on 1 April 2010, the scheme requires participating licensed electricity suppliers to make payments on both generation and export from eligible installations. The FIT scheme is available for anyone who has installed, or is looking to install, one of the following technology types up to a capacity of 5MW, or 2kW for micro-CHP:

- Solar photovoltaic (PV)
- Wind
- Micro combined heat and power (CHP)
- Hydro
- Anaerobic digestion (AD)

Contact

Email: ROOFIT@ofgem.gov.uk

Telephone: 020 7901 7310



UK METALS COUNCIL UPDATE

- CHALLENGES FOR THE UK

The Government have identified the following challenges for UK Industry through its recent Industrial Strategy Green Paper:

- i) Build on our strengths and extend excellence into the future.
- ii) Every place meets its potential by working to close the gap between best performing companies, industries, places and people and those which are less productive.
- iii) Make the UK one of the most competitive places in the World to start or grow a business

The Government have issued a Green Paper to consult on the Industrial Strategy.

The UK Metals Council responded to the Green Paper, the following are a summary of comments:

- CIRCULAR ECONOMY

A modern industrial strategy must include a strategy for sustainability. UK Metals Council calls for more emphasis to be placed on a circular economy in the UK, requiring resource efficiency, reuse and recycling. Metals are infinitely recyclable, and the metals industry is already extremely effective at fully integrating this principle within all the products within the metals sector to boost the UK economy, and wishes to pursue this further.

- THE METALS SECTOR

An industrial strategy for the whole sector.

- a. UK Metals Council represents 11,100 companies of which 3600 are large and medium sized, and 7500 or 68% are small and micro sized. Through its specific trade association membership UK Metals Council is able to engage with all sizes of company in all the represented sectors.
- b. UKMC member companies are located across the UK, in distinct clusters in the Midlands, the Northwest, The North East, Sheffield, South Wales, Scottish Central belt, London – see map of the locations for the UK metals sector. Many of these member companies are major employers in smaller towns, making their impact on their local communities significant.

- INTERNATIONALLY COMPETITIVE

The metals sector is, and has to be internationally competitive. In order for the sector to thrive and to attract future investment in the UK, there must be tariff free trade access to European markets, and energy costs need to be internationally competitive, as well as guaranteed.

- SMALL COMPANIES

Help and support is needed for SMEs to promote good practice, continuous improvement and efficiencies to increase productivity and international trade. Through its strong local networks, UK Metals Council can help co-ordinate this help across the sector and regions.



- FOUNDATION INDUSTRIES

Metals are strong, durable, and fully recyclable. The metals sector has a very significant role as a foundation industry for the rest of the UK economy. Without a strong and effective UK metal sector, many other industries who use metal would suffer, impacting on their carbon footprint, security of supply and use of local skills. Longer supply chains for importing metals can make UK Industry less competitive. If the UK can improve the effectiveness of manufacturing through this Industrial Strategy, the metals sector will be able to create and support technical innovations through the supply of higher performance materials.

- INFRASTRUCTURE

UK infrastructure needs to be upgraded to provide fast speed broadband to industry as well as effective and efficient transport links to enable movement of goods and people to enable UK Industry to be more productive.

- EDUCATION

School leavers need to have improved STEM subject's knowledge to be an asset to the sector, and to allow the sector to compete internationally.

- TRAINING

Apprenticeships need to be geared to industry needs as well as those of the student. Apprenticeships need to be regarded as attractive and competitively sought by young people wishing to be trained to work in the metals sector.

- UK METALS COUNCIL ACTIONS

The UK Metals Council intends to develop a metals sector deal with the next UK Government, after the June elections. This will help industry in the UK to grow and be more productive and competitive.

Giles Willson
Manager, UK Metals Council

CBM HEALTH, SAFETY & ENVIRONMENT GROUP



Health, safety and environmental issues are critical to all CBM members, and our latest quarterly meeting on those topics attracted an impressive array of speakers to Redditch-based Mettis Aerospace

Our events are always tightly scheduled so time-conscious members aren't away from their workplace for too long, so after an intriguing site tour, Stadco's safety and environment manager, Ged Robinson, got the session underway.

