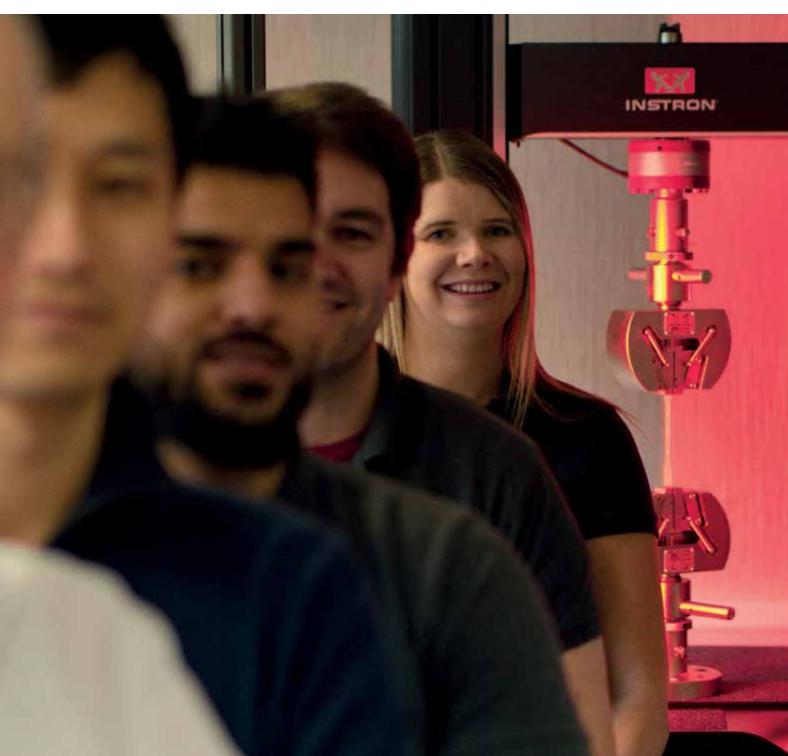
V O I C E 0 F T H E U K ALUMINIUM INDUSTRY

**ISSUE 17 JUNE 2023** 



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# **ALUMINIUM FORGINGS**

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# **ENGINEERING SOLUTIONS SINCE 1874**



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#### **SEPTEMBER**

13-14 • UK Metals Expo

 Meet the ALFED Member at the UK Metals Expo

ALFED Members
 Parliamentary Breakfast Meeting

#### FOR MORE INFORMATION PLEASE VISIT:

http://bit.ly/3fod5jb

### **ABOUT US**



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### **FOLLOW US**

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twitter.com/alfedaluminium

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Front cover image courtesy of Innoval. Members of Innoval's Materials Characterisation team in front of their new 68TM-50kN load frame from Instron. The load frame is extremely versatile and can offer many different tests such as tensile testing, compression testing and more. The machine also has an AVE2 non-contact video extensometer with AverEdge32<sup>TM</sup> capability, meaning that Innoval can conduct thin gauge material testing as well as transverse and axial strain measurements.

Photo credit Adam Nadin



# THE VOICE OF THE UK ALUMINIUM INDUSTRY – DRIVING A SUSTAINABLE FUTURE

# WHY JOIN THE ALUMINIUM FEDERATION

Whatever your company size or speciality within the industry, we help you access the technical expertise, market insight, business support and government influence you need to boost your competitiveness.

# MAKE THE MOST OF YOUR MEMBERSHIP

As a member of the Aluminium Federation, you benefit from a range of services that help you develop your business, workforce and supply chain.

# HERE ARE SOME OF THE MANY BENEFITS YOU GET AS PART OF YOUR MEMBERSHIP

- Advocacy and Lobbying
- Events
- Technical Support
- Market Insight
- News
- Health and Safety
- Consultancy
- Training, Skills, Education and Apprenticeships

CONTACT US TO DISCUSS HOW ALFED MEMBERSHIP CAN HELP YOUR BUSINESS

T: 0330 236 2800 www.alfed.org.uk



### SPRING NETWORKING EVENT

While Spring has kept us guessing this year, the Aluminium Federation Team was keen to kick-off the season with a new networking event for all members and guests at Carden Park in Cheshire.

More than 80 attendees joined in by either playing a round of golf on the prestigious Nicklaus course or teaming up in a clay pigeon shooting competition.

Famously designed by the great Jack Nicklaus and son Steve, the Nicklaus golf course at Carden Park is a must for all golfing enthusiasts and this was the first time this year that the course was open, so all the players were on their best behaviour!

Golfers were welcomed at the 16th hole by sponsors Kluthe, who distributed goodie bags and had the beers on ice, despite the temperature not quite being as warm as some would've hoped in April.

The clay pigeon shooting took place off site and everyone taking part was provided with safety equipment and kept dry from the rain that did decide to show up later in the day.

Thankfully, most of the golfers had already made it off the course and into the Clubhouse by the time the rain came, and others were already warming up in the beautiful spa facilities.

The evening saw all members and guests come together for networking drinks and an informal dinner, which was held in the Shooting Lodge.

Mike Dines, ALFED President, hosted the awards ceremony, which was sponsored by Tandom Metallurgical Group and Kluthe.

#### **TANDOM**

Metallurgical Group Ltd

#### The winners were...

#### **GOLF:**

Closest to the Pin Winner Harry Lumsden (Tandom)

**Longest Drive Winner** 

Paul Garlick (Tandom)

3rd Place: (42 points)

William Dunn (Total Metal Recovery)

2nd Place: (44 points)

Leslie Peters (Novelis)

Overall Winner: (47 Points)

Matthew Dunn (Total Metal Recovery)

#### **CLAY PIGEON:**

First Place (30 points)

Daniel Hodson

Second Place (28 points)

Patrick Houghton

Joint Third Place (27 points)

Ben Timberlev

Alex Rogers

Richard McAlister-Martin



Thank you to all sponsors, supporters and attendees for making this first event one to remember. It looks like it will now become a regular on the calendar each year, but hopefully we can plan for a slightly warmer day next time!

### IMPRESSION TECHNOLOGIES

Impression Technologies is a world leader in light-weighting solutions for automotive, aerospace, and consumer product sectors.

They offer a full service from part feasibility, through to design, prototyping and production with a unique combination of applications engineering, metallurgy, hot forming process and simulation know-how, which in the form of HFQ® Technology, is set to be a global standard to provide stronger, lighter and cost-effective structures.

