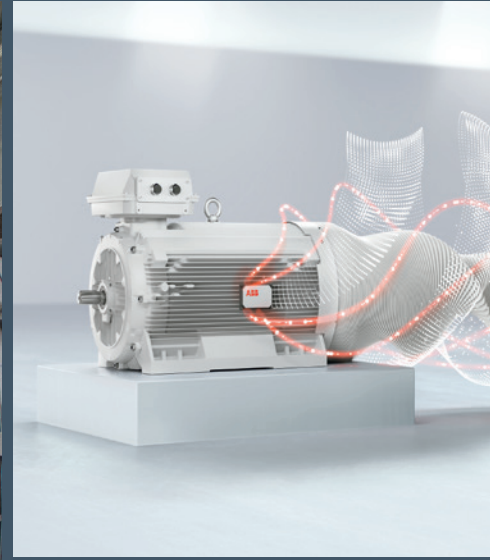
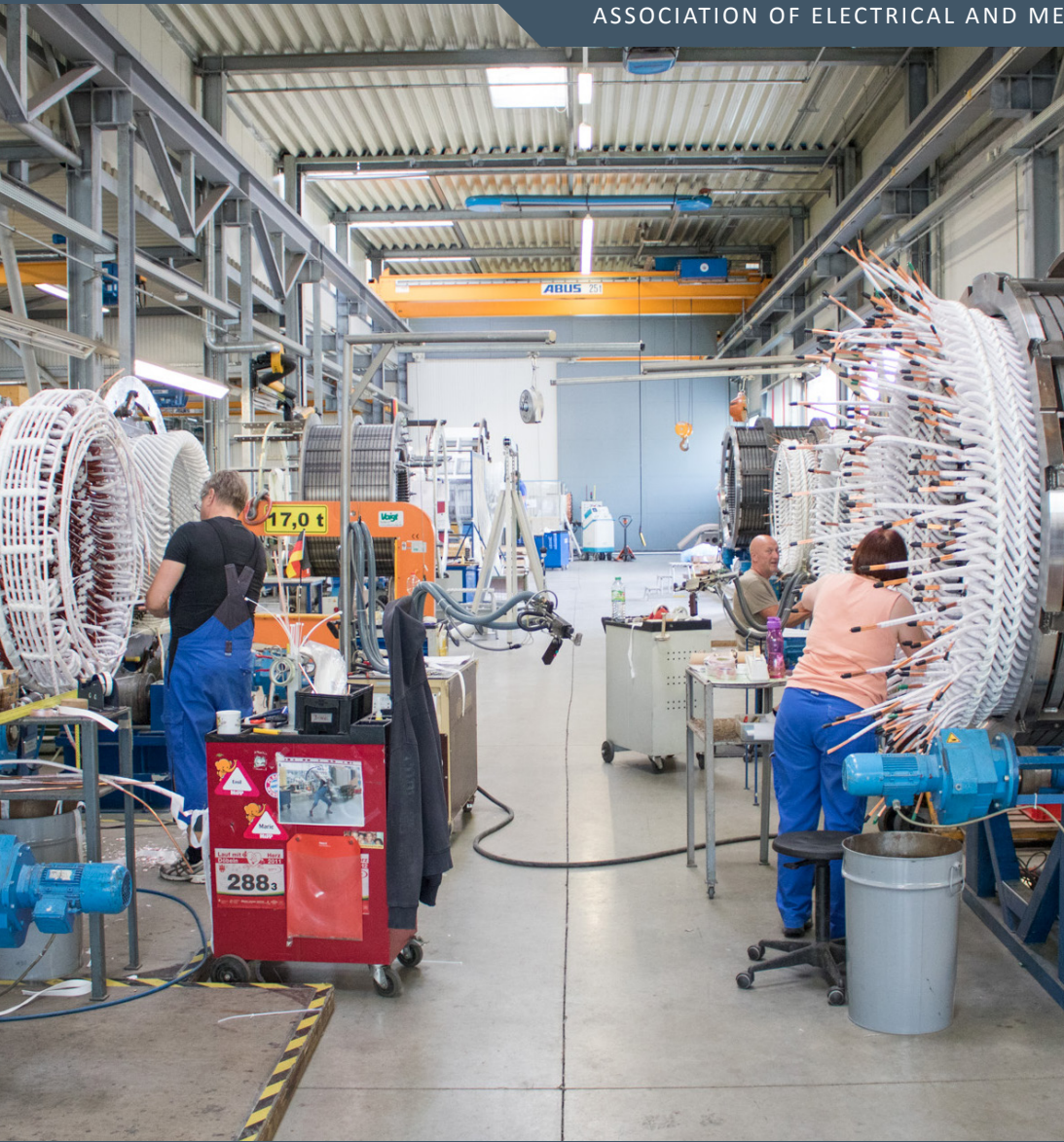