Glen Musgrove, from MOHS Workplace Health, is one of its trainers and safety advisers, gave a nod to the history of ergonomics, before outlining the very practical benefits which it could have in the workplace.

"The **core goals of an ergonomics strategy** are to reduce occupational injuries and illnesses, absenteeism and the number of compensation claims, increase productivity and the quality of work, and ensure compliance with all government regulations," he said.

"Employers have various legal duties; to avoid hazards if 'reasonably practical' and provide information about them, to assess risks and reduce them where possible, to provide necessary training and to periodically review their own assessments."

Jenny Skeldon, an HM Inspector from the Health and Safety Executive (HSE) specialising in the manufacturing sector, reminded her audience about her organisation's current strategy.

"Our priorities are to **control exposures to substances causing occupational lung disease, and reduce the incidence of common work-related ill-health conditions**, such as muscular-skeletal disorders and work-related stress," she said.

"We also aim to help prevent serious incidents involving heavy loads, during maintenance activities and catastrophic events. The HSE has a proactive inspection programme underway, to tackle ill-health caused by exposure to asthmagens and carcinogens, which can be chronic and life-changing."

Richard Gibson, account director at Blythin and Brown Insurance Brokers, updated members on **changing patterns of claims and compensations in manufacturing sectors**.

"From the experiences of one law firm, looking at 2016 vs 2015, disease claims as a whole were reduced. However, claims for hand/arm vibration syndrome increased, although claims for noise-induced hearing loss are reducing," he said.

Richard urged delegates to ensure their workplace health and safety procedures were documented, reviewed and monitored, that all staff were trained, and had documented training records, and that individual risk assessments were carried out - and regularly reviewed - for all machinery and plant.

The CBM's Mark Sutton and Stadco's Ged Robinson then looked at **statistics related to safety and health in the metalforming sector (SHIMS)**.

"In the first quarter of 2017, we had 29 member companies actively reporting, which was up by three from the previous quarter, accounting for a monthly average of almost 5,600 employees," said Mark.

"There were 201 accidents, but no fatalities, although there was one serious injury. However, 27 incidents were categorised as 'dangerous', and 519 categorised as 'near misses'."

The session was concluded by Mandy Stoker, of the Shropshire-based environmental consultancy, E4Environment, who outlined **recent changes to HSE legislation and ISO standards, and the latest packaging regulations**.

Our next meeting will take place on Thursday 6 July at the CBM headquarters, National Metalforming Centre, West Bromwich.



Mettis Aerospace is an award-winning manufacturer of forged and machined components for leading aircraft including all of Airbus and Boeing's. The company's unique integrated facility, which carries out everything from design and forging to surface treatments and testing, is the largest employer in Redditch, a town at the heart of the UK.

For over seventy years, the company has been a pioneer and is at the forefront of forging technology today. The Redditch site opened in the 1930s (when the company was then known as High Duty Alloys (HDA)) with the largest hammer in the world and continues to make significant investments in the latest technologies such as state of the art, five axis machines, automated technologies and its world-class laboratory.

Mettis Aerospace has delivered many firsts. It manufactured the first impellers for the jet engine, created by Sir Frank Whittle, when it was still a secret project. It also produced the first, forged aluminium compressor blades for the complex axial jet and developed a critical alloy called Hiduminium with Rolls-Royce. It even forged the wheels for Richard Nobel's Thrust 2 World Speed Record Car.

The company is renowned for quality, with components made to some of the tightest tolerances and exacting standards in the world. It holds an extensive list of industry accreditations and approvals. Four of its special process groupings are approved by Nadcap which has some of the most rigorous accreditation programmes in the world. A number of these processes also hold Nadcap's MERIT status which is only given to companies, like Mettis Aerospace, which have been repeatedly confirmed as operating to high standards.