Their Global Technology Centre and headquarters in Coventry, UK, features a fullscale HFQ aluminium hot forming press line and materials characterisation laboratory providing prototyping, series production, technology demonstration and technical support for OEMs and their global manufacturing tier partners including fischer group, Telos Global and Jet Wagon.



### JBMI GROUP

JBMI Group Ltd have over 40 years experience in the aluminium ingot manufacturing and dross recycling industry. Technological advancement in the production of aluminium alloys & light-weighting our future through the development of aluminium products is our greatest advantage.

Quality is the core focus of their manufacturing operations. JBMI Group Ltd is ISO 9001 certified and constantly working towards their Environment ISO 14001 and Health and Safety ISO 45001 certifications.

http://www.jbmi.com



### ARUN TECHNOLOGY

ARUN Technology has been dedicated to the design, development, manufacture, sales and service of optical emission spectrometers since launching the world's first portable CCD based metals analyser in the 1980's.

Continuous and extensive investment in research and development is ensuring that ARUN Technology products remain at the forefront of metals analysis.

Today, ARUN Technology provides on-site, re-validating of final factory settings with QC/QA/QP testing and certifications, re-calibration testing, and is the Centre of Excellence for Product Marketing, Applications, Technical and Service Support.

http://www.aruntechnology.co.uk

### JJ BIOENERGY

JJ BioEnergy are committed to facilitating heat recovery and reuse for industrial manufacturers. They offer an end to end service across a range of heat intensive industries, from helping identify heat sources and sinks, to recommending equipment and suppliers based on industrial conditions, and finally helping industrial customers sell any excess waste heat they can't reuse onsite, via their revolutionary online heat marketplace.

Their initial feasibility study service includes the following steps:

- identifying the heat capacity recoverable and reusable in your manufacturing process
- working out the technical options for recovering the heat and reusing it in your manufacturing process
- validating the technical options by investigating the appropriate equipment and reliable suppliers, and enquiring about costs for your project
- performing a financial analysis (ROI) for the technical options based on the technical route and equipment you select

https://jjbioenergy.com



### **IMPLEXIS** CONSULTING

The team at Implexis take a more holistic approach to the individual, as well as the organisation's culture and the working environment.

They look at the workplace based on the training and development of staff, this includes their understanding of stress, sleep, nutrition and movement.

They look at how employees can have a sense of control, empowerment and engagement, and they provide practical tools and techniques that the organisation can use to encourage and embed

www.implexisconsulting.com

these behaviours.



**t:** 0330 236 2800

e: alfed@alfed.org.uk



#### WELCOME TO OUR NEW KNOWLEDGE PARTNER

### CRANFIELD UNIVERSITY

Cranfield provides world-class and specialist research, education, training and consultancy in manufacturing and plays a key role in ensuring that the UK remains at the cutting edge of manufacturing research.

We are unique in our multi-disciplinary approach by bringing together design, technology and management insight. We are a driving force for both the rapid growth of established areas of manufacturing expertise and the development of new research areas.

Research partnerships are undertaken with more than 500 organisations of all sizes and disciplines, and industry advisory panels ensure our graduates move seamlessly from the academic world into the world of work and provide skills the sector needs.

Our world-class facilities include the ultra-precision machining laboratory, which houses a range of state-of-the-art equipment able to machine ultra-precision components of around two metres in diameter with details in the sub-micrometre range.

The University joined the Royce Institute, the UK's national centre for advanced materials research and innovation, as an Associate Partner, sharing its expert capability in research through its National High Temperature Surface Engineering Centre.

www.cranfield.ac.uk/manufacturingandmaterials

MEMBER & INDUSTRY NEWS

## **UK METALS EXPO 2023 EXPANDS FLOOR PLAN**

On the 13th and 14th September, UK Metals Expo will return to the NEC, Birmingham. This exclusive event brings the entire metals supply chain together with the engineering and manufacturing sector. From primary metal manufacture to supply chain management, processing metals, fabrication, machinery, engineering, surface coatings and recycling.

2023's edition has now expanded for the fifth consecutive month with Michael Jacobs, Chief Revenue Officer, stating that 'this is the final expansion – when these last stands are gone, they are gone'.

The event is now nearly 3x the size of 2022.

Jason Franks, Managing Director, emphasized, "We've listened and learned from our launch edition, and this year, we've raised the bar. The exhibition has been expanded to include the categories that were missed last year, attracting top-notch exhibitors from 19 countries."

Lord Redesdale, Conference Chair, added, "We are also maintaining the exceptional quality of the seminar program, featuring confirmed speakers from leading organizations such as Rolls-Royce, Network Rail, Stellantis, Ford Motor Company, The UK Battery Industrialisation Centre, OCEA Shipbuilding, The Royal Mint, DEFRA, Tata Steel, the Department for Business & Trade, and many more. They will share their valuable experiences and insights." UK Metals Expo is your opportunity to:

- Source a wide range of suppliers and mitigate risk in your supply chain.
- Learn about the new technology, machinery, tools, training and services.
- Discover trends and innovations across the entire supply chain.
- Connect with hundreds of market experts under one roof.

Join us at the UK Metals Expo for an unparalleled experience that just got even better!

Visiting the event is free for those pre-registered at  $\underline{\mathsf{ukmetalsexpo.com}}$ 

Some limited exhibiting opportunities remain <a href="https://www.ukmetalsexpo.com/exhibit/">ukmetalsexpo.com/exhibit/</a>



### RESPONSIBILITY TAKEN - AND FULLY CERTIFIED

REAL ALLOY has successfully completed a major step towards greater sustainability and has now achieved certification against both ASI standards, Performance and Chain of Custody, for all its German operations and the European headquarters.

"Understanding stewardship as the responsibility to preserve the inherent economic value of recycled Aluminium by offering environmentally responsible processing solutions, we have reached a new milestone: We now include all of our operations in Deizisau, Grevenbroich, and Töging plus our European headquarters under one certificate of the Aluminum Stewardship Initiative", states Russell Barr, Executive Vice President and Managing Director Europe of REAL ALLOY.

