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FOR EXPERTS IN METALFORMING
2016 - EDITION 43
FORGING
Higher material and energy efficiency reached by multiaxial presses
Page 14

SHEET METAL
How to improve tool and die life event 2
Page 20

TRAINING & EDUCATION
Apprenticeship levy: how it will work
Page 32

FASTENERS
New technical support for SME metalformers
Page 11

Rail event sees new event format on right tracks
Page 7

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President’s Review
2: President’s review

CBM Event
2: CBM members visit to LEMA: The lean manufacturing experience...

CBM Membership
3: CBM membership
4: Welcome to our new members

CBM Event Update
7: Rail event sees new event format on right tracks

CBM Event
8: CBM automotive sector event

Fastener
9: Manufacturers met in Bilbao for EFI General Assembly
10: 'ISE/106 Wire rod and wire’
11: New technical support for SME metalformers
13: GESIPA® Blind Rivet Nuts and Blind Rivet Studs at body in white applications

Forging
14: Higher material and energy efficiency reached by multiaxial presses
17: Forging simulation and 3D printing
17: Practical use of metalforming simulation for extending dies life

Sheet Metal
19: AP&T can help you produce press hardened parts!
19: Jaguar Land Rover director awared industry gold medal
20: How to improve tool and die life event 2
21: ISME Skills Competition Report

Health & Safety
21: CBM Health, Safety & Environment Group Meeting
22: Invisible Radiation: How to comply with new electromagnetic exposure regulations
23: Pilz launches international online community for CMSE

Energy
24: Now may be the best time to change those old energy hungry lights in your workplace
24: Are you Climate Change Compliant?
25: Andrea Leadsom predicts solar flare up

UK Metals Council Update
26: The UK Metals Council

ARFC Update
27: All change at the Advanced Forming Research Centre

Business Support
28: New CBM member service launched
28: Access to expert advice when you need it
29: Going for manufacturing growth in the Black Country
30: ECI M1 - customer success story

Training & Education
32: Apprenticeship levy: how it will work
34: Imagining – investing in engineers of tomorrow
35: Perfect 10’ as West Midlands apprentices secure major titles at In-Comm Awards

Membership Directory
36: Fastener Supplier Members
36: Forging Supplier Members
37: Sheet Metal Manufacturer Members
38: Cold Rolled Manufacturer Members
38: Fastener Supplier Members
39: Forging Supplier Members
39: Sheet Metal Supplier Members
40: Commercial Supplier Members
40: Overseas Supplier Members

DIARY DATES
• CBM VISIT TO IMPRESSION TECHNOLOGIES - 15 September
• EXHIBITION FOR FASTENER & FIXING TECHNOLOGY - 28 September
• CBM 'METALLURGY FOR NON METALLURGISTS' COURSE - 03 October
• CBM H, S & E GROUP MEETING - 13 October
• CBM MEMBERS VISIT TO LEMA - 20 October
• EUROBLECH: HANOVER, GERMANY - 25 - 29 October
• ADVANCED ENGINEERING 2016 - 02 November
• THE ENGINEERING MATERIALS SHOW - 01 June 2017
• Subcon Show 2017 - 06 June 2017
• MACH 2018 - 09 April 2018

FOR FURTHER DETAILS PLEASE VISIT: http://www.britishmetalforming.com/events.aspx
Often after a good holiday you come back to work with a renewed energy to achieve goals over the next 12 months. In my case it looks like many of the individual items we have been working on for a while really are linking up and - just maybe - the sum of the whole will be greater than the individual items.

The most obvious one is where our research into and request for specific metal forming training is starting to take shape with government funds now being spent on the ECMS. This has encouraged us to develop our own training modules for member companies for apprentices and higher-level courses too. Here there is a connection with the seminars we have delivered on Tool and Die technology with Associate companies showing the latest solutions. Follow-on discussions with some member companies indicated a need for a central knowledge-base on tools and dies at CBM, so this is now a new aim to help member companies overcome technical problems.

Turning to lobbying, the Metals Council is now operational with a manager and first meeting held with BIS in London. This body puts us on the same stage with Government as the Automotive and Aerospace Councils so is the natural route for us to deliver your feedback. Inequality of energy costs is recognised by government so our aim is to ensure the metals supply chain is treated equally and the Metals Council can speak for a greater number of companies.

We are also using the Metals Council to request a new initiative for reshoring the UK’s forging industry that could be used as a template to develop other metals industries in UK supply chains.

To wrap up for now, the CBM is championing a “walk the line” service from the Manufacturing Technology Centre and provide a report on potential productivity improvements. We consider this can be a start to raising productivity at member companies and moving up international rankings. Perhaps we can take a lead from Team GB and develop strategies to get us to gold standard.

David Eales, 
President of the Confederation of British Metalforming

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**CBM MEMBERS VISIT TO LEMA:**
**Thursday 20 October 2016: 9.30-13.15**
40-45 Lower Tower Street, 
Birmingham, West Midlands B19 3NH

**- WOULD YOU LIKE TO:**
- Improve safety in your workplace?
- Improve efficiency and performance?
- Reduce cost and remove waste?
- Engage your workforce?
- Embed continuous improvement processes

The CBM members have an opportunity to visit the Lean Engineering & Manufacturing Academy (LEMA) lean training workshop. LEMA’s qualified and experienced staff will give you a taster how to improve your workplace using Lean methodologies. You will learn about the improvements which contribute to raising efficiencies and reducing waste making the working place more productive.

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**- COST**
CBM members: Free of charge
Non Members: £25+vat

**- REGISTRATION**
You can reserve a place by emailing kirsi.lintula@thecbm.co.uk or call us on 0121 601 6350.
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 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
- Members’ buying group
- 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
WELCOME TO OUR NEW MEMBERS

PETROFER UK

PETROFER is renowned as one of the world’s leading companies for development and manufacture of industrial lubricants, chemicals and specialised fluids, with locations in 42 countries throughout the world.

PETROFER UK, a wholly owned subsidiary of PETROFER Germany, has been in business since 1993, and runs a sales, service laboratory, warehousing and distribution operation for the UK market. Currently 13 people are employed, being split between in house and field based operations.

PETROFER serves manufacturing industries with highly specialised process fluids and products for applications such as: metal forming, forging, pressing, metal cutting, cleaning, hydraulics, general lubrication, heat treatment and corrosion protection. Petrofer prides itself on being a technology leader and all products surpass current environmental, H&S and legislative requirements.

PETROFER’S company ethos, Expertise, Innovation and Dedication drives our focus on our customer requirements and we constantly strive to meet individual customer needs.

For more information on Petrofer and their services:
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- w: www.petrofer.co.uk

JONATHAN LEE RECRUITMENT

The first choice for clients and candidates, Jonathan Lee Recruitment has been supplying the engineering and manufacturing sectors with exceptional people for more than 38 years.

Our professionalism and integrity mean that we take the time to listen to your requirements and provide only the best people for your roles, aiming to find clients and candidates their perfect fit for fulfilling, long-term placements.

Many of our consultants come from engineering backgrounds, providing expert resourcing solutions across industries including automotive, aerospace, defence, subcontract manufacturing, automation, power generation, rail, off highway vehicle, engineering and FMCG when recruiting permanent, interim and contract staff. We also provide expert executive search, HR consultancy & talent management solutions.

We pride ourselves on our in-depth understanding of the skills, experience and personal attributes required for specialist roles. We are committed to fostering a culture of continuous improvement so we can bring you the personalised attention and quality service needed to become your most trusted recruitment partner.

With significant experience in successfully supporting metal-forming companies in the UK, Jonathan Lee Recruitment has signed a partnership deal with CBM, to boost support for manufacturers looking to recruit specialist staff and tackle skills shortages.

This partnership will deliver focussed support to CBM members in attracting, hiring and retaining the best people, selecting the most appropriate recruitment method from its comprehensive suite of services.

For more information on Jonathan Lee Recruitment and their services:
- t: 01384 397 555
- e: consult@jonlee.co.uk
- w: www.jonlee.co.uk
E4ENVIRONMENT LTD

E4environment Ltd provides professional, practical advice and expertise to both the private and public sectors on a wide range of environmental issues. Consultants pride themselves on giving a professional, friendly and supportive service allowing clients to achieve project aims, comply with legislation, save resources and money and improve environmental credentials.

As global concerns are increasing about the long lasting damage we are having on the environment (and our wellbeing), there continues to be an increase in legislation and fiscal measures to control potential pollution and the effects of climate change.

The metal's sector is subject to many restrictions on emissions and through legislation is required to operate within the limits set under environmental permits and consents. Other legislation requires the submission of data which addresses consumption of energy or use of packaging for example, against which there is a cost attached. In addition there is pressure applied across the supply chain to make sure every company in a chain is behaving responsibly with regards to the environment. E4environment is aware of the work involved to juggle environmental issues within the context of manufacturing and can take that burden on for you.

E4environment has many clients in the metal sector and work with managers to comply with Environmental Permits; Energy Saving Opportunity Schemes (ESOS); Producer Responsibility data returns (packaging, electronic equipment and batteries); Environmental Management Systems (ISO14001 and EMAS) and sustainability. Environmental responses to tenders (NHS, HS2) are becoming increasingly important.

For more information on E4environment and their services:

- **t:** 01743 343 403
- **w:** www.e4environment.co.uk

ALTAIR ENGINEERING

Altair’s Manufacturing simulation technology that empowers innovation and reduces risk. Privately held with more than 1,800 employees, Altair has offices throughout North America, South America, Europe and Asia/Pacific. We offer Manufacturing Solutions that are comprehensive set of industry proven, process oriented software, to simulate common manufacturing processes such as stamping, extrusion, casting, injection moulding, forging and welding. Altair’s manufacturing software enables you to make automatic improvements in the design, decreasing the time required to get your products to market faster.

**Manufacturing Simulations tools include:**

**Click2Form:**
Simulate cold and hot sheet metal forming, tube bending and hydroforming, composite forming for early manufacturing feasibility analysis and advanced process validation and optimization.

**Click2Xtrude:**
Visualize material flow and temperature inside a die during extrusion, and make changes to ensure balanced flow and eliminate product defects.

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A casting process simulation software to enhance and optimize manufactured components in order to avoid typical casting defects such as, air entrapment, porosity, and cold shots.

Altair consistently delivers a competitive advantage to customers in a broad range of industries. Altair has more than 3,000 corporate clients representing the automotive, aerospace, government and defense, and consumer products verticals.