Two Queen's Awards have also been presented to Mettis Aerospace, one for Technological Innovation, for its contributions to Concorde, and another for Export Achievement.

Mettis Aerospace aims to be the best in the world and truly is the forge of the future today.

www.mettis-aerospace.com

PHISHING – THE RISE OF SOCIAL ENGINEERING FRAUD

One morning you receive an email that appears to be from your bank, stating that your account has been compromised. It warns you to act quickly and includes a link that prompts you to fill out your banking details. **Do you fill it out?**

This is an example of a Social Engineering Fraud called “Phishing”. Social Engineering refers to many different ways fraudsters use to obtain personal information and “Phishing” is one of them. They deceive and manipulate victims into voluntarily performing actions including the transferring of money or collecting personal sensitive data.

Email scams are becoming increasingly sophisticated with scammer’s piecing together information about you from various sources, including social media platforms and intercepted correspondence so they seem convincing and trustworthy while perpetrating the fraud.

Social engineering fraud has been identified by the international police agency Interpol as one of the world’s emerging fraud trends. In the last two years there has been a spike in this type of fraud, with reported losses in 2015 doubling to nearly \$1bn (£675m) - It’s a lucrative crime.

- CAN YOU PREVENT IT?

Like Cyber Attacks the risk of falling for an email scam cannot be completely ruled out. Even if your business has robust systems and procedures in place, it is still difficult to prevent an attack. However there are ways to reduce the risks.

- Beware of any emails asking for personal information. Phishing emails can come from someone pretending to be in a position of authority or impersonate a senior member of your business to urgently action something.
- Educate employees on the risks: Make sure they not what form email scams can take and who to contact if the emails look suspicious

- Review your current Anti-fraud Procedures Policy within the business
- Identify likely targets: Employees that have authority to hold large amounts of sensitive information or employees that can have access to your business accounts
- Review your IT Security and controls to make sure they are as robust as possible.

- WILL INSURANCE COVER THE LOSS?

Standard commercial combined insurance policies will not cover a loss of money from Social Engineering. This includes extensions under a standard Directors and Officers Liability policy. However, there are specialist Crime Insurance Policies available in the market that may protect you from the financial consequences of Social Engineering Fraud including “Phishing” scam attacks. If you are considering purchasing this cover, you should make sure your policy includes:

- An “All Risks” Definition of Fraud/Crime to encompass a social engineering loss.
- A Robust Proof of Loss Provision
- No Continuing Condition Precedents or Systems of Check for coverage to apply
- No “Voluntary Transfer” Exclusion

Along with other types of social engineering fraud, emails scams lead to large financial losses for a company. However having the right controls in place combined with specialist insurance could help mitigate any loss.



For further information or for an insurance quotation, please contact Richard Gibson on 07510 695335 or rgibson@blythinandbrown.co.uk

WHAT IS SUPPLY CHAIN FINANCE

URICA

Many finance and procurement executives and business owners may have heard of it, but what exactly is it? What is it not? A host of misperceptions exist concerning these questions. Partly, due to an increasingly crowded marketplace of solution providers, many of which bend the definition to fit their offerings, or worse, do not really understand the concept themselves.

- THE PROBLEM WITH THE EXISTING SOLUTION

Supply chain finance solutions have mainly been available for corporates, typically with large balance sheets and profitability, whilst everyone else has had to make do with existing debt-type products. Figure 1 below shows the problem with the way traditional supply chains are funded.