Complying with the Performance standard (V2), REAL ALLOY commits to transparency in terms of ESG, i.e. Environment, Social, and Governance efforts and their verifiability. This means the successful audit of criteria in fields of action such as business integrity, policy and management, material stewardship, greenhouse gas emissions and impact on natural resources, human and labour rights, and occupational health and safety. The constantly updated and enhanced <u>sustainability section</u> of REAL ALLOY's website, thus, more and more becomes the company's business card.

Certification against the Chain of Custody standard (V1) confirms REAL ALLOY's due diligence with all eligible input materials and the provision of management systems for internal processes as well as outsourced contractors. The implementation of this standard links verified practices at successive steps of the supply chain directly to the products produced.

REAL ALLOY with its German operations is now one of 177 (Performance standard) and 71 (Chain of Custody standard) ASI-certified companies (see <a href="https://aluminium-stewardship.org/drive-change/progress">https://aluminium-stewardship.org/drive-change/progress</a>).

"Recycling is of immense importance for the sustainability of the whole Aluminium value chain. Circular economy and low carbon footprint both depend on recycling. Making recycling more sustainable also beyond the environmental dimension has made us strive for these ASI certifications. We see the market's demand for this and want to take responsibility as industry front-runners. We are 100-percent committed to the required efforts and are now looking forward to supplying our customers with fully ASI-certified recycled Aluminium!", further comments Russell Barr.

The ASI Certification program was developed through an extensive multi-stakeholder consultation process and is the only comprehensive voluntary sustainability standard initiative for the Aluminium value chain. The independent, third-party audit of the REAL ALLOY operations and headquarters was carried out by TÜV Rheinland Cert GmbH.

#### **About ASI**

The Aluminium Stewardship Initiative (ASI) is a global, multistakeholder, non-profit standards setting and certification organisation. It works towards responsible production, sourcing and stewardship of Aluminium following an entire value chain approach. To this end, ASI launched its certification program for the Performance standard and Chain of Custody standard in December 2017. Most recent versions of the standards were published in May 2022. See <a href="https://aluminium-stewardship.org/">https://aluminium-stewardship.org/</a>.

#### About REAL ALLOY

REAL ALLOY is the global leader in third-party Aluminium recycling and specification alloy production. The company has 24 sites strategically located across seven countries in North America and Europe to provide recycling solutions and alloy products to customers worldwide.

In Europe, REAL ALLOY operates seven sites in Germany, France, the UK and Norway. From there, the leading recycler of Aluminium and Magnesium serves customers in the automotive, construction, aerospace and packaging segments with alloy products and remelting capacities. The European headquarters are in Grevenbroich in the Rhineland.

See <a href="https://www.realalloy.com/eu/sustainability#">https://www.realalloy.com/eu/sustainability#</a>.

**REAL ALLOY** 

# WOMEN WITH METAL CONFERENCE, 10TH OCTOBER 2023, PARK REGIS HOTEL, BIRMINGHAM

We are delighted to launch the inaugural Women With Metal Conference. It is arranged and hosted by Kirsty Davies-Chinnock, Managing Director of Professional Polishing Services Ltd and Director and Chair of the British Stainless Steel Association.

With speakers focused on your career development, CPD, and networking opportunities the day the event is targeted at women working within the metal industries in the UK.

Confirmed Speakers are:

Charlotte Horobin Regional Director – Midlands & East of England, Make UK

Charlotte will be exploring the road-map of women in the metals industry and manufacturing and how we can increase the gender balance.

#### Kelly Ellis, The Mortgage Mom

Kelly will be talking all things money and how to be financially protected, both for you and your family.

#### Stephanie Slade, Psynergie Consulting

Clarify your leadership style no matter what stage of your career.

Denise Morris, CEO and Founder of TAG Network Midlands

Unleash the power of your network with Denise's help and advice.

#### Justice Williams MBE

Discover how personal branding in the workplace can enhance your career.

#### Liz Burley, Burley Law

Menopause will effect all women, how can this be navigated in the workplace?

There will also be panel discussions, time given to network during the day and the conference will finish with a drinks reception.

Wamen With

Tickets are available here https://www.eventbrite.co.uk/e/women-with-metal-tickets-617097413977
For more information please visit https://kirstydavieschinnock.com/women-with-metal



# GORDIE MUTCH, A TRUE RISING STAR

Gordie Mutch, the 2022 Praga Cup Champion, will be racing in the GT Cup Championship this season driving a McLaren 570S GT4 with Tim Docker.

Gordie is a true rising star and had this to say on the announcement: "I'm very excited to take on a new challenge in GT Cup this year, to have the opportunity to build another strong Pro-Am partnership, and to fight for the GTH title. Testing the Paddock Motorsport McLaren 570S GT4 on the media day earlier was the first time I've been in a GT4 since the McLaren DDP Shootout, and it felt very natural to be back at the wheel of this car. Last year was quite a successful year for me, to win a championship alongside a driver you've helped develop is very special, and there were some incredibly talented drivers in the Praga Cup field despite it being a new series. I can't wait to get started with this partnership!"

For more information on how you can sponsor Gordie and at the same time raise the awareness of your company's products and services, please contact Neil (more commonly known as Gordie's dad) on 07810 888 741 or contact Dr Alan Banks abanks 2@ford.com

#### THE ALUMINIUM FEDERATION SECTOR GROUPS



The Aluminium Federation Sector Groups bring together members from across the supply chain, fostering customer and supplier relationships, while encouraging learning from your peers. Each meets regularly for networking and to discuss issues ranging from trade and standards to supply and HSE.

In an effort to form a collaborative approach across the supply chain, all ALFED Members were invited to attend a dedicated Sector Group Forum on Tuesday, 28th March at the British Motor Museum in Gaydon.

The event welcomed more that 120 ALFED members, industry representatives and prospective members for a full day of networking, presentations from speakers around relevant industry topics, market updates and challenges and individual Sector Group meetings.

The morning Business Briefing was geared (no pun intended) around presenting the new Transport Sector Group, which has evolved from the previous 'Automotive' Sector Group.

This also tied in with the fact that the event was being hosted at the British Motor Museum and speakers from HITACHI Rail and OCEA Shipbuilding highlighted the importance of aluminium across all areas of transport and new projects taking place in the UK to promote aluminium in these areas.

Speakers such as Chris Bayliss from the Aluminium Institute also looked at ways to drive change and maximise aluminium's contribution, while Paul Williams from CRU, presented long-term decarbonisation trends across the sector.