Journal

ASSOCIATION OF ELECTRICAL AND MECHANICAL TRADES



INSIDE THIS ISSUE...

Friendly Rivalry Driving Success Among Members

PARTZSCH - German Electrical Engineering Power House

AEV Mobile Lab for On-site Testing of Resins & Varnishes

Smart Sensors Adding Value to Motor Repair Business

AEMT 73rd AGM and Triumph Visit



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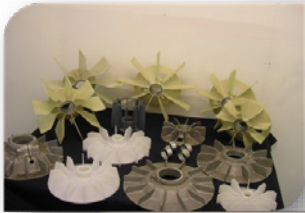


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"We were very impressed with the quality and standard of the evening. The AEMT is showing itself to be a progressive and modern association, which Sulzer are please to be a part of."

Chris Powles
Sulzer



"A truly amazing night for our staff, it showed our shopfloor workers that they were a part of something bigger, and that working together is important for binding the association together."

Shaun Sutton
Central Group



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MAGAZINE

Front cover photos:

1. Coil insertion production line at PARTZSCH.
2. ABB Smart Sensor.
3. Quartzelec's Split Rosenberry Hub.

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EDITOR'S COMMENT

We have a bumper summer issue to send you all off on holiday with this time! While you're sipping your Pina Colada clutching your copy of the Journal – have a think about your entry to the AEMT awards, we have two helpful articles to convince you why you should be giving it some thought, and how to make your entry a winning one! It won't be long after you return to work the deadline for entries is upon you – Don't Forget: Tuesday, 11th September!!



In this issue, we interview a few dedicated members of the AEMT and find out how they've benefited from working with other members of the association. It is natural for people to be cautious when it comes to dealing with competitor companies, but after a read of this article, you may find they serve more interest to your business than you first thought.

After visiting CWIEME Berlin I travel down to visit a relatively new member near Dresden and find out how PARTZSCH Elektromotoren have grown to become the 700 employee strong organisation of today. Thomas Götze, Plant Manager at PARTZSCH, gives me a tour of the facility and shares some of his own views on the industry.

AEV reveal their cards, and explain how they are making sure that the nations varnish tanks are in top condition. Joe Turnick, a young rising star for the industry, has taken on the responsibility of testing the varnishes up and down the country from the back of his van.

New member to the association, Socotec, explains how keeping engineering lubricants, such as oils, greases clean from unwanted build-ups will increase the electrical and mechanical performance of the equipment.

Following up on a fascinating talk and discussion with ABB's Product Manager; Derek Robinson at the Scotland meeting earlier this year, ABB reveal how it's new smart sensor technology will add value to the motor services industry.

If you are interested in seeing an historic piece of opencast mining equipment; an American made walking dragline from St. Aiden's mine, in West Yorkshire is now being looked after by a group of volunteers at the former Swillington site, Leeds. More details can be found in an article provided by the Association's secretary, Mary McNulty.

Quartzelec reveal how they designed and built a new split Rosenberry synchronous motor start hub for a Saudi company.

Finally, Sam Agnew, AEMT Events Organiser, looks back at the Association's AGM, with an overview of the meeting and its results. After the AGM members were part of a large discussion on apprenticeships with a panel including the EEF, AEMT, and member Mid Kent Electrical. Member's wrapped up the day with a fascinating tour round the Triumph Motorcycle factory.