For more information on Altair Engineering and their services:

- **t:** 01926 468 600
- **e:** Baljesh.mehmi@uk.altair.com
- **w:** www.altairieengineering.co.uk
CBM MEMBERSHIP

Total UK

Total is recognised as one of the world’s leading manufacturers of advanced lubricants; operating in over 150 countries worldwide and selling over two billion litres of product each year. We have specific expertise in the iron and steel sector, metalworking, chemicals, energy, automotive, mines, and the food processing industry.

Through our knowledge and experience of industrial applications we have developed oils and greases perfectly suited to their specific operating environment, so as to ensure the best possible performance and protection of our customer’s equipment.

Indeed, we offer a comprehensive range of industrial lubricants that increase productivity, reduce production costs as well as help care for users and the environment. In addition, we provide expertise in plant optimisation through the rationalisation and organisation of lubrication operations, maintenance, oil analysis and training.

Innovation is a priority for Total, which is why we continue to invest heavily in R&D as well as harness our close relationships with equipment manufacturers, to enable the formulation and testing of tomorrow’s products.

We pride ourselves on having a direct presence in the UK market, where we manufacture world-class lubricants through our blending plant in Ferrybridge, West Yorkshire which also houses our on-site laboratory and dedicated customer service team.

Our team of technical engineers are on hand to provide expertise in helping customers to overcome their specific challenges and to support development at both local and national levels.

For more information on Total and their services:

- t: 01977 636 303
- e: lubesorders@total.co.uk
- w: www.total.co.uk

2020SolarPV

2020SolarPV are delighted to have become an associate member of the CBM and have joined forces with the CBM team to augment their energy services offering for CBM members exploring energy cost reduction.

2020SolarPV was founded by the current Directors in 2010 and is based in the West Midlands, near Worcester. Being fully accredited, MCS registered and Which® approved 2020 offer a comprehensive range of solar services. With hundreds of clients across the UK, concentrated in the Midlands, the company’s installation experience scales from small domestic systems through to the largest of commercial rooftop systems and to managing 20mW solar farms with over 65,000 panels.

The company’s emphasis is on providing clients with a consultative approach in helping reduce electricity costs by analysing the historic and forecasted electricity demand to design systems that optimise yield and return on investment. Organisations with a high electricity demand can offset a large proportion of their annual electricity costs, better budget for the future and benefit from government incentives.

Our capabilities also include:
- complete roof replacement (including asbestos removal)
- structural engineer surveys
- aerial drone surveys
- video simulations
- high voltage equipment expertise
- site security
- scheduled cleaning of solar panels

Services include free energy consultations, on-site electrical and roof surveys, 3D system design and modelling, managing network connection and planning applications turnkey installations, energy performance certification, systems operation, on going monitoring and maintenance.

For more information on 2020SolarPV and their services:

- Peter Read
  - Managing Director
  - t: 01386 802 020
  - m: 07836 681 678
  - e: enquiries@2020solarpv.com
  - w: 2020solarpv.com
RAIL EVENT SEES NEW EVENT FORMAT ON RIGHT TRACKS

The second in a series of market sector seminars for CBM members was held at the Advanced Manufacturing Training Centre (AMTC) next door to the Catapult Manufacturing Technology Centre (MTC) at Coventry’s Ansty Park.

Following an earlier aerospace event in Derby, the focus for this busy half-day session was commercial opportunities within the rail industry, and how companies should look to win lucrative supply chain contracts.

The AMTC was an eye-catching location, and feedback suggests the many delegates were also impressed by the array of knowledge and insight from the six-strong panel of speakers.

Dr Peter Standring, who chairs the CBM’s Technology Transfer Group, welcomed the scene-setting presentation by Mike White, the managing director of Arvada Strategic Marketing, and previously a senior manager with Lucas Industries, IMI and Wm Canning plc.

This concerned the available data on UK and European rail networks which Mike suggested could readily be obtained from the internet. By way of example, he showed a Market Structure Map of the UK Rail Sector (see below) which identified who does what and with whom. This was followed by further slides indicating a €21bn rail spend in Europe and £1.3bn within the UK, over £750m of which was for components used in rolling stock. This, Mike suggested could offer many business opportunities for the CBM and its member companies. A suggested advantage here would be with those companies which had automotive experience which they could share to enhance the rail industry.

John Evans, CEO of the National College for High Speed Rail surprised many delegates by stating that there were 25k people involved in HS2 which was a 35 year project. This, he suggested, would require a major effort to upskill the rail industry and its supply chain to meet the challenges of running trains having 1100 seats.

- UK rail sector market map (industry overview)
John described where the current gap in skills existed within the UK, one example being that only 4% of engineers are women which is the lowest rate in Europe. In an attempt to start as we mean to go on, John told delegates of the two Campus’ which would help address the skills balance. One at Doncaster (for the heavy end) and the other located in Birmingham (Aston) for the electronics and digital side.

Jim Panter of the Rail Alliance explained that, with 400 members, his organisation was the voice of SME’s in the rail supply chain. Originally formed by BIS, DfT alongside Top Tier companies, its role was to help ensure that suppliers to the global rail industry obtained ‘mutual benefit’ from the 2017 – 19 market forecast of £128bn pa business.

His role, he explained, was to organise and implement the SME Mentoring Scheme helping SME’s to understand and proceed through the various industry requirements prior to engagement.

Jim presented a ‘flow chart’ type progression indicating the steps and necessary conditions which all SME suppliers to the industry must pass through if they are to obtain ‘accreditation’ and where guidance could be obtained.

The contribution from David Atkinson, the UK head of manufacturing for the SME banking unit within Lloyds Bank was particularly well received.

As he told delegates, he had been involved with manufacturing from an early age, spoke the language of the metal industry, and focused very precisely on what his organisation was doing and could do for SME companies based in engineering.

Despite the uncertain future within competing manufacturing based countries since the 2008/9 financial problems, Dave showed attendees that it wasn’t just the UK which found recovery difficult. However, he stated, there were significant opportunities available for those with good plans and that investment in the future was the key to success. To support that view he stated that Lloyds Bank had committed to a £1m sponsorship of the AMTC developing over 500 engineering apprentices. Dave then explained the areas of help and support he and his team of Managers were offering to the 10 000 SME clients which Lloyds had on their books.

He ended with a quote from the Dalai Lama saying “if you think you are too small to make a difference, try sleeping with a mosquito” suggesting that Rail and other OEMs need think you are too small to make a difference, try sleeping with a mosquito” suggesting that Rail and other OEMs need.

Comments made at the end of the presentation welcomed the prospect that a 35 year strategy for the rail industry offered a significant ‘career’ prospect to any young person seeking an engineering related long term future.

Access to finance has been a long-term challenge for many of our SME members, so the presentation by Colin Harris, the investment director for Finance Birmingham’s Rail Supply Growth Fund, was extremely important in highlighting the funding sources and initiatives which are available.

He suggested that companies looking to win work from rail industry supply chains of the future will have to increase their capabilities and productivity. External investment will play a critical role in achieving those aims.

Colin informed delegates of a £20m fund to help deliver the strategic goals of the Rail Supply Group meet the demands of the future. This was in addition to £0.5bn of funding currently invested in the Automotive and Aerospace sectors which supported 70 supply chain projects.

Colin told his audience that any interested parties could enter the bidding process with applications between £0.5 and £2m. From projects already in progress it was believed the rail sector was 20 years behind the automotive industry in terms of its supply sector.

Dr James Winnett, from the Warwick Manufacturing Group, highlighted research into the use of innovative lightweight materials for what the industry calls ‘Very Light Rail Vehicles’. His presentation focussed on the symbiotic relationship of energy, materials, manufacture and drive systems to maximise efficiency. A number of examples were shown where the WMG have been involved in such projects. The current one is the concept of the Very Light Rail Innovation Centre and a proposed Test Track in Dudley.

Skills gap in engineering and rail’

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CBM AUTOMOTIVE SECTOR EVENT

The CBM automotive sector event will take place on 22nd November 2016.

For further information please call Kirsi Lintula on 0121 601 6350 or email: kirsilintula@thecbm.co.uk.

www.britishmetalforming.com
The annual General Assembly of EIFI was held this year, from May 19 to 21, 2016 in the pleasant Basque city of Bilbao at the Domine Grand Hotel, just in front of the Guggenheim Museum. As usual, the agenda of the event was well-structured and rich in contents. After one year, the delegates had the opportunity to meet each other again in the evening of May 19, at the welcome cocktail party, which took place in the suggestive roof of the hotel building, and later during the following informal dinner party.

The first session of the General Assembly, concentrated in one day (Friday 20,2016) involved the Automotive Group, headed by Paolo Pozzi, who introduced his speech with an overview of the current world economy trends, which are on the rise, even if some signs of slowdown are beginning to emerge. Talking in detail about the automotive market, Mr. Pozzi underlined that car sales are expected to close at the end of 2016 at a +2.1% increase rate compared to 2015, driven by a growth that characterizes almost all regions, especially Central Europe (+6.4%) and China (+5.3%). Heavy slowdowns are instead predicted in South America (-16%) and in the East European countries (-6.7%). Rising prices, in 2016, as regards raw materials and commodities (steel, aluminium, glass, plastic resins, iron, and rubber), automakers will be able to cope with after four years of continuous decrease (2011-2015: -51%), which has allowed them limiting production costs and strengthening their profit margins. The head of EIFI Legal Commission, Winfried Schwarz, made a report to update the members on the different activities carried out by his group throughout the past financial year. Then Mikel Lorente, Technical Manager of ACICAE (Basque Automotive Cluster), took the floor remarking that today, the automotive industry has become one of the major driving forces of the European economy, since it generates 12.9 million jobs – i.e. 5.3% of the overall labour force in the European Union - and is the first industrial area in terms of investment and development. What are the predictable responses the automotive industry is expected to give to future challenges? Lighter vehicles, motor size reduction, increased efficiency, improvement of comfort and safety, greater automation and modularization in the production process.