Attendees were also presented with the latest market updates and figures from Steve Andrews at ISSB Ltd and Murray Dunn from ALVANCE British Aluminium showcased the plans for the new billet and recycling facility in Fort William, which will see billets available to the market in 2025.

After a networking lunch break and a chance to meet with a number of exhibitors who also supported with booths, the individual Sector Groups broke off into separate areas and welcomed members who do not usually attend to bring new ideas and discussion topics to the table.

The presentations from the morning are now available in the Members Area through the website and those who attended the Sector Group meetings in the afternoon will be sent the minutes of these meetings accordingly.

Please contact the team if you have any trouble accessing these slides: alfed@alfed.org.uk Thanks again to our speakers, sponsors, exhibitors and to all those who attended this event. We hope to make it a regular 'kick-off' event going forward and appreciate any comments and feedback.



# DEVELOPING CIRCULAR SOLUTIONS FOR ALUMINIUM REQUIRES A HOLISTIC APPROACH

Elle Bennett Runton

As pressure mounts on operating costs, supply chain efficiencies and resource scarcity many innovative businesses are embracing the Circular Economy {CE} framework as way to retain a competitive edge. Adapting new business models, responding to political support and societal pressure, many believe the circular economy principles offer commercial resilience and resource efficiency. To be successful circular initiatives are dependent upon a holistic approach to revenue business models, product design, operations, and partnership ecosystems.

According to researchers Mulhall and Braungart, across the globe, "businesses throw away hundreds of billions worth of valuable materials because they are not designed for recovery. What is gained on the front end through convenient bonding is lost on the back end through destructive mixing of materials that degrades their quality."

A Circular Economy framework has a direct interest in retaining the highest value of all recoverable products and materials, at the same time as minimising the negative impact on earth's natural systems. Of course, it all starts with circular design focused on making retention easier and financially viable. By re-thinking the material journey from the outset, we can slow the down resource flows and identify avoidable wastes throughout the end to end lifecycle often discovering opportunities to avoid additional expended energy, increased transportation, inclusion of non-essential coatings or processes that risk toxic outputs, etc. In contrast many of today's industrial processes push responsibility towards waste management by volume, not value retention.

Leading OEMs across the UK have already embraced the resource efficiency concept. Rolls Royce talk publically about adapting their operating practices and refining design principles, not only to make the most of all the machined-off pieces to make sure metals are not mined unnecessarily, but re-considering metals being heated up twice or re-shaped again, thus saving energy and resources, as well as the cost of not buying it twice. Rolls Royce are not alone, many businesses are re-thinking their business models, including Renault who already embrace the

business models, including Renault who already embrace the principles of re-using and reconditioning parts and only recycling them when their useful life is fully exhausted.

The construction industry has a number of lighthouse projects including Venlo City Hall NL. The design and build of this 53 million euro budget municipality landmark placed significant focus on knowledge sharing, documenting components in the construction using a digital 'material passport' along with how to disassemble, and return them to the manufacturer – including the 5,000 sqm meters of aluminium façade and curtain wall. By creating a log of residual material value within the building it is possible to quantify the future potential value – of what is a huge raw-materials databank. When a service

or product reaches the end of its useful life, the materials can easily be retrieved for high-grade reuse, thereby recouping part of the original investment.

Beyond the potential cost recovery, the uptake of circular business models offer great employment potential. In the UK estimates suggest that implementing a circular economy framework, at current development rates could lead to net job creation of approximately 54,000 jobs by 2030, including those related to remanufacturing, repairing and recycling.

For many companies the shift away from linear economy business

Elle Bennett Runton.
 Knowledge Transfer Manager - Net Zero

models will be just as difficult as that for brick and mortar retailers racing to catch the e-commerce gains. The indicators suggest that now is the time to start pilot initiatives, create collaboration in value chains and build transition strategies.

The Circular Economy Innovation Network could help you and your business build knowledge in this important area, access research teams and strengthen connections across sectors to maximise the benefits, economic, environmental and societal, for everyone.



#### Find out more:

https://iuk.ktn-uk.org/programme/circular-economy-innovation-network/



An interview with Dr. Gary Mahon, Managing Director, Innoval Technology.

# **INNOVAL @20**

2023 sees the 20th anniversary of Innoval Technology. Can you give us a brief history of the company?

Innoval Technology was formed in 2003 following a period of transition and mergers within the global aluminium industry. The employees initially came from Alcan's Banbury technical centre but the new company was completely independent. Most of the rolling process team joined Innoval as well as many of the product experts, so right from the outset we had the knowledge and technical expertise to make a significant impact within the aluminium industry.

There had been a rich heritage of aluminium technical expertise at 'Banbury Laboratories', as it was known, where the people had been responsible for some of the most significant technological developments in the downstream aluminium industry, including the leading automotive sheet technology used by today's car manufacturers. We were able to build on that knowledge by hiring great people and through numerous innovation projects to provide impartial expertise to a broad range of companies throughout the industry.

For the first nine years the company was owned by the employees, and since 2012 we have been owned by the Italian equipment manufacturer Danieli. That has enabled us to provide the same confidential, independent services we've always done, but with the support of a leading multinational company behind us. From this strong financial base we have been constantly evolving and innovating to meet the many challenges facing today's aluminium industry.

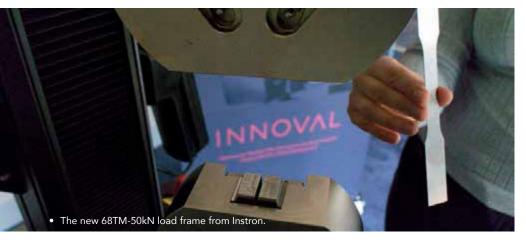
Innoval is in a period of growth and actively recruiting, why?
What specific changes with the aluminum market do you see affecting this pattern?

The aluminium industry is an exciting place to be working right now! The environmental benefits of recycling aluminium are now widely recognized even outside our industry and Innoval is playing an increasing role in helping ambitious companies to realise these benefits. This is leading to growth opportunities for us in all aspects of the circular economy and this is a major focus of our recruitment.

The volume of aluminium used in end-use applications is also forecast to continue increasing in areas such as Electric Vehicles (EVs) and beverage packaging. We're passionate about the role aluminium will play in sustainability and are always on the lookout for likeminded engineers to join our team making this a reality for our clients.