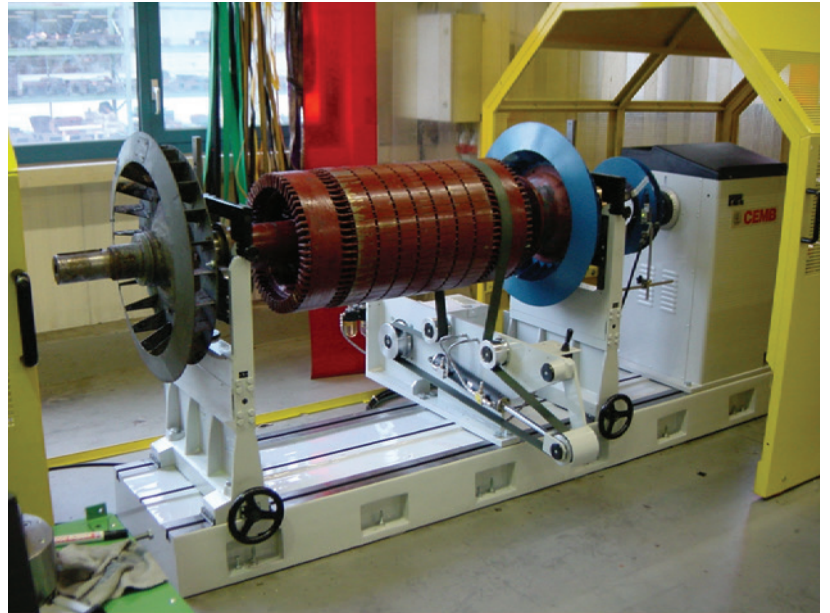
Thomas Marks,
Editor.

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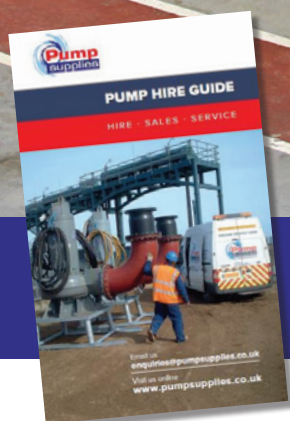
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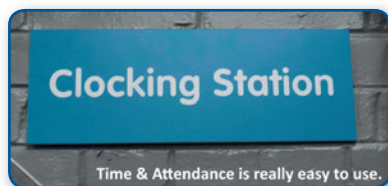
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AEMT President's Welcome

Welcome along to the latest AEMT journal, packed full of news and articles about your industry and representing our members across the globe. As I sit to write this welcome, we are currently enjoying the warmest and driest start to a summer since records probably began! England have made it to the World Cup semi-finals! And major resignations from the Government have resulted, due to Brexit disagreements once again. It seems no sooner do we get behind one team, another one falls apart!



Whilst we are all enjoying England's progress at the World Cup, (which seemed about as likely as us having a long hot summer!) it is Brexit that will have a longer lasting impact on the UK as we move into a serious Autumn of negotiations with the EU. It seems that the cabinet, lead by Theresa May is in favour of a softer Brexit, which is probably good news for business as we look to protect our trading with the EU and try to avoid burying UK businesses in a mountain of new legislation that would make trading and customs reporting more difficult and onerous than it already is! What commerce likes is certainty. The very nature of Brexit is uncertainty and is not conducive to long-term business planning, especially amongst global businesses and the UK's largest employers.

Back in last November, at the annual CBI conference, business-leader after business-leader urged the government to make swift progress with exit plans - needing certainty to be able to plan future investments and, just as importantly, not having to waste time planning for a no-deal Brexit. Unfortunately, progress has been slow. All we can do now is wish the Government well in its future negotiations and hope for swift progress and a good deal for the UK. We shall have to wait and see!

Leaving serious politics aside, from the AEMT perspective, things are looking very positive. We had an excellent AGM in June, where for the first time in many years, all officer positions on the AEMT council are full, allowing a clear plan for succession of leadership within the AEMT. We welcome Dave Hawley of ABB as Vice-President, Chris Powles from Sulzer as Junior Vice-President and Shaun Sutton of Central Group as Treasurer. I am continuing as AEMT President and feel fortunate to steadily shape and grow the AEMT, and to help its members for the coming year. The AGM also had excellent presentations regarding the Apprentice Scheme and particular thanks to Alex Page at MKE and Martin Killeen of the AEMT for their invaluable contributions to those discussions.