After the section devoted to the automotive industry, President Anders Karlsson started the first session of the General Assembly – i.e. the session reserved to members - addressing his personal warm welcome to all attending members. After a detailed analysis of the 2015 final balance and the 2016 budget – both unanimously approved – the Assembly approved the admission of a new member, the Croatian company DIV Ltd, and established the date and the place of the next General Assembly, which will be held on May 18-21,2017 in the Marstrand island, which is part of the Swedish archipelago near Göteborg, where the “Match Cup” of Sweden takes place every year. Quite interesting were the reports made by Stefan Beyer, head of the Executive Committee, who informed the members on the different activities carried out last year by his group, and by Giorgio Donati and Bernard O’Connor. The speakers’ reports were focused on the repeal of the anti-dumping duties, the MES grant to China, and the regulation concerning the “Union preliminary surveillance” applied to the imports of steel products (fasteners included) recently published by the EU Official Journal.

continued on page 10>>
President Karlsson subsequently opened the second session of the General Assembly, open to the public, welcoming Volker Lederer, President of EFDA, who thanked him for having been invited, and presented the structure and activities of the European Association of Fastener Distributors, which represents in Europe and in the world six national associations [France, Germany, UK, Italy, the Netherlands, and Spain] as well as other individual companies based in Belgium, Finland, Poland, Czech Republic, Romania, and Sweden. As President Lederer said, EFDA, which is increasingly alert on issues concerning trade protection, has strengthened its relationships with the European authorities, and is lined-up in favour of free market rules based on loyal competition. The attending EIFI members warmly welcomed Mr. Marijanovic and Mr. Mamic of the new EIFI member company DIV Ltd., and Mr. Miquel Jiménez, an international economy expert of BBVA Research, who made a detailed report on the current economic world scene and the European situation, which is going through a continuous although rather weak growth, which is threatened by several risk elements, such as Brexit, China’s economic crisis, emerging markets, and so on.

Ramon Ceravalls, President of EIFI General Fasteners Group, made a well-documented report on the European building and construction market, which after six years of heavy crisis (2007-2013), which caused the loss of two million direct jobs and a 20% drop in the market, seems now to be slowly but continuously recovering. In 2015 it reported an additional 1.6% increase compared to 2014, which in turn had already closed reporting a 1.3% growth compared to the previous year. Quite favourable are also the prospects for the near future: +3% in 2016, +2.7% in 2017, and +2% in 2018.

The second day ended with a gala dinner at the “La Sociedad Bilbaina”, an exclusive club founded in 1839, the current premises of which – a majestic building situated in Calle Navarra, built in 1913 by the architect Emiliano Amann – were recognized by the Basque government “an architectural heritage of great historic and cultural interest” for its unique furnishing elements and the perfect preservation of its rooms and halls. On its arrival to the club, the group of delegates was welcomed in the main hall by a dancer, who performed the “Aurresku”, a typical welcome dance belonging to the Basque tradition and reserved only to important guests. During the dinner, President Karlsson, together with Vice-Presidents Fontana and Fuchs, gave a honorific plaque to Francisco Lacha, outgoing president of ASEFI, and the “Robert Dicke Award” to Ramon Ceravalls, with the compliments and the applause of all attending guests.

On the following day, Saturday May 21, the EIFI members had the opportunity to share business experiences, opinions, and strengthen their personal relations during a pleasant social trip to San Sebastian, the celebrated and magnificent city on the Atlantic. The convention ended with a pleasant evening tour in various pubs of the old town centre of Bilbao, where the delegates had the opportunity to taste the “pinxtos”, little and colourful snacks typical of the Basque culinary tradition.

Having recently taken on the national committee ‘ISE/106 Wire rod and wire’ the BSI conducted a review of membership with a view of removing those members who do not actively participate. Therefore, the above committee is not represented by a CBM member at the moment.

As I am sure that you would agree, where members take on the responsibility for representing an organisation such as the CBM it is important that they actively engage and represent the views of those members.

We would like to make a new nomination to the committee and would like to hear from any members interested in this opportunity.

The link below will provide you with an overview of the committee – what they have published, what they are developing etc.

https://standardsdevelopment.bsigroup.com/Home/Committee/50216849

Kirsi Lintula
UK Government strategy in support of industry has been heavily focused both industrially and academically toward High Value Manufacture. In contrast, this article describes an attempt to provide a measure of technical support to the many smaller companies working in conventional supply chains. Industrial Metalforming Technologies www.imft.co.uk (formerly The British Cold Forging Group established in 1951 to promote the adoption, development and use of cold forging technology within the UK) has linked with the Confederation of British Metalforming (CBM). As a non affiliated, non commercial informal body, IMfT having its own wide ranging library of technical knowledge has agreed to work with the CBM to set up a ‘hands on’ technical support system primarily for metalforming SME companies. The following article describes a ‘test case’ problem of die failure provided by Smith Bullough of Wigan to kick the scheme off.

- THE PROBLEM
Smith Bullough wanted to hot forge a rectangular bolt head, 2.25 x 1.25 x 0.98 [inches] from a 1.25 diameter bar of EN24 material. The forging temperature was 1200° C obtained by induction heating and the process was carried out on a 125 tonne double blow press.

As shown in Figure 1, the sequence of operations consisted of preforming, forging and trimming. An example of the forged head obtained is shown in Figure 2.

Two dies were made from D2 material and heat treated to 60 and ~53 RC respectively. Both dies cracked in the same manner after forming 20 parts as shown in Figure 3.

- THE CAUSE
Like any flowing material, ductile metal will always take the path of least resistance. The sole purpose for any forging is to change the geometry of the original starting stock from its simple readily available shape and by so doing, add value. Where a complex forged geometry is required, a conventional process may include a number of preforming stages using different dies to accomplish the task in a stepwise manner. This effectively ‘persuades’ the material into gradually achieving the desired configuration and as such minimises the die stress and material waste.

Waste occurs when the billet material extends above the die cavity and during the deformation process, flows in between the two dies to form a flash. As the flash gets thinner and covers a larger area, the frictional conditions increase. It

continued on page 12 >>
As can be seen in Figure 4, the upstand height of the round, non-preformed billet, is contained inside the die walls. Although not shown, in this embodiment, the upper tool has the same geometry as the plan view of the bolt head and fits snugly inside the rectangular die cavity.

During the deformation process, the billet is axially upset which causes barrelling of the material along the plane of the major axis until it hits the two end walls. Further axial movement of the upper tool working only over the cross section of the bolt head will continue until the part is fully formed. No stresses can be produced in the corners of the die or its base because the tooling elements in these regions are not continuous.

At a forging temperature of 1200°C the yield stress (σy) of EN24 is ~100 MPa. Since the area of bolt head is only ~1.86 \times 10^{-3} m^2 it follows that the minimum forging force should be less that 20 tonnes. However, redundant work due to internal friction will increase this by at least 2.5 times and then additional die wall friction needs to be considered. The fact that a bolt head can be produced with a flash 2.9 times larger in area than the bolt head demonstrates that forming the part without flash is possible and perhaps at a lower forging temperature.

The die elements shown in Figure 4 do not have 45° surfaces reflecting those of the cracked dies. They could have and if they did, would function perfectly well. The simplified die elements of Figure 4 have been selected to ease manufacture and will function in exactly the same way. These can be machined as a simple ring; heat treated and then wire EDM’d to cut them into the four pieces prior to grinding and assembly.

The machining process selected must allow the four die elements to be held together in their final working configuration whilst they have the taper angle ground on the outside diameter. The four die elements are then pressed into the taper holding ring which is itself pressed into an outer reinforcing armour ring to complete the die.

**- PHYSICAL MODELLING**

Currently available numerical modelling software tools for bulk and sheet metalforming are very good and can provide excellent analysis of most conventional deformation processes. However, the problem facing most metalforming SME’s is to find the justification not only to buy the software codes and the kit to run them but also to employ the personnel who can use them effectively. For many SME’s these costs are prohibitive.

The use of physical models can also be very effective in providing a quick and simple answer to a practical problem. Moreover, when used in conjunction with a mathematical analysis this can produce right first time results.

A half scale physical model used in this case is shown in Figure 5.
Figure 5: Physical model of the bolt head forming process

This consists of a wax billet located in a slot in the lower die which represents the long axis of the bolt head. The upper tool is the same width as the slot in the lower die. It also has a short slot which contacts the top of the billet. The two end elements represent the short surfaces of the bolt head and the slot depth represents the bolt height. Squeezing the billet on a fly press allowed the part to be formed. More importantly, the model provided a stepwise progression of the billet deformation to be obtained to identify any requirement for possible set up changes due to the formation of the folds or laps.

- CONCLUSION

The case study described above is the kick-off activity to give a Technical Support facility to SME metalforming companies in the UK. If a need for such a service can be shown to be a restriction to business growth and development, this would be a justification for seeking Government support for the traditional UK metalforming community. It is commonsense that if the UK Government is to use its Catapult Centres to establish a presence in High Added Value Manufacture, it must also support its SME companies to help them become part of the same supply chain and to be able to offer a service within it. Funding high tech R&D inside the UK then find that what UK based high tech industries require can only be supplied from overseas is a sure fire way to score a huge ‘own goal.’

For further information, please contact Dr. Peter Standring at IMFT, email: events@imft.co.uk, www.imft.co.uk.

- ACKNOWLEDGEMENTS

IMFT wish to extend their grateful thanks to Smith Bullough for providing the subject of the case study.

GESIPA® BLIND RIVET NUTS AND BLIND RIVET STUDS AT BODY IN WHITE APPLICATIONS

Advancements in materials and the “Industry 4.0” are challenging the joining technology of the automotive industry. Requirements are the control of the setting processes and the fully automation and integration of the technology in the OEM operations. The purpose of these new requirements is to ensure high quality of all joints as well as fast and economic processes.

With the focus on new materials in body- in- white applications and the light weighting advantages of using different materials together, the GESIPA® blind riveting technology provides many solutions for the joining of these different materials for example, a material mix of high-strength steel, light metal as well as carbon fibre materials.

The rivet nut and rivet nut stud technology offers easier, neater and quicker installation process by one-way access to the riveting position. They can be fit at any stage of the build i.e. in body- in- white or as a secondary operation after the base material has been coated or treated. With high load bearing capacity they provide guaranteed and secure joint creating high-class threads in thin and soft materials. No thermal emissions during the setting process provide a much cleaner application causing no deformation of the base material.

These advantages of blind rivet nuts and rivet nut studs along with process control tooling by GESIPA® also provide a failsafe and secure joint in production of safety critical components.
COBURG. Optimization of the pre-form and minimization of the flash have always been core requirements in modern solid forming processes and are dramatically gaining importance in times of rising material and energy costs. Such optimization cannot always be achieved with conventional single-acting presses. Therefore, LASCO has launched a range of multiaxial presses.

Single-acting presses are characterized by the fact that the functions “closing of the die” and “forming” are, as a rule, carried out simultaneously. Thus flashless forging is not possible, as the die would have to be closed before the actual forming step takes place.