Can you tell us about some of the major projects R&D projects you are working on right now?

Most of our R&D is client-funded so of course I'm not able to discuss that. However, a major theme of many of our projects is related to reducing the carbon footprint throughout the product lifecycle, while at the same time maintaining product performance. Much of this is applying sound metallurgical and engineering skills, but increasingly we are combining this knowledge with quantification of the environmental impact using Life Cycle Assessment (LCA) methods. The other area which also features in these studies is understanding the financial impact of the choices being considered, and we continue to develop a robust understanding of operational costs at all stages of downstream production. Combining these approaches gives our clients and their investors the metrics they need to thoroughly evaluate the innovative technologies being developed. Some of our current projects which are in the public domain are the collaborative R&D programmes which are part-funded



#### INNOVAL INTERVIEW

by the UK government's Innovate UK. Over the past 20 years we have been involved in over 25 collaborative R&D projects as either project leader or consortium member. Our latest project is called CirConAl (Circular and Constant Aluminium) and was started in September 2022 with the aim of providing the automotive industry with aluminium alloys with the lowest embodied CO<sub>2</sub>. The ultimate target is to achieve less than 0.2 tonnes of CO<sub>2</sub>e per tonne of aluminium. The project is taking a strategic approach to the aluminium scrap market in the UK through targeted sorting, blending and refining technologies as the main metal input to a state-of-the-art automotive billet cast house. Sustainability is at the heart of what we do, so we're delighted to be one of the industrial partners on this important project.

You've recently been investing in analytical equipment. Please can you tell us about the new techniques (including thin gauge tensile testing) that you now offer?

Since the start of Innoval we have utilised in-house experimental equipment to rapidly analyse client samples and make recommendations for improvement to their materials or processes. Over the past year we have been exploring what further investments we could make to grow that part of our business and enhance our offering.

As a consequence, we've added a new load frame to our mechanical testing equipment. This allows us to obtain all the usual tensile parameters such as strength and ductility, but we will also be able to perform more specialized tests such as fracture toughness, bend testing and crush testing, to name but a few. We already have the personnel with the expertise in these tests and we are currently exploring adding that capability to our ISO17025 accreditation scope.

We have also identified a strong demand for surface analysis, so we've added two new pieces of equipment there. Our new spectrophotometer will be used to rapidly evaluate the surface cleanliness of flat rolled products which is critical for many aspects of sheet performance, such as corrosion resistance and adhesive bond durability in automotive sheet. A surface 3D profilometer (white light interferometer) will allow us to perform detailed surface

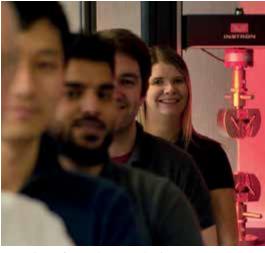
topography analysis and roughness measurements, which can be critical in determining tool-metal interactions and have a strong influence on forming operations. Again, we already have people with the expertise needed to carry out these tests and, more importantly, interpret the results in the context of our clients' needs.

To enhance the portfolio of tests we offer packaging manufacturers, we've purchased an enamel rater which we'll use to check the lacquer integrity of cans and can ends. This seems to be of growing importance as ever more exotic drinks are put into aluminium beverage cans.

Finally, we've invested in some thermodynamic software which we use on a wide variety of alloy and process development projects. This provides our consultants with some great insights into the most appropriate directions for improvement and innovation opportunities.

How will Innoval continue to thrive in the years to come?

We will continue to invest in the best people and equipment, plus we'll continue to invest in collaborative Innovate UK-funded research projects. Our work on these projects gives us a great opportunity to develop the skills of our people and at the same time explore new technical areas that we can



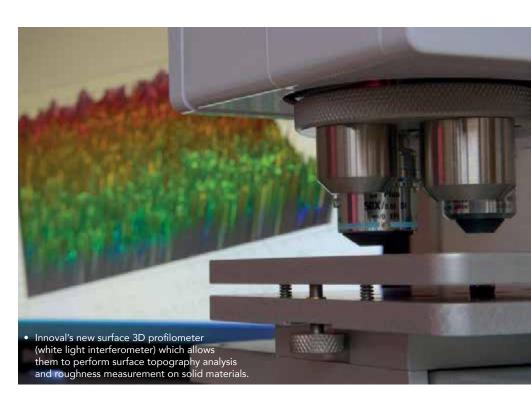
 Members of Innoval's Materials Characterisation team in front of their new 68TM-50kN load frame from Instron. The load frame is extremely versatile and can offer many different tests such as tensile testing, compression testing and more. The machine also has an AVE2 noncontact video extensometer with AverEdge32<sup>TM</sup> capability, meaning that Innoval can conduct thin gauge material testing as well as transverse and axial strain measurements.

then turn into future business streams. These programmes also strengthen our partnerships with both the UK Science base and the OEMs. Because of this, and because of the research work itself, our clients can be confident that our technical knowledge remains state-of-the-art.

#### www.innovaltec.com

• Photo credit Adam Nadin

# INNOVAL

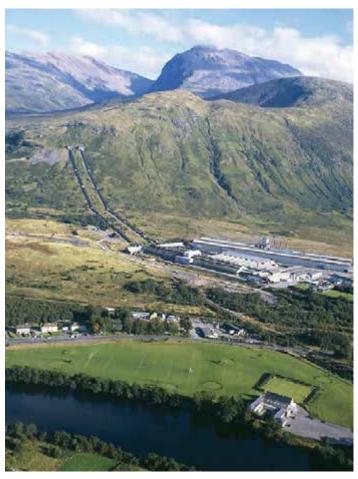


### BUILDING A SUSTAINABLE FUTURE FOR ALUMINIUM

Professor Andrew Perchard

University of Otago - Te Whare Wānanga o Otāgo and Institut pour l'histoire de l'aluminium

Addressing ALFED's House of Lords lunch in 2017, lopened with this evidence given by a former Provost of Fort William, Colin Young, to the 1921 House of Commons committee considering the Lochaber Water Power Scheme: 'I am a whole hearted supporter of the scheme for in it I see a salvation of this district and far beyond.' As we know the Lochaber scheme went ahead and survives to this day operated by ALFED member ALVANCE. The Lochaber smelter, as did its sister West Highland smelters at Foyers and Kinlochleven, has served local communities, as well as the UK and global aluminium trade, well. Lochaber also stood at the forefront of the development of renewable energy.