If you are thinking about apprenticeships and need help understanding the systems in place now, don't hesitate to contact Martin through the secretariat, who can suggest colleges, funding and training routes through the current government apprentice standards. Equally, if you are interested in contributing towards the future training of apprentices for the AEMT, we need your input!

Finally, you will hopefully now be aware that the AEMT Conference and Awards are taking place on November 29th at the Doubletree by Hilton. A day of talks

and discussions around "The Circular Economy", and how the repair and service industry can play a vital part in prolonging the use of raw materials by repairing and maintaining electro-mechanical equipment. Followed by the AEMT Awards, where the chance to get due recognition for your business, and our industry, for the excellent engineering services our members provide.

If you haven't entered the AEMT awards yet, then please visit the excellent www.aemtawards.com website and fill in an entry form – it's simple to do, could give you free PR, and you may actually win! Thanks to our sponsors, Sulzer, ABB, EMIR Software and DFA Media as we look to try and improve on the excellent event last year. Tickets for the evening and some sponsorships are still available, so make sure you participate in the best industry event of the year and have a great evening in the process!

I hope your business is doing well and I look forward to seeing you at one of the AEMT events soon.

Best Regards,

Gary Downes
AEMT President.



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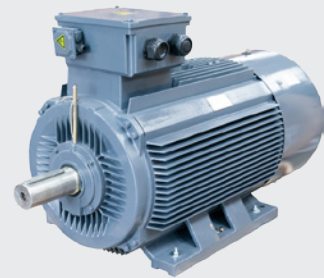
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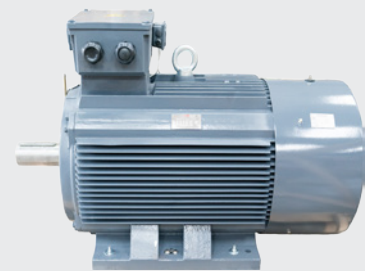
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The AEMT Ex Repair Courses are accredited by the CPD Scheme

Ex Hazardous Area engineering courses run by the AEMT around the world are now accredited by CPD certification services. CPD (standing for Continuous Professional Development) are one of the largest international accreditation companies.

The AEMT runs three modules of Ex training; theory, hands-on and refresher. These are regularly presented by the AEMT each year in locations across the globe, most often in the UK, Middle East and South East Asia. In total, they are attended by representatives from over 250 different companies annually. The AEMT is recognised as having trained personnel from 86 per cent of the IEC Ex certified service centres in these regions.

Continuing Professional Development helps individuals to become more competent and effective by increasing their confidence and overall capabilities. This enables them to adapt positively to change and to be more efficient in the development of career aspirations.

By teaming up with CPD, the AEMT has increased the recognition of their courses to a wider international market. CPD encourages a healthy learning culture, leading to a more fulfilled workforce and better staff retention. They are experts in

their field and by being registered users it can be guaranteed that their courses are high quality, time efficient and cover all the relevant aspects of the subject in hand.

The AEMT was established in 1945 to promote and support companies in the service and repair industries, both in the UK and overseas, which aspire to engineering excellence. Today, it represents companies which manufacture, distribute, install, service, maintain and repair industrial plant and equipment such as motors, drives, pumps, fans, gearboxes, generators, transformers and switchgear.

Many of the association's members work with Hazardous Area equipment, so the course is designed to educate managers, supervisors, engineers and technicians of any company about the safety aspects of working with these specially designed machines.

By training with the AEMT, individuals and organisations can comply with the requirements of relevant legislation such as ATEX, DSEAR and the Ex repair standard BS EN IEC 60079-19. The AEMT Ex Register promotes those member companies that can repair to BS EN IEC 60079-19 for hazardous area equipment.

AEMT Secretary Thomas Marks says: "Our Ex courses are recognised internationally for their technical excellence and delegate success rate, hence their popularity. The CPD certification is, on the one hand, a visible mark of the course's quality and, on the other, builds on the personal development of the participating engineers and technicians.