Double-acting presses provide more opportunities e.g. with an additional drawing cushion. Highest flexibility is reached, however, by hydraulically driven multiaxial presses. Depending on the application these are equipped with two to six press axes acting independently from each other and are used for traverse impact extrusion and upsetting e.g. in the production of pre-forms for turbine blades.

- HYDRAULIC HORIZONTAL FORGING MACHINE – HWS

The HWS is a further development of a hydraulic forming unit based on the mechanical horizontal forging machine, which is still frequently used worldwide. A feature of this type is that the main drive used as eccentric drive for the upsetting punch is connected with the knuckle joint of the clamping drive via a push rod. A disadvantage of this design is the mechanical connection of the two forging axes. In addition die heights must be maintained exactly due to the knuckle joint.

The independent hydraulic axes of the HWS remedy these disadvantages. The clamping force, which can be set to up to 150% of the maximum upsetting force, closes the dies safely and independently of the upsetting operation. Nevertheless, existing tools can be maintained. The necessary control engineering for later automation with robots and transfer systems is already provided for.

A LASCO HWS with an upsetting force of 3150 kN will be delivered to a manufacturer of turbine blades in autumn this year. This customer owns several conventional horizontal forging machines and expects significant improvement in the accuracy of their pre-forms of blades from this investment.

Above: Hydraulically driven horizontal forging machines, such as the LASCO HWS shown in the schematic view, provide a lot of advantages in the production of precision parts with demanding geometries over the conventional solutions for horizontal forging.

- HYDRAULIC PRE-FORMING MACHINE – FLEXIMAT

Starting point of the development of the FlexiMat was a project funded by the German Federal Ministry of Education and Research (Funding number: 17PNT023) and carried out by enterprises of the solid forming industry and LASCO under the direction of LFM Iserlohn. They jointly designed the pre-forming machine, developed its basic functions and evaluated its efficiency.

Above: The basic idea of the FlexiMat (schematic view) is based on a research project funded by the German Federal Government and was brought to readiness for series production by LASCO.

continued on page 15 >>
The James Durrans Group has been supplying lubricant technologies to the forging industry for over 15 years and have recently enhanced our in house manufacturing facilities by the commissioning of new ‘state of the art’ equipment.

Backed up by our in house laboratory, research and development facilities, we can offer the forging industry all forms of lubricants. Furthermore our excellent new facilities and our considerable experience in carbon processing technologies enables us to now offer clients bespoke product solutions to suit their particular needs.

Leistritz Turbinentechnik. The press will be delivered to the plant in Thailand and used as pre-forming unit for the LASCO screw press SPR 1600 that was acquired at the same time.

LASCO has meanwhile developed the FlexiMat to a point that it is ready for series production. From the very beginning it has been received with great interest. The first press of this type, a FlexiMat 40/60 with a horizontal upsetting force of 4,000 kN and a closing force of 6,000 kN was ordered by our customer Leistritz Turbinentechnik. The press will be delivered to the plant in Thailand and used as pre-forming unit for the LASCO screw press SPR 1600 that was acquired at the same time.

Above: First press of type FlexiMat was ordered by Leistritz Turbinentechnik for its plant in Thailand.

Above: Equipped with up to two vertical closing and forming axes as well as two independent horizontal upsetting axes the FlexiMat can be used for producing complex geometries.
Best quality is our ultimate ambition

Our nearly comprehensive range of traditional machine tools for forming technology comprises hydraulic presses, die forging hammers, counterblow hammers as well as screw presses, pre-forming units, forging and cross wedge rolls, and automation of machines and lines, are the focus of the product programme today.

LASCO machines and lines for the forming technology are used in industries such as:

- automotive industry
- railroad engineering
- aircraft industry
- shipbuilding
- medical engineering
- household appliances
- hand tool industry
- mechanical engineering
- agricultural machine engineering
- renewable energies
- power plant engineering
- fittings and fixtures industry
- off-shore industry
- mining

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FORGING SIMULATION & 3D PRINTING
LEADS THE WAY IN PRODUCT DEVELOPMENT & TOOLING DESIGN

Brooks Forgings Ltd is proud to announce further investment in its product development and tooling design department. The addition of a 3D printer and the latest QForm forging simulation software, working in unity with existing SolidWorks software, has the potential to transform the way the company does business. 3D printing enables the low cost production of prototype parts with incredible accuracy. A physical and dimensionally accurate component can be 3D printed and handed to the client, giving them the ability to finish machine and even implement into a sub assembly for final suitability testing. The benefits of this capability are particularly evident in the early stage of production. Forging is an industry with high outlay costs, with production of tooling and purchase of raw materials often reaching in excess of £20,000. 3D printing can assist in avoiding costly mistakes caused by the production of incorrect dies and ultimately scrap material. QForm is forging simulation software that enables the development and optimisation of tooling and accurately simulates and analyses the forging process. Why is this so important? It is possible to identify flaws such as inadequate impression filling, laps or folds, and flow-through defects. Further optimisation of the process can be achieved by varying starting material diameter, forging forces and analysis of die tooling stresses to improve durability and longevity.

In conclusion, 3D printing and QForm enables Brooks Forgings to improve lead times and the overall efficiency of the manufacturing process by eliminating forging defects and final application suitability issues before final production tooling and samples are physically produced.

PRACTICAL USE OF METALFORMING SIMULATION FOR EXTENDING DIES LIFE

CBM been championing extended tool and die life over the past months and recognises the importance of getting the basics right first time. When we heard that the latest Micas simulation release for forging can now identify premature failure and die wear we believed members would want to understand more about it. We therefore organised a day with Nick Biba from Micas at the CBM headquarters and invited members along.

The seminar on 29th of June was dedicated to practical use of simulation for metalforming technology and extending dies life. The event started with an introduction to recent developments of forging simulation software in QForm VX that made it faster, more informative and affordable. Then the participants learned about some aspects of efficient forging technology development such as defect free material flow, reducing load and material saving that can be achieved by means of simulation. Predicting and avoiding material flow defects (laps, folds, die non fills) was also explained.

The presentation explained about the comprehensive analysis of forging technology coupled with the stress, temperature and deflection in the dies. The main reasons of premature die failure, such as brittle and thermal cracks, low cycle fatigue, abrasive wear were discussed as well as the ways of extending die life by means of proper selection of tool steel, optimisation of forging sequence, use of assembled and pre-stressed tools. The seminar made use of practical case studies of hot and cold forging examples that the participants were encouraged to run themselves using their own laptops and through the cloud connection to Micas.

The CBM would like to thank Nick Biba from Micas Simulations for running this course for CBM members.
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Jaguar Land Rover Executive Director of Human Resources and Global Purchasing Ian Harnett, has been awarded the Institute of Sheet Metal Engineering’s prestigious Gold Medal, for his service to the industry.

The ISME was set up to promote the sheet metal industry and to share knowledge and skills throughout its membership, the need to stamp, bend and fabricate sheet metal is the same now as it was in 1946. But technologies have changed dramatically and the demands of the automotive industry in particular have revolutionised methodology and working practices.

Ian Harnett has played an integral part in the growth of Jaguar Land Rover and as Global Purchasing Director he oversaw the distribution of contracts to the supply chain throughout the world.

Vitally for the Midlands, automotive manufacturing has not only survived but remained strong in many cases, with companies investing in the new technologies to keep pace with Jaguar Land Rover’s stringent demands on quality and the advent of aluminium structures.

Ian has helped guide these suppliers through the highs and lows of the automotive industry fortunes and in doing so has supported business growth and the generation of thousands of jobs in sheet metal engineering throughout the Midlands, the UK and beyond.

Chairman of ISME Steve Morley said “The Gold Medal is presented to influential people within our industry and I’m delighted to say that we had no hesitation in making Ian the 27th recipient of this award.”

For more detail please contact Adrian Nicklin, ISME Events Officer: adriannicklin@btinternet.com.

Right: Ian Harnett with ISME Chairman Steve Morley.
Following the success of the March tool and die life event, CBM members were invited to our second seminar at the CBM Headquarters in West Bromwich in June. This was a continuation to our efforts to improve tool & die life. The breakfast event was attended by companies from presswork, cold rolled and sheet metal sectors.

Paul Tandy, Operations Manager, at Decade Monitoring Solutions Ltd described their leading design and manufacture of process control systems hardware and software for the metal forming industries. The systems they manufacture ensure you get the utmost performance from your power presses and tooling. All Decade products below are designed in house and manufactured in the UK:

- Load monitoring and automation for power presses
- Process monitoring for assembly operations
- Production recording systems
- Calibration services
- Load cells

Svante Falt, Technical Development Manager, at SSAB spoke about the steel they make and benefits of using Ultra High Strength Steel (UHSS). He was supported by Ben Cook, Regional Sales Manager at Automotive SSAB EMEA. They also described press tool design best practice using forming simulation to highlight potential manufacturing feasibility problems for UHSS. The presentation gave advice around blanking and piercing operations.

Adrian Nicklin, CBM Sheet Metal and Cold Rolled Specialist, presented a list of best practice and decision making activities to improve timing, quality, maintain volume supply, and improve tool and die life with delegates participating in the discussion. Adrian also gave an update of the new CBM training centre (Elite Centre for Manufacturing Skills) that will be concentrating on teaching toolmaking skills both practical & classroom based including CAE tool design.

The CBM would like to thank all delegates and the speakers from SSAB & Decade.

There will be a part three ‘How to Improve Tool & Die Life’ event in November.

For more information please Adrian Nicklin at the CBM on 0121 601 6350 or email: adrian.nicklin@thecbm.co.uk.
INSTITUTE OF SHEET METAL ENGINEERING
SHEET METAL SKILLS COMPETITION REPORT

THURSDAY 16TH JUNE 2016 – RAF MUSEUM, COSFORD.

This year’s event brought in 29 apprentice competitors from various companies from around the UK. This shows the need for young talent to make or maintain our metal commodities whether in aerospace, ship building, automotive, construction, catering or retail hardware.

With competitors from Babcock Marine Technology, Sertec, RAF Museum Cosford, Military Engineering, PAB, Midland Power Press Services we had a good mix of test pieces to judge.

The categories were:
- Wall vent year 1
- Ducting year 2
- Hinged Clasp [category for toolmaking apprentices]
- Hinged Clasp Checking Fixtures [category for toolmaking apprentices]
- Open class exhibits.

As last year we must praise the skills of the apprentices for their workmanship and quality. Dimensional accuracy of the test pieces this year were to a very high standard with marking very close in all categories. The Open Class entries as normal gave the Judges a challenge to identify skills and originality. ISME also judge their written technical document that accompanies the component they have made. We believe that the written word is an essential part in the planning of how they go about producing their exhibit.