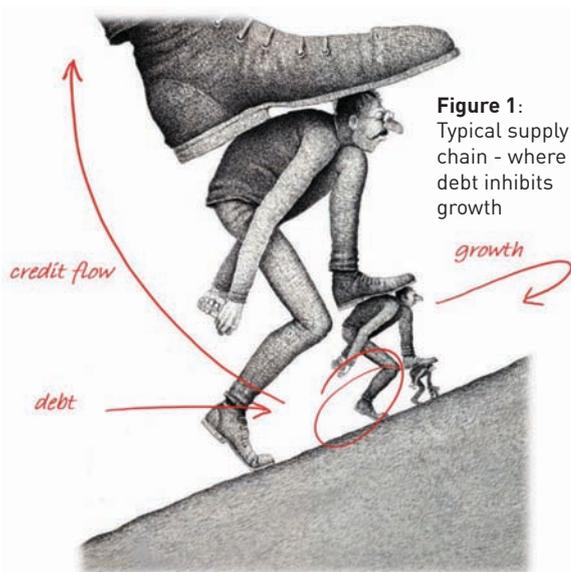


Figure 1:
Typical supply chain - where debt inhibits growth

- WHAT DOES DEBT MEAN IN SUPPLY CHAINS?

It is a structural fault in the global markets with larger businesses needing to define and control their credit terms in line with their own strategy and objectives which typically requires extended credit terms from their immediate suppliers. Mid-sized businesses are forced to pass through the pressure these extended terms place on them. To remain almost cash neutral, they agree a small discount off their invoices for early payment from the larger customer's supply chain finance solution.

In the meantime, smaller suppliers are the net provider of credit into the system, and are often forced into using debt products, such as invoice factoring to shoulder the supply chain.

- WHAT ARE THE BANKS DOING ABOUT IT? OR THE RISE OF INVOICE FACTORING AND DISCOUNTING FOR SMES

In a 'nutshell' not a lot, apart from considering their own position. For instance, UK banks will typically only offer invoice factoring or invoice discounting to non-corporate type businesses. In 2016, it was widely reported in the UK business press that UK banks were pulling up to £5m in overdrafts from SMEs in favour of switching these businesses over to invoice

factoring. Why? Well it is quite simple really: it is not about helping the SMEs, it is about securing their own position.

If you are factoring or discounting invoices then you have three very big problems, and there is no point hiding away from them:

- 1) You are locked into the deal. As banks lend on all unpaid debts (invoices) and you must factor everything, you cannot simply stop when you want.
- 2) If the business becomes insolvent then the bank (and/or factoring firm) has control over your debtor book.
- 3) You are weakening your balance sheet, and many other organisations such as credit insurers will likely see it as a symptom of fragility.

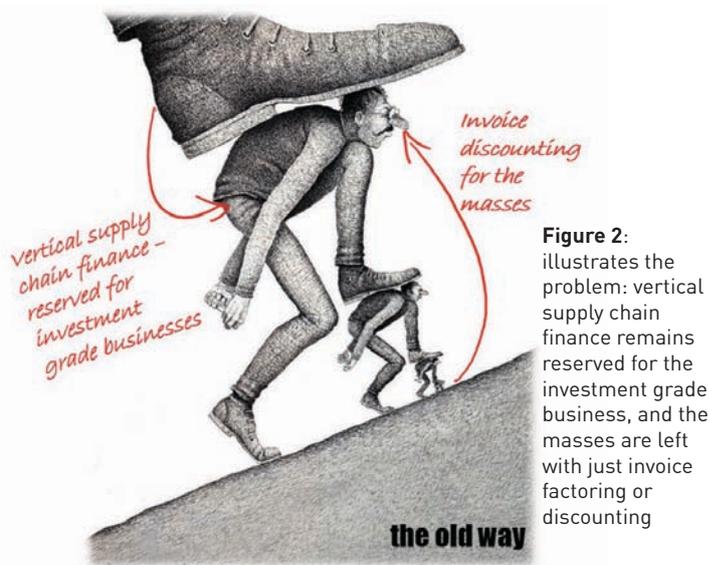


Figure 2:
illustrates the problem: vertical supply chain finance remains reserved for the investment grade business, and the masses are left with just invoice factoring or discounting

Figure 2: The existing ways supply chain finance works

- WHY SUPPLY CHAIN FUNDING IS DIFFERENT?

URICA created a supply chain funding product to eliminate debt and credit risk from supply chains. It has turned everything on its head: typically, supply chain finance providers will assess the credit standing and financial strength of the supplier, however, URICA looks at the credit rating of customer. This way, nearly any size or strength business can access cash locked in their invoices. There are no long-term contracts which means you are in control of your finance and debtor book.