"Now time spent on an AEMT Ex engineering course will be of double value as it will count towards each attendee's continual professional development, as well as making them better engineers." ■

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Why Award Entry Makes Sense

The AEMT Awards programme was launched with the sole aim of recognising and rewarding business and engineering excellence right across the electrical and mechanical trades sector of industry. Here, we detail the ten key reasons why submitting a nomination makes both promotional and commercial sense.

1. Brilliant PR for your business.

It really is a no-brainer - free marketing and PR for your business! You get to use the official AEMT Awards Finalists or Winners logo on your website, brochures, business cards, literature, emails and sales material; boosting awareness around your brand and helping to promote your business to new customers.

The Awards celebrate your best achievements and the hard work you've put in to making your business a success. If you want to be part of an industry wide initiative that will get you talked about, this is definitely the way to go. It's great to have your business endeavours recognised, so it's important to make sure that people know what your business has achieved. Winning an industry award can help secure new contacts, find new supply channels and break into new markets.

2. Great for benchmarking

Entering the AEMT Awards will make you think hard about your business. The application process for entering an award category can often force you to look at your business from a different perspective and compare yourself to your competitors. How do you stack up against others in your field, whether it is through innovation, diversity, sales growth, customer service, investment in people or strategic thinking? Preparing an entry can often force you to consider ways of doing things better and to identify areas for improvement. This could be of real benefit to your business, and something which is even more valuable than the prize itself.

3. Increased credibility

Winning an AEMT Award, or simply being short-listed as a Finalist, can act as a 3rd party endorsement for your business. A win can give a seal of approval to your activities and is a

sign of quality for potential customers, so can form part of your sales pitch. It can also help improve relationships with suppliers. It's a great way of differentiating your company from competitors and will send out positive signals to customers.

4. Employee motivation

The Awards recognise the hard work and achievements of your employees so winning one can help boost staff morale and improve motivation. Employees are focused on what's great about the company they work for and can feel proud to be a part of it. Staff could be invited to the gala awards ceremony which can not only yield great networking opportunities, but also serve as a well-earned thank you by just being a great night out.

5. Attract talent

Rising stars of the electrical and mechanical worlds will love to work

for you. Business awards validate your hiring stature among new recruits. By pitching yourself as the best, you can attract the talent you need to push your business forward. Increased employee morale will also help attract and retain new recruits.

6. Network with fellow business leaders

Attending the gala awards dinner gives you the opportunity to network with other business leaders and professionals. Sharing knowledge and industry news puts you closer to the action, and motivates you.

7. Expert in your field

Winning or being shortlisted for an award can cement your reputation as a trusted authority in your field, which in turn brings future work and on-going PR opportunities.

8. Differentiate your business from your competitors

When a potential client or investor is

sizing you up against your competitors, a business award could just give you the edge.

9. A Night to remember

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10. A shiny Awards Trophy and Certificate

The recognition you deserve for a job well done, presented to you in front of your peers, and for display in your Reception Area or Boardroom. What more could you ask for? ■

Tuesday, 11th September 2018

The closing date for all entries is close! So for those wanting industry-wide recognition for a job well done, be it for a product, service, application know-how, or commitment to industry and training, they should make a note of this important date.

It is completely free of charge to enter the awards, but the promotional value associated with being selected as a finalist is worth many hundreds of pounds. And for those individuals and companies who become one of the seven winners, the promotional benefit is even greater.

Further details

The gala awards dinner will be staged on Thursday 29th November at the Doubletree by Hilton in Coventry. For more information, please visit the website www.aemtawards.com or call the event producers, Touchwave Media on 07785 290034.

How to make a successful Entry to the AEMT Awards



If you don't enter; you can't expect to win. In other words – what have you got to lose by entering for an AEMT award? The awards have been designed to celebrate and promote the best of the electrical and mechanical trades sector. Starting to make your entry now will give you plenty of time to make a well formed and considered entry.

Choose a category to nominate yourself, a partner company, or individual, and make yourself aware of the questions. Don't rush your answers, and spend time over the application form.

Preparation is key. Read the criteria carefully and allow yourself plenty of time to develop a well-thought-out entry. Don't get caught out by the deadline.