Like all events in today’s environment we are indebted to our event sponsors: Bruderer, Institution of Mechanical Engineers (ImechE), Sertec Group holdings, Confederation of British Metalforming (CBM), AP&T Group, Radshape, Bauromat, Babcock Marine and Midland Power Press Services. Without their support there would not be a competition.

This year’s award winners:
- Wall Vent Test Piece Winner [Frank Cooper Award]: Terry Yates, Sertec
- Wall Vent Test Piece Written Winner: Terry Yates, Sertec
- Ducting Test Piece Winner: Ben Lang, Babcock
- Ducting Written [Ted Rosmarin Award]: Andrew Neal, Babcock
- Clasp Test Piece Make: Kieren Coles, Sertec
- Clasp Test Piece Written: Scott Jay, Sertec
- Clasp Checking Fixture: Ricki Riaz, Midland Power Press Services
- John Davies Award Open Class Winner: Stephen Livick, Babcock
- ISME Originality Open Class Award: Andrew Neal, Babcock
- Open Class Written Award: Andrew Neal, Babcock
- ISME Trophy Overall Winner: Ben Lang, Babcock

Thanks must go to the Company trainers, colleges and training schools for the time effort and support they give to the students and apprentices.

If you are interested in the next competition please contact Adrian Nicklin, ISME Event Officer, adriannicklin@btinternet.com.
Electromagnetic fields (EMFs) are generated wherever there is electrical power. EMFs are present everywhere but invisible to the naked eye. They tend to be quite small, but in high power industrial applications the magnitude of the field can cause adverse health effects in workers. Because of this, a new law entitled the Control of Electromagnetic Fields at Work Regulations (CEMFAW) was introduced on the 1 July 2016 in the UK. It aims to protect workers from adverse health effects arising from exposure to EMFs and covers the frequency range from 0 Hz to 300 GHz.

What are these adverse health effects? At the low and intermediate frequencies commonly found in the UK’s metal forming industries, they are scientifically well established short-term effects including nausea, dizziness, headaches and muscle twitching. CEMFAW does not cover longer-term adverse health effects as there is currently no compelling scientific evidence to suggest that EMF exposure causes anything other than immediate health problems.

Legal exposure limits for EMF exposure are presented in the new regulations. The two tier system employs Action Levels (ALs), which can be measured and if these are exceeded, Exposure Limit Values (ELVs), that can be calculated. The intention is that these limits, if required, are used in a risk assessment to ascertain whether a work practice or equipment poses a hazard to workers. Often no risk is presented. For example, equipment used by the public including phones, computers, small transformers and air conditioning units are immediately exempt and nothing is required to be done. However, industrial equipment utilising high currents such as electric welding (manual metal arc, MIG, TIG), induction furnaces and heaters, industrial magnetisers and demagnetisers, electric crack detection and industrial electrolysis should be checked out.

The HSE has launched its own guidance for the CEMFAW regulations after carrying out a consultation between October and December 2015. This guidance can be found on their website. The executive says it has no plans to produce sector-specific guidance, although it is aware that several industries are embarking on their own.

For some employers, the guidance is welcome as the assessment of electromagnetic field exposure can be complicated. Unlike a number of hazards, it cannot be seen, heard and often felt. Therefore, this type of radiation often goes undetected in the workplace.

Employers are required to carry out an assessment of workers’ exposure and document any potential sources of high EMF. Then, through a process of examining documentation measurement, continued on page 23>>
continued from page 22 >> or in some cases computer simulation, the risks posed by these EMF sources should be assessed. Often, only a little signage and small changes to working practices are required. It is unusual for a process to require barriers and interlocks for protection against non-ionising electromagnetic fields. Distance is usually a dominating factor as electromagnetic fields drop very quickly as one moves away from a field source. A 10 or 15 cm separation distance in certain situations may be enough to dramatically reduce the field in the region of a worker and bring the work practice in compliance.

It is unlikely that an EMF assessment would have to be carried out more than once, unless something changes in the workplace. If measurements or calculations are performed in the working environment and this is in compliance with the new regulations, it is reasonably safe to assume that the electromagnetic field levels will not change significantly as long as no new high power electrical equipment is installed.

Attention should be paid to workers ‘at particular risk’. These include individuals with implanted electronic devices such as pacemakers, people with passive metallic implants and pregnant workers. In these cases, it is appropriate to use the public electromagnetic field guidance and limits presented in the EU’s Council Recommendation 1999/519/EC document.

The CEMFAW regulations attempts to control exposure to electromagnetic fields which, due to the nature of the physics involved, is a complex topic. However, help is available. The EU has published a Non-binding guide to good practice for implementing Directive 2013/35/EU, trade associations provide information and there are a number of European standards now being produced that deal with how to assess compliance for a particular industry or application.

The important thing is to begin to assess electromagnetic field exposure now as any potential work would require time and resources. Further information on the new EMF regulations and how to comply can be obtained from the author. Please send your queries to enquiries@emf-comp.com.

Figure 4: The measurement equipment used in assessing low frequency electromagnetic field exposure.

Figure 5: Analysis of the magnetic fields for an induction furnace.

PILZ LAUNCHES INTERNATIONAL ONLINE COMMUNITY FOR CMSE

Since 2013 Pilz has been working with TÜV Nord to offer the CMSE® - Certified Machinery Safety Expert qualification. More than 1,800 experts in over 40 countries have passed the corresponding examination. Now they can all use www.cmse.com to network, with access to exclusive, practical content.

The CMSE® Community is a global community of machinery safety experts. In a private area on www.cmse.com members have access to the latest news with relevant, specialist, innovative articles, written and edited by Pilz experts. Exclusive downloads with white papers, information on the international legal framework, the status of standards and technical documentation complete the range of information on offer. In subject-oriented forums members can exchange views, post questions and share their experiences.

"Machinery safety is a global challenge, which can best be resolved together. With the CMSE® Community Pilz is creating the very first platform for international exchange among machinery safety practitioners. It’s a place in which all worldwide advocates for workplace safety can network", explains Jaime Alonso, Technical Director of Pilz International Services Group.

Due to the high volume of bookings for the CMSE® course, Pilz UK have decided to add an extra course date to their schedule in November! On the 7th- 10th of November 2016 Pilz will be holding an additional 4 day CMSE® course. The CMSE course will be held at our training centre in Corby, Northamptonshire.

Each CMSE® is automatically granted free access to the community. For those without a CMSE® qualification, information on how to gain certification can be found at www.cmse.com.

For more information or to book your place on the CMSE® Course then please contact training@pilz.co.uk or visit our website www.cmse.com/en.

Figure 5: Analysis of the magnetic fields for an induction furnace.
NOW MAY BE THE BEST TIME TO CHANGE THOSE OLD ENERGY HUNGRY LIGHTS IN YOUR WORKPLACE

The CBM has made several energy audits for members and found that LED lighting can save between 30-50% electricity. Likewise, modern lighting systems can cut this dramatically with short pay back periods, see our chart:

By using the following grants you can get an even better return on your investment.

For the next two years, the Carbon Trust is providing an attractive and accessible support package to help small and medium sized companies in England, Wales and Scotland identify energy saving opportunities and install energy efficient equipment in their business.

- A financial contribution towards your energy saving equipment
The Carbon Trust Green Business Fund is offering up to 15% of the project cost, up to £10,000*, to small and medium sized businesses for projects that comply with the requirements of the fund.

- Energy opportunity assessment
The Carbon Trust are offering funded energy saving opportunity assessments to SMEs to help them identify energy savings and equipment you could install to achieve these savings.

- Implementation support
We will help you to find equipment suppliers who can provide detailed quotes and who have a track record of delivering energy saving projects.

- Expert workshops
A series of workshops are scheduled to help small businesses work out how best to identify and implement the energy saving opportunities available to them.

Apply now - this support is available for a limited period on a first come, first served basis, aimed at small and medium sized businesses in England, Scotland and Wales.

- HOW TO FIND OUT MORE AND MAKE AN APPLICATION
To discuss how your business could benefit from the support on offer, or if you have any questions about the Green Business Fund please visit www.carbontrust.com/greenbusiness, email greenbusiness@carbontrust.com or call 020 7832 4773.

ARE YOU CLIMATE CHANGE COMPLIANT?

You should have recently received a notice from the Environment Agency reminding you of the rules of your agreement. The rules state that you must be able to produce historical reporting data in relation to your climate change agreement at any time. The Environment Agency expects operators to maintain their historical data (e.g., supplier invoices, meter readings and production records) that were used to calculate their data. The records must be maintained during the lifetime of the agreement and for four years after it has been terminated. In addition climate change participants must report any errors that are discovered with regards to data or changes to sites/eligibility that could impact on your agreement. Any errors or changes should be reported to CBM within 20 days of identification and failure to report this could result in your climate change being terminated and the loss of your rebates.

- CBM CLIMATE CHANGE AGREEMENT AUDIT REVIEW SERVICE
CBM can assist members in this regard by providing a full audit review service whereby we will check your current compliance to the CCA regulations and update documentation as required to ensure you are meeting your responsibilities and are audit compliant. We will also check your eligibility percentage and review your energy bills to check that you are receiving the correct level of rebates. The cost for this service is £400 per day + mileage and overnight accommodation if needed. If you are interested in this service or have any energy related enquiries please contact Louise Campbell at the CBM on 0121 601 6350 or email: louise.campbell@thecbm.co.uk.
ANDREA LEADSOM PREDICTS SOLAR FLARE UP
ROOFTOP SOLAR FOR CBM MEMBERS

It was always the government’s intention to taper down tariff payments towards an intersection point where rising energy prices and the falling capital cost of installing solar would justify the benefits of generating electricity without the need for any underpinning from incentives. However, the projected budgeted expenditure that the government would have had to pay out over the next decade in meeting its existing contractual payment commitments to green energy generators was rapidly being exhausted. This followed an unforecasted surge to grab the over-generous, low risk, returns on offer. Not surprisingly the institutional investors behind the huge solar farms were among those quickest to soak up these payouts.

Nine months on the solar industry is still in disarray coping with the fallout, with many highly geared organisations and jobs already lost. But the fundamental benefits of adopting renewable technologies and rooftop solar in particular remain unchanged. What we are seeing currently is a massive correction, which had mistakenly given the impression that solar is no longer viable. This is just not true.