URICA supply chain funding was established by a group of experienced and motivated business people in strategic collaboration with major European financial institutions to make supply chain funding available to all businesses.

To find out more, please visit www.urica.com, call on 0207 193 7616 or email at info@urica.com.

MEMBER EXPERIENCE

The CBM Buying Group began in May 2016, during these past twelve months we have gone from strength to strength. It can be a daunting prospect trying to cut costs when time is short and saving essential. That's why membership to the CBM Buying Group is so advantageous as we can be the helping hands, extra support you need to deliver those cost-savings and not take up any more of your time.

Let's take a look at CBM Buying Group member #32. This is a business who employs 100 staff, is part of a larger global group, has an existing Purchasing Manager and support staff but has a desire to take a fresh look at their overheads.

Member #32 journey began with an introductory visit (with FD and or Purchasing) on 16th June 2016. After deciding to explore membership further, signing a NDA, spend data was supplied. This was then turned into a savings forecast by our specialist buyers.

Total potential savings for Member #32 was £61,700p.a., £32,000 in consumables and accessible overhead contracts (further £29,700 in energy, insurance and rates). From this forecast a savings guarantee threshold was agreed to be set at £8,000p.a.

- MEMBERSHIP:

£250 per month plus a one-off £1500 payable only once savings have been agreed.

'If we can't find at least £8k savings then you may cancel, else 24 months.'

NB Forecast was £32.1K. Conditional decision to join in July 2016 Two buyers attended site during Aug 2016 to conduct an invoice trawl. **£948k** of overhead spend was documented, samples collected, copy contracts seen. Over the following 4-weeks like-for-like pricing inserted. Total savings identified were **£31,358**. The analysis file was sent on 29th Sept 2016.

SAVINGS IDENTIFIED: Firstly, we had to validate that these savings were achievable. A saving workshop was held on Oct 16th to agree priorities.

Targeted: Stationery, Packaging, Fasteners, Bulk Propane. i.e. **£16k** savings.

At 4-month review (Feb 17) savings achieved were **£12.2k** a further **£50k** now in the pipeline.

Their investment to date: £3.5k

CATEGORY	SUB GROUP	SPEND	SAVINGS	%
Packaging consumables	Packing	96182	5724	6
Propane (Bulk)	MRO	8742	3684	42
Mobile phone charges	Telecoms & IT	13697	3257	24
Stationery	Office expenses	10225	3190	31
Printer cartridges	Office expenses	13723	3067	22
Trade supplies	MRO	18375	1853	10
Photocopiers	Office expense	5008	1619	32
Electrical & electronic	MRO	18458	1507	8
Industrial gases	MRO	7468	1492	20
Personal protective equipment	Employee cost	17854	949	5
Plant & equipment hire	MRO	6246	744	12
Business stationery	Office expenses	1135	737	65
Janitorial supplies	Employee cost	3933	643	16
Software licenses	Telecoms & IT	39057	632	2
Fasteners	MRO	20448	561	3
Credit checks	Financial products	3117	433	14
Fire extinguishers	Occupancy costs	1725	423	25
Fixed line telecoms	Telecoms & IT	3812	282	7

Savings Across CBM Buying Group Members:

- Savings identified range from: £14,600 to £111,300 p.a.
- Average savings achieved £10,900 p.a. with a further £21,500 in progress.
- Biggest single win so far is a £15k insurance saving although one member is homing-in on a £80k saving on palletised road-freight

CATEGORY	SAVINGS IDENTIFIED
European road freight	12% to 22%
Parcel carrier (UK)	17%
Overnight pallets	7%
Electrical & electronic	16% to 45%
Industrial gases	42 to 74
Engineering consumables	2% to 8%
Trade supplies	3% to 8%
Lubricants/coolants	2% to 7%
Pneumatics & hydraulics	7%
Welding supplies	5%
Personal protect equip	18% to 31%
Janitorial supplies	19% to 24%
Workwear laundry	2% to 20%
Corrugated boxes & pallets	13%
Packaging consumables	1% to 29%
Plastic sheeting and wrap	18%