Save your entry for later

There's nothing worse than clicking the submit button and then realising you neglected to include a crucial piece of winning material. Don't worry - it's not over! We've specifically designed the www.aemtawards.com entry forms, so that this can never happen. Once your entry has been submitted you will receive an email confirming the receipt of your nomination. At the bottom of the email will be a link to edit your form. You can tweak and change your form until you are convinced you are giving yourself the best opportunity to win – but remember, your final submission has to reach us by 5pm on Tuesday, 11th of September.

Below we outline ten pieces of advice to help you make your award entry a winning one.

Preparation is key. Read the criteria carefully and allow yourself plenty of time to develop a well-thought-out entry. Don't get caught out by the deadline.

Enter more than one category. Increase your chances of winning and enter for as many applicable awards as you can: But ensure that you tailor your entry to each category – as each award has unique criteria.

Make sure clients give you the thumbs up. Collaborate with your customer on the testimonial or endorsement. Customers also receive promotion through the ceremony and PR, so the benefit is twofold.

Answer the questions properly and write persuasively. Set out clear and concise benefits of your entry, use bullet points and don't just write a 'stream of consciousness'.

Banish all Salesy and PR jargon. By writing in clear, plain English, the judges will love your entry even more, avoid jargon and explain uncommon abbreviations.

Use attachments wisely. You may attach documents to support your entry but they should be limited to useful information that will help the judges to understand the impact of your work. However the essential elements of the entry must be kept within the word count of the entry – we won't be able to accept entries on an attached PDF, unless it is a supporting endorsement or testimonial. Supporting documents

should be compressed into a zipped folder to make uploading of multiple items possible.

Judges are looking for strong evidence to back up your claims. Collect good data and show it off! Even if the project is new, an estimate or a projection of the benefits is important. If an installed project has given "25 per cent more efficiency" for instance, tell the judges what the increase relates to – for example, compare it to its predecessor, to rivals, to the relevant standard etc. Read through the criteria and double check that you are meeting all the requirements.

Ask someone else, such as a colleague, to look through your entry before you submit. It can be helpful to ask someone who was not directly involved in the work you are entering – because, like the judges, they will not have intimate knowledge of the entry, so they may be able to suggest ways to clarify the details.

You can share the form you are working on easily – just click on the 'save for later' link at the bottom of the form. Stop before you submit! Double-check that you have fulfilled all the applicable fields and elements of the form and provided all the evidence that the judges need. If you get stuck then call Thomas Marks at the AEMT on +44 (0)1904 674 895, or email awards@aemt.co.uk.

Closing date for entries

The closing date for all entries is 5pm on Tuesday 11th September 2018.

So for those wanting industry-wide recognition for a job well done, be it for a product, service, application know-how, or commitment to industry and training, they should make a note of this important date.

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Further details

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Friendly rivalry can drive success

It is natural for business people to be cautious when it comes to dealing with competitor companies, but the world is not entirely dog-eat-dog; sometimes a bit of friendly rivalry, co-operation or mutual support can pay handsome dividends. Here Thomas Marks, Secretary of the Association of Electrical and Mechanical Trades (AEMT), speaks to some members about their experiences and concludes that there is more to be gained than lost by keeping in touch with others in your industry.



Thomas Marks
(AEMT Secretary)

Trade associations, such as the AEMT, exist to serve given markets, both supply-side and demand-side. Their membership consists mainly, often exclusively, of the companies serving the market.

As such, it is inevitable that competing companies come together in trade associations and are required to interact with one another at certain levels. Naturally, the more they interact and co-operate, the better the trade association can function to provide services benefiting its members, the market and the wider economy.

Most trade associations have an executive committee (although it may operate under a different name, such as a board of management or council) that directs and drives their operations.

People on the executive committee tend to be senior or relatively senior managers of the member companies, who naturally tend to be sophisticated and worldly. They are able to recognise activities that are worth pursuing and to avoid those that are not; the fact that they give time to their trade association suggests that there are beneficial effects to be gained.

So, what are these beneficial effects and who do they help?

In short, they can be separated into two categories: development of the market, meaning there is more business around to keep the suppliers active and to contribute to the general economy, and benefits for individual member companies, such as the opportunity to form alliances, share knowledge and develop joint strategies.



Matt Fletcher of Fletcher Moorland in Stoke on Trent.