• Lochaber smelter, 2005. Image courtesy of Alex Gillespie.

With ALFED's EnvironmentAL Sustainability Strategy Day approaching, I have been invited to offer a few observations about the development of UK aluminium's sustainability strategy. The industry stands at one of those critical junctures in its history. ALFED has demonstrated through its Net Zero strategy (and other initiatives) its appetite to grasp the thistle and show leadership not just for the industry but also for the metals sector too. Others have provided detailed technical knowledge on aspects of this. I provide some thoughts instead on long-term Industry characteristics in outlook, leadership and organization, that have been significant to its resilience and sustainability throughout its history, namely: cooperation; people; and responsibility.



• Professor Andrew Perchard speaking at ALFED 2022 annual business briefing.

What do we envisage when we talk about sustainability? What global challenges confront the industry? How will ambitions be realized by firms in different parts of the supply chain? What sort of capabilities and culture will be required?

The Scottish novelist Robert Louis Stevenson famously remarked that, 'everybody, sooner or later, sits down to a banquet of consequences.' Humanity now confronts such consequences entirely of its own making. Natural scientists have long warned and documented the need for us to tackle the ecological crisis. 73 years ago, the US government scientist and conservationist Rachel Carson warned of the pace of global warming. Since the 1970s, 41 per cent of the UK's species have declined, many due to the loss of natural habitat and pollution. As the UN Secretary-General recently acknowledged, our planet is "nearing the point of no return". Those ramifications are already being experienced but will be felt most acutely by future generations with increasingly devastating effects. Less visible but of growing concern are the warnings from tech industry insiders about the pace and nature of the development of artificial intelligence (AI) (particularly the rapid evolution of next generation Auto-GPT). They also cite as partial evidence the damage done by the unfettered expansion of first-generation media platforms like Facebook and Twitter, and woefully inadequate ethical

#### SUSTAINABILITY

considerations and measures. These too have profound implications for the aluminium industry, as for society in general. Meanwhile, the Industry contends with familiar but serious political provocations and their repercussions (not least the effects of Brexit and real and feared military conflicts), and responses to the pandemic, which provide more recognizable risks. Rather than be a harbinger of doom, I prefer to see this as an opportunity to take stock and ask how UK aluminium can sustain itself in the future, with the industry's history offering insights that we can learn from. The West Highland story demonstrates the industry's capacity to act boldly with an eye to responsible and sustainable stewardship.

One of the Industry's strengths, as emphasized in ALFED's Net Zero strategy and 60th anniversary history, has been its capacity for cooperation to meet dramatic challenges. The aluminium industry has a long history of such collaboration to respond to new crises and opportunities. In meeting the challenges and possibilities of the 21st century, those partnerships across the industry, other public and private sector bodies and NGOs, and communities are vital.

Aluminium's people are the core of its creativity. The ability to nurture that talent to generate ideas for improvements and innovations will be crucial. Humankind's capacity for reason and our aptitude, by hand and brain, to dream and create are amongst our greatest strengths; we are 'mightly govern'd', the Scottish enlightenment philosopher David Hume observed, 'by the imagination'. Aluminium's history abounds with many examples of successes in nurturing that talent to adapt and to innovate from Charles Martin Hall and Paul Héroult onwards. That history also demonstrates many failures, which are so often more instructive for those willing to listen. The industry's capacity for resilience and sustainability will benefit from the ability to invite bold and lateral thinking, encouraging aptitude both from within and outside to fashion creative solutions. This underlines further the importance of diversity. Over 200 years ago, political economist Adam Smith observed the human tendency to assume the same sensibilities in others that we adopt ourselves. Within the history of the UK aluminium industry, we have a prominent example of the effects of such behaviours in what was once the colossus dominating the Industry, the British Aluminium Company. That tendency to purposefully select its leadership from a narrow social and professional cohort produced a myopia in the organization, especially in its relationships with government, so that it failed to recognize the writing on the wall with disastrous effects for its survival. Conversely, US firm Reynolds Metals' ability to judiciously recruit for pivotal roles on the basis of merit allowed them to break into the closed ranks of the global aluminium club and become a leading player. Diversity in how organizations recruit, openness in culture, and ultimately in leadership will be vital to resilience and enriching the industry with new, as well as existing, ideas and skills that will sustain it. By demonstrating those values and a sense of responsibility, the industry will also retain and attract talent.

As ALFED members ask what they envisage by sustainability, then I encourage you to look to the industry's past, its capacity for collaboration, its people and its capacity for responsible leadership to sustain resilient organizations that can help meet the ecological, economic and societal challenges that confront us. Whatever the tests of endurance, aluminium's history demonstrates it can rise to those if properly prepared.



British Aluminium Company management conference, 1950.
 Image courtesy of Glasgow University Archives Service.











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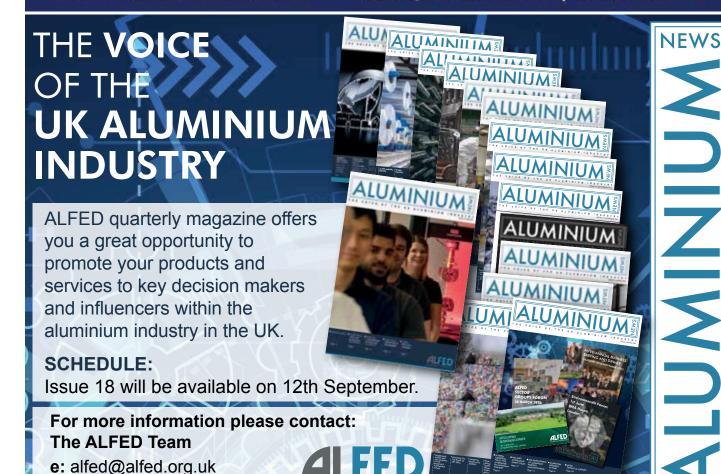




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#### ALUMINIUM AMBASSADOR PROGRAMME

ALFED is set to establish own Ambassador Programme by building a base group of Aluminium Ambassadors, drawn from member companies across its sector groups. It will provide opportunities for both new and experienced engineers to develop presentation and communication skills, and help apprentices meet the broader knowledge skills and behaviours in the apprenticeship standards.