CATEGORY	SAVINGS IDENTIFIED
Stationery	19% to 29%
IT supplies	8% to 12%
Computers	3%
Photocopiers	32% to 61%
Mailroom equipment	1%
Document management	30%
Print	7%
Fixed line telecoms	15% to 54%
Mobiles	20%
Fire extinguishers	18% to 21%
Washroom services	49%
Waste management	4%
Pest control	64%
Office water	54%
Grounds maintenance	7%
Fuel cards	4%
On hold music	15%

For more info on joining the Buying Group please get in touch.

Email cbm@independentbuyers.com or visit www.independentbuyers.com/cbm/



BUSINESS RATES DEMYSTIFIED

Nik Moore is a chartered surveyor at Rapleys with over 24 years' experience in business rates. Here he offers some sage advice for people mystified by business rates and appeals.

Business rates are a huge overhead for any occupier of commercial property. It is a subject considered to be fairly complex, and expensive mistakes are often made. There are plenty of traps for the unwary and unscrupulous agents often make cold calls promising reductions.

In reality, the basics of business rates are fairly simple.

The rates payable are calculated by multiplying the rateable value by the rate in the pound. Certain reliefs and supplements may be applied. The rateable value is set by the Valuation Officer. The rate in the pound is set by the Chancellor.

The rateable value can be renegotiated, but there is no such provision for the rate in the pound.

Rateable value represents the open market rental value of the property as at 1st April 2015. This is on the assumption that the property is vacant and to let, and that there is no goodwill, tenants fixtures and fittings, or any other reason why the

tenant would take the subject property over any other similar property in the vicinity, which may influence the rent paid. Whilst manufacturing process equipment is excluded, certain surprising elements are rateable, including cranes, gantries, compressors, pits, transformers, generators, mezzanines etc.

When looking for an agent to act for you, always make sure that a measured survey is carried out, as there is a risk that the assessment could actually be too low, especially if an extension or a mezzanine floor has been missed from the assessment. Acting in haste without checking the Valuation Office records, freely available online, could actually prompt an increase in liability.

The rateable value can be questioned by making a proposal to the Valuation Officer. However, the 2015 Revaluation ushers in a completely new system. The process remains free of charge until it reaches Valuation Tribunal.

It is broken down into three stages. The initial stage is "Check", where the factual details of the property are checked with the Valuation Officer's records, and discrepancies agreed. This is now done exclusively on line, and there is a complex registration system to validate every detail.

Next is the "Challenge" stage, where the onus is on the appellant to justify the reduction proposed with detailed evidence. The Valuation Officer is not under any obligation to justify his assessment and will only offer a "proportionate response" to evidence submitted.

The third stage is "Appeal", involving the Valuation Tribunal, and a fee is payable. This is an independent body which will determine the rateable value based upon the evidence submitted by the Valuation Officer and the ratepayer, or their agent.

There are other ways to mitigate liability by exploiting the various relief and exemptions available. For friendly, informal, no nonsense advice, please contact Rapleys for a free consultation.

www.rapleys.com



Above: Nik Moore, Chartered Surveyor, Rapleys



ADVANCED FORMING RESEARCH CENTRE



ENGINEERING DOCTORATE (ENGD) PROGRAMME

The programme offers students and graduates a unique opportunity to carry out in-depth study and research in advanced manufacturing techniques, forging and forming. It provides ambitious and able students with the technical, business and personal development competencies needed to become the senior research managers of the future.

The present cohort exceeds thirty five students, each working in the field of advanced manufacturing. The CBM has been provided with a list of current projects, many associated with metal forming. The titles of papers published by students and their supervisors, considered most relevant to CBM members, are listed below. Should any member wish to have the published reference for any of these papers, please contact Kirsi Lintula at CBM on 0121 601 6350 or email: kirsi.lintula@thecbm.co.uk.