As Angela Leadsom predicted, there is a shift towards rooftop solar as an integrated part of an organisation’s energy cost management strategy. Historically there was greater emphasis on solar being viewed primarily as an investment vehicle. What this means in practise is that expertly designed rooftop solar systems are being sized to optimise the reduction in electricity costs rather than previously filling a roof to its maximum, regardless of the actual electricity needs. It is true to say that this new paradigm favours organisations, like manufacturers with a typically higher electricity demand, which can leverage greater benefit from generating their own solar electricity rather than buying it from the grid.

For example, those that might be currently buying electricity at 10p per kWh can generate their own solar electricity and still be paid for doing so at between 2p & 4p per kWh. At off-peak periods and factory shutdowns any surplus electricity will be paid an additional 5p kWh for feeding back to the grid. In some cases surplus can be diverted into an energy store using batteries or a thermal store. Depending on a number of variables this all adds up to achieving a ROI of between 12% & 15% on system sizes between 50kW-500kW, with a typical payback period of 7 to 8 years. Costs will vary according to scale and complexity from around £700 to £1000 per kW installed.

The type of roof construction will have an impact on installation costs. Metal trapezoid roofs, common to more recent commercial buildings, are far quicker and cheaper to install on than older corrugated fibre cement roofs for example. That aside, all but the most dilapidated roofs are suitable, with flat and east/west roofs all having as much potential as those facing south.

Reducing energy costs and better forecasting of electricity costs will continue to grow in importance. Installing solar is not a panacea for all business types, but for those with high electricity consumption or with half an eye on forecasted consumption and costs it should be evaluated rather than eliminated without evidence.

The CBM is now offering its members a free consultancy service to assess the financial case for rooftop solar. This is further supported by preferential installation rates negotiated on behalf of the CBM membership. Please call Kevin Kirk or Kirsi Lintula at the CBM Headquarters on 0121 601 6350 or email kevin.kirk@thecbm.co.uk.

The CBM Headquarters in West Bromwich installed rooftop solar ahead of cuts in the Feed-in-Tariff (FiT) payments. Since then the government has drastically reduced the FiT payments for various renewable technologies, which took many by surprise. But recently Andrea Leadsom stood up in parliament and stated that the government expect rooftop solar deployments to increase as the industry acclimatises to the new tariffs. We take a look at what happened and whether solar energy still has a role to play for CBM members.

The CBM Electricity Use

30kW System at CBM Headquarters

700kW System Ledbury

CBM trapezoid roofs, common to more recent commercial
UK Metals Council is the body that represents the UK metals sector to government. It comprises business leaders from the full spectrum of the supply chain, from primary manufacturing to recycling. Its vision is that by 2030, a modern and progressive UK metals industry will be supplying high-quality, innovative and competitively priced products to a wide range of customers. It will be the principal supplier to the UK’s main manufacturers and infrastructure projects, and a leading global exporter.

To achieve this goal, representatives from across the sector are coming together to shape the industry’s future. The UK Metals Council comprises stakeholders from the full spectrum of the supply chain, from primary manufacturing to recycling.

A new strategic approach has been developed supporting a clear vision for 2030 where:

- The UK captures the maximum value from its manufacturing, construction and infrastructure supply chains.
- The Metals Industry is placed at the heart of any future circular economy.
- Critical ingredients for long term success, such as skills and innovation, are embraced throughout the industry itself.

The first UK Metals Council meeting was held in July with the Department for Business, Energy and Industrial Strategy (BEIS). BEIS is a new Government Department (formally BIS), the inclusion of “Industrial Strategy” is particularly welcome. Increased efforts are already underway to move the UK towards a rebalanced economy with an increased focus on manufacturing and productivity. The new Department has taken over the previous functions of DECC (the Department for Energy and Climate Change) and has passed Higher and Further Education policy and apprenticeships and skills across to the Department for Education. New Secretary of BEIS is Greg Clark. He has two new Business Ministers (Nick Hurd & Margot James) and Nick Hurd is the Minister with responsibility for the UK Metals Council.

The meeting had an update from the five workstreams established for the UK Metals Council, the workstreams are:

- Supply Chain (CBM representative is their member Smethwick Drop Forge)
- Skills and Training (CBM representative is their sheet metal and cold rolled specialist Adrian Nicklin)
- R&D and Innovation (CBM representative is their member Impression Technologies)
- Sustainability
- Communications

The UK Metals Council website www.ukmetalscouncil.org has been updated and explains who the Council are as well as includes information about the five workstream.

The UK Metals Council’s new manager Giles Willson started in July 2016 with meeting the ten trade associations from the Metals Forum; Aluminium Federation (ALFED), British Constructional Steelwork Association (BCSA), British Metals Recycling Association (BMRA), British Stainless Steel Association (BSSA), Confederation of British Metalforming (CBM), Cast Metal Federation (CMF), Galvanizers Association (GA), Metal Packaging Manufacturers Association (MPMA), National Association of Steel Stockholders (NASS) and UK Steel. Giles is currently working with the Chairs to the workstreams to review their activities for short, medium and long term.

- Left: Giles Willson, manager, UK Metals Council
ALL CHANGE AT THE ADVANCED FORMING RESEARCH CENTRE

by Dr Michael Ward,
Technical Director at the University of Strathclyde’s Advanced Forming Research Centre

The last nine months have seen a great deal of change – in technology, world events, and across the manufacturing and metals industries. Even though there’s still a quarter to go, I can safely say that 2016 will go down as an historic 12 months.

It’s also been a year of transformation for the Advanced Forming Research Centre (AFRC), in almost every aspect of our work – supporting the UK metal forming industry and Scottish manufacturing sectors.

At the beginning of 2016, after three successful years and a period of unprecedented expansion at the centre, Archie MacPherson left his role as chief executive to join the Warwick Manufacturing Group.

Another personnel change saw us welcome our new executive chairman, Professor Keith Ridgway CBE, who has come in to oversee the continued growth of the centre. Keith also holds the same role at the internationally renowned Advanced Manufacturing Research Centre in Sheffield. He will play a pivotal role in leading the AFRC, as well as helping to cultivate the manufacturing and metals sectors in Scotland and beyond – we’re thrilled to have him as part of the team.

However, despite these changes at the top, our aims and vision have remained very much the same: to enhance the UK metal forming industry and support manufacturing in Scotland.

And, in that respect, 2016 has been a year of investment and growth. Firstly, our residual stress laboratory and machining cell have made real progress and are now among the best in Europe, manned by some of the continent’s top researchers and manufacturing engineers with significant industry experience. It’s all go on the metrology front too, with a new lab in the works for next year.

The expertise and equipment in our facility has helped us attract a number of high-profile new members, including two of the machining industry’s top names: DMG MORI, who has assisted with the development of the machining cell, and Mitsubishi Materials Group. Work is already underway with both and we look forward to working with them further in the months ahead.

We’ve also been collaborating with emerging manufacturers, by setting up an SME innovation and support team. Led by Stuart Laidlaw, the six-strong group have hit the ground running and are pushing forward projects with a number of small companies in the Scottish manufacturing sector.

With an eye on the future, we’ll soon be working with stakeholders across the metals industry on a new initiative, after winning funding from the Aerospace Technology Institute (ATI) to establish a one-of-a-kind, high integrity validated engineering space (HIVES) forge.

The kit will include an industry-representative scale hydraulic press and a robotic manipulator arm. However, we are calling out to interested companies within the industry to get in touch with us about potential of collaborations in order to take this project forward.

It’s been a busy year for the AFRC, as the organisation continues to evolve at an impressive rate.

With this trajectory comes a busy pipeline of work - with everyone in the centre eagerly looking forward to the developments which the months ahead will bring.
NEW CBM MEMBER SERVICE LAUNCHED

The Confederation of British Metalforming has joined forces with Independent Buyers Ltd and launched CBM Members’ Buying Group.

As one of the largest purchasing consortium’s in the UK, we have first class discounts from market-lending suppliers on Overheads, Utilities and Consumables. Membership to the buying group can save money on your indirect spend, provide savings guarantees, expert calculations, regular support both on-site and off-site and help on streamlining your purchasing prices.

If you would like to join please email cbm@independentbuyers.com or ring 01283 711551.

Visit our website at www.independentbuyers.com/cbm/

ACCESS TO EXPERT ADVICE WHEN YOU NEED IT

We understand that running a business isn’t easy, which is why Confederation of British Metalforming has teamed up with, HR and health & safety experts Croner to provide you with access to expert advice and guidance when you need it.

Whether it is a call on a disciplinary matter such as persistent lateness, an employee who is often off sick, you’ve had an accident and you’re not sure if it’s reportable or an issue with your landlord, the team of advisers are on hand to provide practical advice and support. The Croner service covers:

- Health & Safety
- Environmental
- Employment Law & HR
- Tax, VAT, PAYE, National Insurance & Payroll
- Debt collection
- Contract law
- Consumer sales law
- Landlord and tenancy issues
- Copyright and patents

- WHY SHOULD YOU USE THE SERVICE?

One hour of employment law advice with an experienced employment law solicitor could cost in excess of £200 per hour. Last year a member of CBM called the advice line for employment law advice 29 times, with an average call lasting eight minutes. By using the service the member saved £773. This level of advice is included in your membership subscription, so saving you money and offering you peace of mind that you are turning to industry professionals for support.

With over 70 years’ experience, Croner is one of the most experienced and respected HR, Health & Safety, Tax and Reward specialists in the business. Their consultants are recruited for their skills and commercial experience, which means that the advice you receive, is practical and relevant to your business.

The service is available Monday to Friday 09:00 to 17:00 (excluding public holidays).

To take advantage of this fantastic member benefit call the CBM for further information.

CBM members can access Croner’s Business Support helpline FREE.
Please call CBM for details on 0121 691 6350
Manufacturing is set to grow as work begins on one of the hubs of a new flagship manufacturing skills centre in the heart of the Black Country.

The Black Country Local Enterprise Partnership (LEP) approved £8.04 million funding for a new Elite Centre for Manufacturing Skills (ECMS) in Wolverhampton with training hubs due to open in Tipton, Dudley, West Bromwich and Wolverhampton.

Demolition work is about to begin on a derelict building at the proposed site of the hub in Dudley Port, Tipton which will focus on foundry and patternmaking skills. A purpose-built training block will be built adjacent to an existing foundry run by Thomas Dudley where students will have access to industrial facilities.