In partnership with the Bloodhound Education charity and their established programme, Aluminium ambassadors will be industry role models, trained and equipped to engage directly with students, teachers and parents in education and community settings. This will range from careers talks to hands-on activities designed to bring the curriculum to life and showcase the aluminium industry as an attractive career path. They will promote positive images of the industry, bring complex and innovative technologies to life, and reach a wider and more diverse audience.

Tom Jones, ALFED CEO commented "The ALFED Aluminium ambassador programme is a great opportunity for the UK aluminium sector to establish industry role models to support education and training for students, parents and teachers, promoting the benefits of a career in a leading sustainable industry and to ensure the future succession of skilled staff."

Teachers value the opportunity to bring industry professionals into the classroom to share their experiences and support putting learning into practice. Feedback from a secondary school teacher:

There is no better way to engage students in STEM than setting a problem to practically solve.

The ambassadors from Bloodhound worked tirelessly over the two days to further engage students. Having such positive rolemodels evidence their impact on the world and engineering has really inspired our young people and we cannot wait to use this enthusiasm in our future lessons!

"Being a Bloodhound STEM Ambassador gives me the opportunity to share with our young students, my deep passion for science and excitement that comes from a career in Engineering."

Ambassadors will provide ALFED member networking opportunities, sharing of good practice across the sector groups and coordinated and continued engagement partnerships.

All ambassadors will keep a log of outreach engagement and this data will be collated and reported to ALFED to show the reach and impact of activities.

If you would like to find out more about the Programme or becoming an Aluminium Ambassador please get in touch.

Nadine Bloxsome

ALFED Member and Sustainability Manager

E:-email: nbloxsome@alfed.org.uk





ALFED provides its members with a free technical, support, advice, and information service available to all our member subsidiaries and all their employees.

#### **ALFED Member Technical Support**

ALFED provides its members with a complimentary technical, support, advice, and information service available to all our member subsidiaries and all their employees.

The technical support extends across the entire aluminium industry and all technologies. The support includes alloy specification, alloy selection, recycling, production, heat treatment, manufacturing, fabrication, welding/joining, corrosion and coating.

Help is offered in resolving the more technical and complicated aluminium challenges in design, manufacture, process and in service.

The support service is confidential and members enquiries can be theoretical, anonymous, that is purely problem specific without reference to their customers, or with interaction with members customers end-user.

Support covers all sectors, such as architecture, transport, packaging, consumer goods and electrical engineering. Support is available by email, telephone or on-site visits.

#### ALFED Non-Member and Public Technical Support

Non-ALFED member organisations and the public are offered a free 15 minute consultation, please contact our technical specialists using the online form below, giving your contact details and a description of the problem, we will then contact you and arrange to discuss your request. https://alfed.org.uk/technical-support/

Please note that after your free consultation period there will be a charge as follows: first hour £100+vat or daily charge of £750+vat plus expenses. We will advise you about this during your free session.

Support covers, such as failure prevention and failure analysis. Support includes advice on failure prevention during design, process and in-service and failure analysis.

#### **Technical Training**

ALFED offers specific technical tailored courses including in-house, from apprentice level, through production, quality and sales to engineering graduate, covering production

of aluminium, hot and cold processing, product design, fabrication, and little-known topics such as "Creep and Fatigue".

#### ALFED Information Database and Legislation

ALFED has access to extensive technical libraries and publications, it also holds copies of many aluminium related British Standards, extracts can be provided to members subject to copyright.

ALFED chairs the British Standards "Light Metals" Committee and is a member of the European Aluminium Standards working group ensuring that members are advised of proposed change and updates on ISO, European and British Standards.

The information support base is global in that ALFED has extensive Knowledge Parentships with sister organisations such as European Aluminium, The Welding Institute, ESTAL, and many Universities.

#### New Entrants into Aluminium Industry

ALFED works closely with new members entering into the aluminium industry, advising on alloys, supporting process and product development and with specific training.

#### Health, Safety and Environmental Support

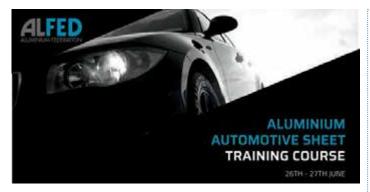
ALFED works closely with the Health & Safety Executive, UK REACH, The Environment Agency and the Metals Industry Liaison Support Group. Members are warned of legislation changes, activity areas and forthcoming work packages.

Members in the first instance should use the technical support service to raise specific questions on Health, Safety and Environmental issues. Most enquiries can be dealt with directly or will raised anomalously or redirected to the relative bodies.

ALFED also members have free access to the Croner, Employment Law, HR and H&S Business Support helpline. Please contact the ALFED team for more details: alfed@alfed.org.uk.

Contact The ALFED Team for more information: Email: alfed@alfed.org.uk or call: 0330 236 2800.

#### ALFED TECHNICAL TRAINING



# ALUMINIUM AUTOMOTIVE SHEET TRAINING COURSE (2 DAYS)

Date: 26th – 27th June Price: £895pp +VAT Venue: Bragborough Hall Business Centre,

Welton Road, Braunston, Daventry, NN11 7JG

This course is principally aimed at engineers, scientists, technologists, quality control personnel and other professionals in the aluminium and the automotive industries who are interested in deepening their knowledge of aluminium automotive sheet. The course covers a wide range of topics related to aluminium sheet production and its use in automotive applications, providing attendees with a comprehensive understanding of the aluminium automotive sheet production considerations and quality control.

Find out more: https://bit.ly/3qlClQt



#### WORLD OF ALUMINIUM

Date: 17th July Price: £249pp +VAT

Venue: Halesowen Golf Club, The Leasowes, Leasowes

Lane, Halesowen, West Midlands B62 8QF

The World of Aluminium is an intermediate level technical course specifically designed for production engineers, process and quality technicians, stockholders, customer facing sales/marketing persons and material/ product purchasing individuals. This course is aimed at individuals who require a solid basic understanding to confidently engage with the aluminium industry and its products.

The course creates a solid basic understanding of aluminium, aluminium metallurgy, heat treatment and metal forming processes. It assumes no prior knowledge of metallurgy and is specifically tailored to the industry sector.