RECENT TECHNICAL REPORTS FROM ARFC, MAY 21017

TITLE	TOPIC	POSSIBLE APPLICATION
Recrystallisation Characteristics of Titanium Alpha Beta Alloys	Final structure of AB titanium after forming	New uses for AB titanium sheet
Microstructure based experimental and computational study of incremental sheet metal forming	A trial to incrementally form sheet rather than pressing	No need for press tools
Effect of microstructure characters distribution on formability of Titanium alloy sheets and related damage mechanisms	Better understanding of forming of titanium sheet	More applications for titanium sheet
Hot deformation behaviour of AB Titanium alloy		
Influence of sheet conditions on the formability of aerospace materials at room temperature		
Die manufacture for future and current manufacturing processes	New methods of die manufacture	Faster / cheaper die manufacture
Ultrasonic sub-surface material inspection and characterisation for used aerospace and automotive components.	Inspection of internal structure of used parts	More recycling of used components
The identification of the effect of high rate deformation on the microstructure and properties.	Checking the real forming limits of metals	Faster forming methods
Near Net Shape Manufacturing.	Near Net Shape Manufacturing	Minimisation of finish machining
Validation of non-symmetrical product geometry from finite element data of the cold roll forming process.	Proving results from simulation of cold roll forming in practise	Better simulation of cold roll forming
High speed die manufacture for long life	High speed die manufacture for long life	Longer life dies
New applications for metal forming, forging and additive manufacture.	New applications for metal forming, forging and additive manufacture	What it says on the can
An investigation on the effects of tool/workpiece temperature and lubrication parameters on the rate of heat transfer under non- isothermal forging conditions.	Validating heat transfer rates used in simulation	Longer tool-life, optimised tool design

TIME TO REGISTER FOR OUR NEW £12M SKILLS PROJECT

It's been years in the planning, but our ambitious industrial training scheme is now only months away from becoming reality.

In September, the Elite Centre for Manufacturing Skills (ECMS) will receive the first intake of apprentices at its central 'hub' - the University of Wolverhampton's new Springfield campus - and its four 'spokes', one of which will be at our National Metalforming Centre (NMC) in West Bromwich.

This innovative £12m project is entirely focused on the requirements of employers, as CBM members in all sectors of the metalforming sectors have long been demanding, and will be open to apprentices from across the country.

The ultimate aim is to train the next generation of Toolmakers along with Process & Tool design engineers, who design and develop manufacturing process routes, with tooling for sheet metal components, to meet quality, cost and delivery standards within a safe environment.

To ensure all engineers have the correct skill-set, a Level 6 (degree course) apprenticeship training programme, and a Level 3 apprentice training for tool and die maintenance technicians, will take place at a purpose-built training workshop at the NMC.

A third course - led by CBM member firms and covering the use of welding equipment and sheet-metal joining technology - will be held at Dudley College, another ECMS 'spoke'.

"I hesitate to say it's a dream come true, but it really is," admits CBM chief executive, Geraldine Bolton. "As long as I've been in the metalforming industry, there have been skill shortages, and unfortunately so many of the well-intentioned initiatives by the government and other bodies failed to address the issue.

"However, for the first time, we have a programme of training designed according to the specific requirements of employers.

Now we move to the final pre-launch phase, where employers decide how many apprentices they wish to attend these courses.



"Anyone needing more detail about these courses, or wishing to register for them, should contact myself at the CBM offices. A dozen CBM members have already expressed a desire to send their apprentices to the ECMS, so I'd urge other companies to get in touch as soon as possible."

Trevor Codner, the ECMS business development manager, has been recruited to engage with employers wishing to register apprentices, and ensure that the courses match their requirements.

"We've built in as much flexibility as possible, so the number of hours apprentices will be at the hub, or one of the spokes, depends on what their employer wants," he says.

"They might train two days a week during their first year, then return to work for the remainder of each week, or take a 13-week block training schedule, then go back to work for the next 13 weeks.