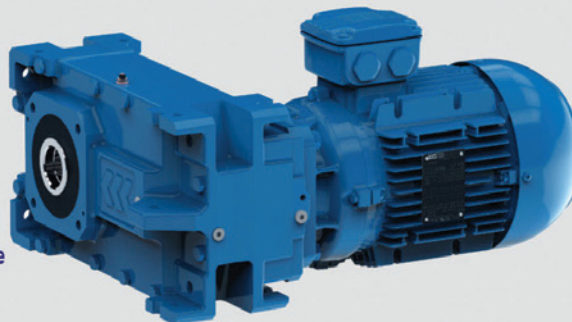
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Swapping favours

AEMT member Tom Beatson of Beatson Fans & Motors Ltd in Sheffield, gives an overview of one of the most common advantages of co-operation. "One of our core values is to always help people. Our customers need a service they can rely on and we endeavour to do our best for anyone we can. If we can't help we'll refer them to someone who can. Hopefully they will remember us for helping them find what they needed and the company we refer them to will be grateful for the work. One day they may have the chance to repay the favour. "Further, when potential new customers contact us asking about rewinds or repairs, we will make a judgement. If they are too far away for us to offer our full support and provide a professional service, we will have to think about it and see if there is anyone nearer at hand that we would be happy recommending."

Naturally one wants to recommend capable and helpful companies, so actually knowing them is a great advantage. Membership of the AEMT, or

other trade associations, is an effective way to get to know other companies in your field. You will meet representatives in both formal and informal settings, such as in committee meetings, at golf days, on visits to members' facilities and at gala dinners.

Mr Beatson is the fourth generation of a longstanding member of the AEMT and has served on many of its committees. So, how has that effort assisted in the development of his own company?

"The market is always changing, and we all have to keep up with developments. For instance, it seems that there is always some new legislation that we have to get our heads around. Formal and informal discussions with other AEMT members are great for this; we get to hear other peoples' perspectives and to talk through our own ideas.

"Being a small company, we can adapt and change as we need fairly easily, but it is invaluable knowing how the rest of the market is adapting. As an example, there is a drive to increase the

use of condition monitoring techniques. Through the AEMT we will be able to develop industry-wide universal standards that we can all operate to, which means our customers won't have to spend time and effort working with different systems from different suppliers."

On a human level Mr Beatson says there is comfort in meeting fellow travellers. "It's always interesting to hear that the challenges we face on a daily basis are challenges many others, if not all, in the industry face as well."

Meeting of minds

Another AEMT stalwart, Matt Fletcher, MD of Fletcher Moorland in Stoke on Trent, also values the chance to meet industry colleagues. "Being on the AEMT council means I regularly get to network with directors and senior managers in companies similar to my own. I often find that what starts as a casual conversation over a cup of coffee ends up being really valuable. I might gain a useful insight or hear an alternative view on a current issue, pick up the germ of



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Andrew Savage's company Mid Kent Electrical.

an idea that I can adapt and develop for my own use, or begin to form a close relationship with a company that we will eventually work with."

He says he has had many experiences of informally sharing knowledge or experiences that have allowed him to build and improve his company. Meeting representatives of companies that are not local to him in and around Stoke is particularly valuable.

"The simple reality is that we do not compete with companies from outside our catchment area. This means we may get the opportunity to co-operate with relatively distant companies without compromising our own market position. Further, we may pass work to them that is not within our remit – for instance we often work with a company in the North East which does formed rewinds and complements our random wind capabilities."

Fletcher Moorland is renowned as one of the country's foremost rewinders and repairers of high performance servo motors and is happy to share its expertise with other companies.

"We regularly provide a 'white label' service to AEMT members, whereby

they sub-contract the specialist servo elements within their major contracts to us," explains Mr Fletcher. "In a broader context, through the AEMT, Fletcher Moorland has helped set and raise standards for servo work and other specialist repairs right across the industry."

Mr Fletcher is keen to point out that just as other companies have learnt from Fletcher Moorland, he has learnt from others too. For example, he developed a clear strategy for improving his company's job control software after a visit to an AEMT member who had created its own simple, yet effective, system.