Led by the University of Wolverhampton, the hubs will provide employer-led training centres designed to improve productivity and growth in the high value manufacturing (HVM) sector, bringing together business partners and education providers including Dudley College, the Confederation of British Metalforming, Cast Metals Federation and the Institute of Cast Metals Engineers. The partners are investing an additional £4.15 million, bringing the total project value to £12.19 million.

Collectively the manufacturing hubs will provide specialist training in toolmaking, foundry, pattern-making, metalforming, manufacturing management and leadership and project management.

Professor Ian Oakes, Deputy Vice Chancellor at the University of Wolverhampton, said: “Following extensive consultation with businesses across the Black Country, it’s clear that the region is lacking the skills that underpin HVM performance, productivity and growth.

“This is a key strategic project in linking employers, further education and higher education in the Black Country and provides another huge step forward in the regeneration of Wolverhampton and the Black Country and will boost the economy and create jobs.”

LEP Board member, Ninder Johal, said: “Through the Elite Centre the Black Country LEP will be able to remove barriers to business growth by supporting employers in key industry sub-sectors to invest in skills and in doing so contribute to improving the pipeline from education to HVM employment.

“Through providing specific, targeted training across five specialist areas, the LEP will continue to support the growth of the global supply chain with the world class skills it demands within the aerospace and motor vehicle sectors.”

Martin Dudley, Joint Managing Director of TDL, said: “The start of construction work is an exciting landmark in the development of the Elite Centre. When complete, this unique facility will help to develop the foundry leaders of tomorrow, by focusing on the value-adding skills that provide British businesses with a huge-advantage over our foreign competitors.”

The Elite Centre for Manufacturing Skills (ECMS) is set to open for business in August 2017 at the University of Wolverhampton’s Springfield Campus.

The ‘toolmaking’ spoke will be principally located in West Bromwich under the guidance of the Confederation of British Metalforming. Metal joining and advanced machining training will be covered by the installation of new equipment and the use of existing equipment at the recently opened Dudley Advance at Dudley College.

Work has already started on site and is due to be complete by August 2017.

Above: From left to right: Trevor Ayre (Institute of Cast Metal Engineers), Professor Ian Oakes (Deputy Vice-Chancellor at the University of Wolverhampton), Martin Dudley (Joint Managing Director of TDL) and Ninder Johal (Black Country Local Enterprise Partnership Board member).
Brooks Forge Ahead with M1

Brooks Forgings, one of the UK’s leading manufacturers of forged, fabricated and machined components, is using M1 ERP from ECI Software Solutions to help its business evolve and succeed in a fiercely competitive marketplace. First installed precisely 13 years ago, Brooks Forgings continues to add modules and automate ever greater parts of its administrative operation. This has helped the company increase turnover without adding significantly to its sales or administrative staff.

Established in 1960, Brooks Forgings offers a diverse range of manufacturing processes from a new and dedicated 45,000 sq ft facility based in Stourbridge, West Midlands, UK. This is supported by a newly refurbished warehouse facility nearby housing over 2500 pallets of stock comprising standard items and specials for customer call-off orders.

The company’s impressive in-house manufacturing capacity not only ensures full traceability and quality of components, but also reduces reliance on subcontractors. What's more, lead-times are improved by having a rotational method of production. For example, components can move to the next manufacturing process, such as machining, while the batch quantity is still being forged.

EXISTING ERP SYSTEM REPLACED

This blend of innovative manufacturing processes and management guiie, in combination with an ongoing programme of investment in new technologies, means Brooks Forgings is among the industry’s star performers. In addition, investment at this ISO9001 accredited company extends way beyond new machinery or tooling. A case in point is the company’s ERP system.

In 2003, we decided to replace our existing ERP system as it was no longer being supported and new updates were taking forever to be implemented”, explains Financial Director Adrian Brooks. “M1 emerged as the favourite to replace the system as it not only offered greater functionality from a completely integrated package, but all of our existing data could be switched seamlessly with virtually no disruption to our ongoing business”.

More than a decade down the line and M1 has become an integral part of operations at Brooks Forgings and, with the introduction of more modules, is gradually automating greater parts of the company’s day-to-day business functions.

“M1 provides a great visual tool for KPIs. We can see at a glance who is paying on time and who isn’t.”
While it’s difficult to quantify the exact savings delivered by M1, there is no doubt in my mind that the software has helped this business achieve greater turnover in the past 10 years.”

TIMELY SUCCESS

‘In the past 18 months we’ve added the Time Attendance module’, says Mr Brooks, by way of example. ‘We’re using this across our entire business, enabling us to see staffing levels, track holidays and identify absence patterns. Like many aspects of the system, M1 provides a great visual tool for key performance indicators [KPIs]. Not just regarding time attendance, but things like sales and purchasing figures, as well as invoicing. We can see at a glance who is paying on time and who isn’t.’

ECI M1 is an ERP software solution designed for growing manufacturers. It automates and integrates every business process from quoting through invoicing and point of sale (POS). The system is both flexible and easy to customise.

‘Simple customisation is a strong feature of M1’, confirms Mr Brooks. ‘This was a factor when we were deciding which ERP system to install. We wanted to look at future-proofing, the ability to customise and how the software was going to behave. Is it modularised? Is it built-in units? Today we can happily customise reports and searches in-house, and add fields to forms. Only when we want to create entirely new forms, for the most part we can do ourselves, do we sometimes call on the expertise of ECI.’

COMPETITIVE GAIN

M1 has many essential functions that can help manufacturers achieve competitive gain. These include: scheduling production to efficiently make use of resources; managing production jobs through job costing; controlling inventory of raw materials, finished goods and sub-assemblies; analysing pre- and post-sales activities; maintaining contact details for customers and suppliers; and ensuring quality and managing warranties.

‘Traceability, from enquiry through to payment, is excellent’, states Mr Brooks, ‘as is inventory control and maintaining customer contact details – the pop-up memos are very useful. However, my favourite feature of M1 is the search and filter facility where we can see all of the orders for a particular component or customer, filtering by parameters such as date range or part ID. From this filter we use the ‘open with’ feature to open a source form or record. For the next stage of our evolution we will be looking to introduce scheduled production along with even greater job analysis’.

Brooks Forgings is keen on progress and the use of investment to drive market differentiation. For instance, the installation of a Model C Chambersburg automated horizontal countermachining system, possibly the only operational machine of its type in Europe, offers higher volume production while using less energy through the use of programmable energy levels and blow patterns.

Additional recent investment has been made in strengthening the company’s machining capacity. Here, the purchase and installation of several additional CNC lathes and vertical machining centres has increased capacity to 16 machines. Among other positive developments, in July 2013 the company was audited for and subsequently awarded certifications in ISO 14001 for environmental management systems and OHSAS 18001 for health and safety management systems.

AWARD WIN

These efforts, along with the establishment of its new facility, helped Brooks Forgings win the ‘Manufacturing Achievement’ category at the 2013 Made in Midland’s Business Awards.

‘Without M1 and our internal server environment, I think we would have struggled with the move to our new Stourbridge site’, says Mr Brooks. ‘I know ECI is currently developing a new version of M1 but we are really happy with the current software. Even after a decade of use we find it becomes more and more integrated every week’.

Relocation places Brooks Forgings in a position of strength, with many options for future expansion, not just in terms of footprint, but turnover too.

‘While it’s difficult to quantify the exact savings delivered by M1, there is no doubt in my mind that the software has helped this business achieve greater turnover in the past 10 years—during the worst recession in history—without vastly increasing our sales or clerical team. Furthermore, M1 will continue to be an asset moving forwards. We shall have more accurate data collection allowing us to move jobs around more quickly and plan for bottlenecks, while at the same time accounting for unforeseen costs’.

Brooks forgings
The Manufacturing & Global Sourcing Specialists
www.brooksforgings.co.uk
The purpose of the apprenticeship levy is to fund an increase in the number and quality of apprenticeships.

The government announced the levy in the Summer Budget 2015. In the 2015 Autumn Statement the government provided details of who it would apply to and how much the rate would be. We held a public consultation on how the levy should work in practice (https://www.gov.uk/government/consultations/apprenticeships-levy-employer-owned-apprenticeships-training). Legislation will be introduced in 2016 to create the apprenticeship levy through the Finance and Enterprise Bills. The apprenticeship levy will be introduced in April 2017.

- WHO THE LEVY AFFECTS
The levy will apply to all UK employers in both the private and public sectors.

It is payable on annual pay bills of more than £3 million. Employers with an annual pay bill of less than £3 million will not pay the levy. These employers will continue to have access to government funding to support apprenticeships. In June 2016 we will provide further details of what that support is expected to be.

Less than 2% of UK employers will pay the apprenticeship levy.

- EMPLOYERS WHO OPERATE ACROSS THE UK
The levy will apply to employers across the UK.

We’re working closely with the devolved administrations in Scotland, Wales and Northern Ireland, where skills policy is devolved. We’re committed to making the system work for employers wherever they are in the UK. In particular, we will consider what the best options are to make the system work simply and fairly, including for those close to borders within the UK.

- EMPLOYERS WHO ALREADY PAY INTO AN EXISTING LEVY SCHEME
We are working with the relevant Industry Training Boards for the construction and engineering construction industries. They will consult with their members ahead of the introduction of the apprenticeship levy on how their existing arrangements will be affected and whether any changes are required.

We are also working with other sectors, where there are existing collective training arrangements (ie the tonnage tax in the maritime sector), about what the apprenticeship levy means to them.

- HOW MUCH YOU WILL PAY
The levy will be charged at a rate of 0.5% of an employer’s pay bill. Levy payments will be collected monthly by HM Revenue and Customs (HMRC) through Pay as You Earn (PAYE), payable alongside tax and National Insurance. Pay bill will be based on total employee earnings subject to Class 1 secondary National Insurance Contributions (NICs).

There will be a £15,000 fixed annual allowance for employers to offset against their levy payment. A connected person rule, similar to the one used for the Employment Allowance, will mean that employers who operated multiple payrolls will only be able to claim one allowance for the levy.

- EXAMPLES OF EMPLOYER LEVY PAYMENTS
Example 1:
Employer of 250 employees, each with a gross salary of £20,000 would pay:

• Pay bill: 250 x £20,000 = £5,000,000
• Levy sum: 0.5% x £5,000,000 = £25,000
• Allowance: £25,000 - £15,000 = £10,000 annual levy payment

Example 2:
Employer of 100 employees, each with a gross salary of £20,000 would pay:

• Pay bill: 100 x £20,000 = £2,000,000
• Levy sum: 0.5% x £2,000,000 = £10,000
• Allowance: £10,000 - £15,000 = £0 annual levy payment

- WHAT HAPPENS TO THE MONEY ONCE IT IS PAID
The money will be collected by HMRC. Individual employers’ funding for apprenticeship training in England will then be made available to them via a new Digital Apprenticeship Service (DAS) account. Employers will be able to use this to pay for training for apprentices. The service will also support employers to identify a training provider, choose an apprenticeship training course and find a candidate.