"We've also held discussions about taking apprentices for a full year at a time. Again, because this is an employer-led initiative, we can tailor the training according to the size of the company, where it is based and how many apprentices it employs."

If you would like more information about these courses please contact call us on 0121 601 6350.

'OUTSTANDING' IN-COMM GIVEN OFSTED SEAL OF APPROVAL

A specialist manufacturing training provider has been given a resounding seal of approval by Ofsted following its latest inspection.

In-Comm Training, which operates academies in Aldridge and Shrewsbury, has been rated 'Outstanding' across all areas of the business, putting it in the top 12% of providers across the UK.

The Grade One verdict recognises that apprentices achieve 'outstanding' qualifications that help prepare them for promotion and their future career, that learners achieve high levels of Maths, English and IT and most budding engineers secure high grades in their technical training.

Inspectors were also impressed with the rigorous governance arrangements in place and the quality and experience of the trainers, who support learners in their rapid progression.

"To secure 'Outstanding' rating from Ofsted is a fantastic achievement for everyone connected with the business...our management team, our trainers, our partners and, importantly, the 400+ apprentices and learners we support every year," explained Gareth Jones, joint Managing Director at In-Comm Training.

"Over the last three years, we have worked tirelessly to raise the profile of vocational learning, in order to meet the acknowledged

skills gap and have put in place a number of ambitious plans to make sure we are seen as an 'outstanding provider'.

He went on to add: "This includes employing the best staff and investing more than £1m in the latest workshop equipment, including new CNC capabilities, millers, lathes, welding bays, a fluid power section and CAD suite."

In-Comm, which received a 'Good' inspection in 2015, has also been praised for the work it is doing with industry to help it bridge the skills gap and to ensure companies are achieving their strategic aims by having access to skilled people.

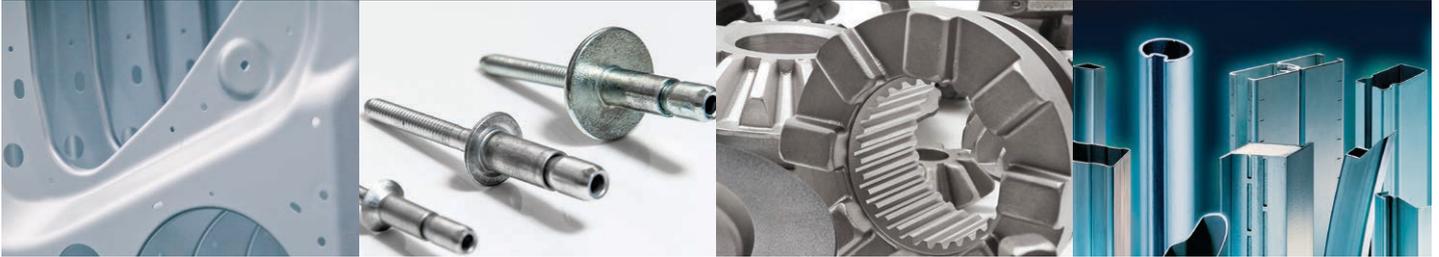
Inspectors cited that employers play a significant role in planning and delivering high-quality apprenticeship programmes and that leaders and managers are highly responsive in meeting the skills needs of the region.

Bekki Phillips, joint Managing Director, continued: "We spent a lot of time working with manufacturers in our area and they all told us that they would invest more in training if it gave them future employees ready for work.



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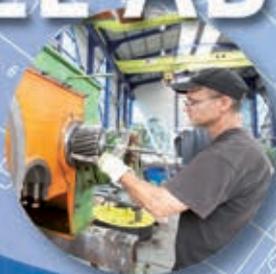
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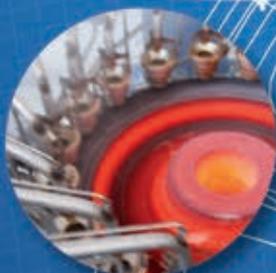
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