Find out more: https://bit.ly/3ZnTIfF



# ALUMINIUM FOIL FOR CONVERTED PRODUCTS (1 DAY)

Date: 12th July Price: £595pp +VAT

Venue: Bragborough Hall Business Centre,

Welton Road, Braunston, Daventry, NN11 7JG

The course is principally aimed at technical and non-technical staff working for aluminium foil converters in the packaging industry. The focus of the course is thin foil rather than thicker container foils. The course will provide an understanding of the common requirements of thin foil for packaging suppliers, and what challenges foil manufacturers have to face.

Find out more: https://bit.ly/3OUPb2y



# ADVANCED LEARNING PROGRAM FOR BUSINESS LEADERS IN THE ALUMINIUM SECTOR

Date: Wednesday 21st June: 10-11am (Virtual)

Price: Free for ALFED Members - Non members £49 + VAT

The aluminium industry is a vital part of the UK manufacturing sector and an essential component of the modern UK economy, which will play a key role in the UK's transition to a more sustainable future.

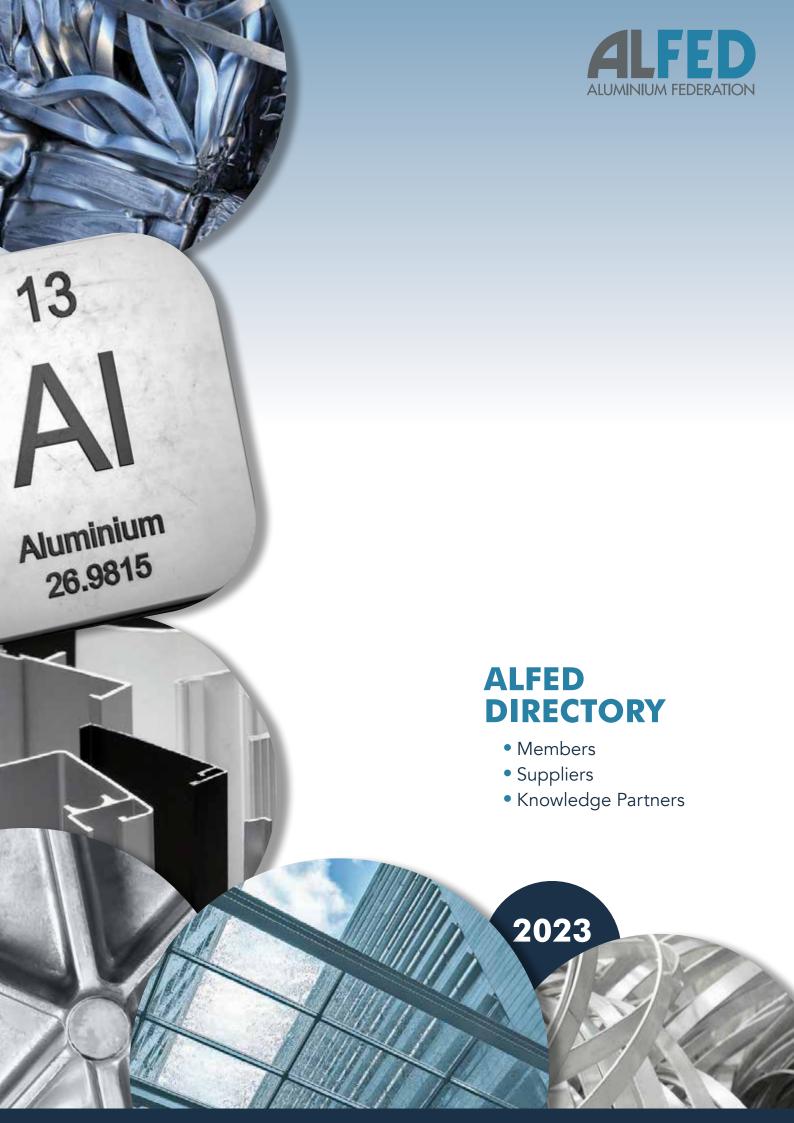
But what is the reality behind Net Zero? What are you doing within your business to develop a sustainable strategy and is it in-line with the bigger milestones?

Jerome Lucaes, CEO of Fast Forward Zero, ALFED members will be guided through the fundamental learnings of climate science, key principles of a Net Zero standard and establishing governance.

Leveraging over 25 years of experience, Jerome is working to develop relevant and applicable solutions that inspire sustainable transformations to leverage unique competitive advantages.

Jerome is one of the few business leaders with real experience and premium sustainability achievements that have been transformative for the metals markets and their supply chains.

Find out more: http://bit.ly/3IWmvBp



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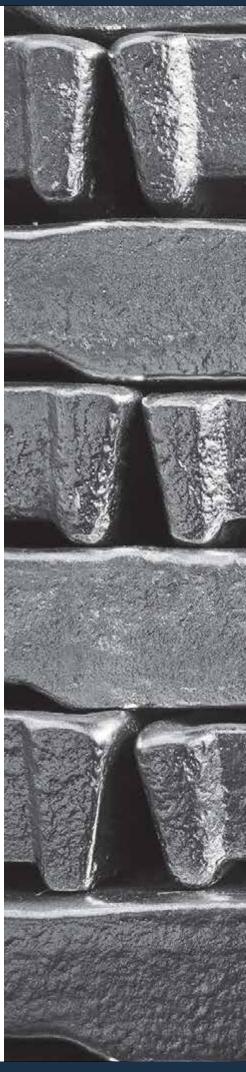
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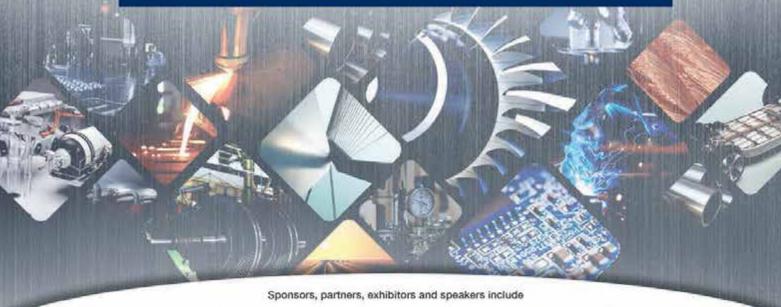
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