The DAS will also enable employers to:

• select an apprenticeship training course
• choose the training provider or providers they want to deliver the training
• post apprenticeship vacancies

The main functions of this service will be in place by April 2017.

- SPENDING THE LEVY
Employers will be able to use their funding (up to a cap which will depend upon the standard or framework that is being trained against) to cover the costs of an apprentice’s training, including English and maths, assessment and certification.

It will not be possible to use levy funds to cover any costs other than those training and assessment costs listed in the above paragraph. Overheads, supervision costs and apprentices’ wages will not be funded by the levy.

continued on page 33>>
continued from page 32>>

- **FUNDING CAPS**

Employers will not be able to spend an unlimited amount of money on a single apprentice. Funding caps will be set which limit the amount of levy funds an employer can spend on training for an individual apprentice. The cap will vary according to the level and type of apprenticeship (for example, more expensive, higher quality training is likely to have a higher cap).

- **WHO THE LEVY CAN BE SPENT ON**

Employers can spend their levy funds on training their apprentice against an approved standard or framework. This includes either existing staff or new recruits as long as the training meets an approved standard or framework and the individual meets the apprentice eligibility criteria.

- **WHA PROVIDES THE TRAINING**

Employers can only spend their levy funds on apprenticeship training delivered by an approved provider. This could be through buying in training from an approved provider or delivering the training themselves. To deliver training the employer would need to register as an approved provider and be subject to Skills Funding Agency (SFA) quality arrangements and Ofsted inspection.

- **DIRECTING LEVY FUNDS TO SOMEONE ELSE**

We know that some employers want to direct their funding to other employers, for instance their suppliers. We are looking into ways to help with this that are not bureaucratic, maintain the aims of the system and are compatible with state aid rules.

- **GETTING OUT MORE THAN YOU PUT IN TO THE LEVY**

The levy will put apprenticeship funding in the hands of employers and will encourage employers to invest in their apprentices and take on more.

Employers in England who pay the levy and are committed to apprenticeship training will be able to get out more than they pay in to the levy through a top up to their digital accounts. The government will apply a 10% top-up to monthly funds entering levy paying employers digital accounts, for apprenticeship training in England, from April 2017. All funds entering a levy payer’s account will be increased, so every £1 will be increased to £1.10 in value.

- **UNUSED LEVY FUNDS**

We want employers to have the flexibility to pay for their apprenticeship training when it best suits their business needs. We also want to ensure that levy funds which are unused keep their value by reallocating them to committed employers, who can use them to fund more quality apprenticeship training.

We are looking at the amount of time before levy funds can be reallocated and will provide more information about this by June.

- **ADDITIONAL FUNDING BY EMPLOYERS**

There are 2 circumstances where levy-paying employers are likely to have to contribute additional funds:

- where the cost of the training they wish to buy is greater than the funding cap for a particular standard or framework
- where an employer has spent all of their levy contribution and all of their top-up and wishes to spend more on additional apprenticeship training

- **THE INSTITUTE FOR APPRENTICESHIPS**

We are establishing a new independent body, led by employers, called the Institute for Apprenticeships. It will regulate the quality of apprenticeships within the context of reaching 3 million starts in 2020. The institute’s role will be to advise on setting funding caps, approving apprenticeship standards and assessment plans. It will be established in 2016 and will be fully operational by April 2017.

- **WHY THE LEVY IS BEING INTRODUCED**

The apprenticeship levy will help to deliver the government’s commitment of 3 million apprenticeship starts by 2020. The levy will make apprenticeship funding sustainable. For the first time, employers will be in control of apprenticeship funding. This will empower them to get what they need from the training market.

Their investment in apprenticeship training will improve the skills of their workforce and this will help their businesses to succeed and grow, and increase the UK’s productivity.

Read the policy paper for more background and detail of how it is being introduced: https://www.gov.uk/government/publications/apprenticeship-levy

**FURTHER INFORMATION**

We will publish further information about the apprenticeship levy throughout this year, such as:

- an employer guide, outlining the operating model for the levy in April 2016
- draft funding rates in June
- final funding rates in the autumn of 2016

You can give your views on the apprenticeship levy at ApprenticeshipsLevyConsultation@bis.gsi.gov.uk.

You can get involved in the development of the Digital Apprenticeship Service at DAS@bis.gsi.gov.uk.

- **FIND OUT MORE ABOUT:**

  - employing an apprentice [https://www.gov.uk/take-on-an-apprentice] or you can call the National Apprenticeship Service on 08000 150 600
  - becoming a registered training provider [https://www.gov.uk/guidance/working-with-us-as-a-provider]
TRAINING & EDUCATION

IMAGINEERING – INVESTING IN ENGINEERS OF TOMORROW

The engineering sector continues to struggle to attract young talented people with the right skills – certainly not news to most of us in the sector. One major issue is the need for manufacturing industries to engage more with schools. One organisation is providing opportunities for companies from all kinds of sectors to engage actively with schools in a sustainable and positive way for mutual benefit.

The Imagineering Foundation, an independent education charity, has been running weekly Imagineering Clubs in schools for 9-13 year olds for some years, recognising the need to engage with children and develop their enthusiasm from an early age. Mostly run by volunteer engineer tutors, the Clubs have provided children with practical skills while they learn principles of engineering, making working models they can take home when complete. All the projects are matched to National Curriculum subjects and the tutors provide real life examples of engineering from their own experiences and are valuable role models. Increasingly a number of companies have embraced the project whole heartedly and a couple of examples demonstrate the benefits for the companies, their personnel as well as the school.

Bulk materials handling manufacturer Guttridge plc in Spalding, Lincolnshire has been running an Imagineering Club in the local Monkshouse Primary School. Guttridge HR advisor Bobbie-May Schlechter said: “We are very keen to encourage children to become involved with Guttridge and engineering in general with the eventual goal of finding enthusiastic and high calibre employees of the future. The children have loved every minute of it and the school has been delighted that we approached them to be a part of the project.” She continued: “However, for me, the most surprising and valuable aspect of the initiative has been the enthusiasm of our eight members of staff who volunteered to take part. The process has involved working together and planning as well as the taking part and has served as a fantastic team-building exercise. This will benefit us in the short term as well as fulfilling our longer term objectives of engaging with the local community and teaching young people more about the exciting challenges of engineering.”

Elsewhere in the country, Stuart Gilbert, Production Engineer at Tewkesbury company MecWash, manufacturers of wash systems for engineering businesses, set up an after-school Imagineering Club at Bengeworth CE Academy in Evesham which has been a resounding success. Managing Director John Pattison said: “MecWash recognises the importance of ensuring that the next generation understands the vast array of exciting careers to be found in engineering and manufacturing. Our involvement in the Imagineering project is our way of investing in the UK’s future workforce. It has been extremely rewarding to see the children actively engaged in measuring, making and understanding the projects and how the principles they demonstrate are applicable to real life situations.”

These are just two companies that have experienced some of the benefits of engaging with the next generation of engineers using Imagineering projects - developing engineers of the future; boosting recruitment; developing personal, professional and leadership of staff, team building, as well as fulfilling CSR and community programmes. Imagineering continues to establish close links between education and manufacturing across the UK and is providing the tools to do the job. Hopefully more companies will recognise the need for direct contact with schools for that essential early start on a career path to engineering.

For more information on Imagineering, Clubs and how to support the initiative: www.imagineering.org.uk Imagineering is a Charitable Incorporated Organisation No 1158003.

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www.britishmetalforming.com
The West Midlands’ brightest apprentices have been recognised at one of the vocational learning sector’s largest awards evenings.

James Harper, who works at Aktrion Automotive in Wolverhampton, beat off the challenge of 100s of his peers to be named as the In-Comm Training ‘Outstanding Apprentice of the Year’.

The budding engineer impressed judges with his commitment to lean manufacturing and his ability to save his employer money and improve efficiencies in the process.

Voestalpine Metsec PLC’s Steve Giles (Ambassador of the Year) and bosses from Cannock-based RLS Tooling joined him on stage, with the latter claiming the ‘Employer’ title in recognition of its commitment to investing in young people.

Held at the Grand Station in Wolverhampton, the In-Comm Training and Business Services Awards are now in their 5th year and attracted over 250 people to celebrate the importance of apprenticeships in helping ease the region’s skills gap.

“We feel it is really important to celebrate the vocational learning route and recognise the achievements of young people who are gaining important skills whilst having a real tangible benefit to the companies they work for,” explained Rebecca Phillips, joint Managing Director of In-Comm Training and Business Services.

She continued: “This awards scheme is the only one in the Midlands that celebrates apprentices working across business administration, professional services and engineering and manufacturing.”

The In-Comm Training Awards – for the first time in five years – has enjoyed a major sponsor in the form of RBS, who put forward manufacturing manager David Robinson to sit on a judging panel including Rachel Eade (Manufacturing Hub) and Gareth Jones (In-Comm).

Together they whittled down 250 entries and came up with a list of eleven winners on the evening, including:

- **Jack Smith** (Sprint Tool & Die Ltd): Most Improved Learner of the Year and Apprentice of the Year In-Comm Academy Engineering & Manufacturing Technologies Intermediate
- **Craig Hall** (Craig & Derricott Ltd): Apprentice of the Year Supervisory Management
- **James Harper & Reece Davies** (both Aktrion Automotive): Apprentice of the Year Business Improvement Techniques
- **Faye Matts** (George Taylor & Company): Apprentice of the Year – Business Support Intermediate
- **Bethany Griffiths** (William Mitchell): Apprentice of the Year – Business Support Advanced
- **Joshua Bradley** (B Mason & Sons): Apprentice of the Year – Engineering and Manufacturing Technologies Advanced
- **Dean Maritza & Joel Brown** (RMD Kwikform): Apprentice of the Year – In-Comm Academy Engineering & Manufacturing Technologies Advanced

Bekki concluded: “B Mason & Sons, Bradken, Charter Automotive, Darlaston Rotary Club, George Taylor & Company, Made in the Midlands, Pro-Mil Engineering, Riacal Group and Stechford Mouldings all contributed their time and some form of financial support to ensure the Awards Evening was such a huge success.”
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