"We have had similar experiences with other key functions such as safety and quality control, too," he says. "On one visit to a large organisation I noticed that they had two workshops, one for large jobs and one for small works. Mulling this over it was clear that this produced some very attractive advantages, so now Fletcher Moorland has its main workshop plus dedicated workshops for small motor repairs and pump overhauls. "There is one 'borrowed idea' that I see every time I walk onto our shopfloor – simple cleaning stations – they make cleaning and cleanliness a separate but

key task, rather than an afterthought that can easily get brushed over. They have helped us improve our cleaning standards no end and it is notable and gratifying that many of our visitors comment on them too."

Trust and respect are the key components Mr Fletcher looks for when forming alliances with other companies. "You have to be aware that the future will always bring change, and this may alter the nature of the relationship you have with another company: you want to know that you will be able to address such matters in a sensible and professional way."

Perhaps the biggest advantage of such trust is that it allows you to build a person-to-person business relationship from which new services can be developed. "We are now looking at rapid turnaround electro-mechanical work on a national and international basis," he says. "We can only do this because we have trustworthy partners in all the main industrial areas, so can get an engineer on site very quickly."

Legislation is promoting co-operation Current and expected future anti-trust laws are encouraging companies to develop their willingness to co-operate



with other organisations, believes Shaun Sutton, a director and co-owner of Merseyside's Central Group.

"Some industries are increasingly dominated by giant global groups, which is not good for competition and could have a stifling effect on innovation," says Mr Sutton. As a result many countries are introducing anti-trust laws that enable smaller companies to flourish and compete in their markets. At the same time, technology is becoming more complex and more integrated so that smaller specialist organisations must work together, finding synergies and complementary strengths.

As an example of this, Central is a registered partner company with both Siemens and ABB, as well as several other global organisations. It also has interests in three local companies: one drives and automation company in Scotland and another in the North East, plus a compressor company that serves similar industrial markets to Central.

"To make this sort of arrangement work we have to be both trusting and trustworthy," notes Mr Sutton. "It seems both daunting and open to abuse, but the reality is that everybody respects their respective boundaries

and understands that there is a lot to be gained from working with the system and a lot to be lost by abusing it."

He also notes that the industry was not always like this. When he started his career in the 1980s there was much less openness. "You'd go to an AEMT meeting and everybody was wary of saying too much or giving away a valuable secret. There were even some cases of deliberate misinformation, which may have produced a short-term gain for the perpetrator but ultimately did more harm than good to the industry as a whole.

"Over the years we have seen the industry evolve into a much more open and honest body. We have realised that often the competitive overlap with other members is minimal and that we have far more in common with each other. We can work on our common ground together without compromising our commercial positions. This has allowed the AEMT to do its job better and thus provide more benefits to the industry and to its individual members."

As with his AEMT colleagues, Mr Sutton observes how much members

can learn from one another without being commercially indiscreet. He illustrates this by recalling how basic record keeping was computerised, then production processes became digitised, then these were integrated together to create a cohesive and efficient operational environment.

"Now all of this is moving online and the AEMT is helping to define standards and establish common processes so that the industry benefits as a whole."

He draws a parallel between membership of the AEMT and staff at Central Group. "My dad set the company up before I was born, and he always nurtured his people. He strove to create an atmosphere where everyone was happy to speak; this prevented minor issues from developing into major ones and encouraged people to suggest new ideas. He could usually see the value of other peoples' ideas and encouraged their development. The results - efficiency gains, workflow improvements, quality control, wastage reduction - were often appreciated very quickly.



Shaun Sutton in the workshop of Central Group, Merseyside



Tom Beatson from his office at Beatson's Fans and Motors.

"In many ways the AEMT is like that nowadays. Any meeting or event is likely to include a discussion (planned or off the cuff) that challenges the status quo and leads to some genuinely new ideas – it can be really exciting!"

The fact that the AEMT enables members to meet colleagues in related but different markets means they can use each other as sounding boards and share best practice ideas freely.

Mr Sutton goes on to say, "our home turf is the North Country, and we have a great relationship with an AEMT member company deep in the Home Counties. We share ideas, set up joint training opportunities for our respective people and together form a strong voice within the AEMT."

Strengthening the bonds

Networking with people in similar businesses but different catchment areas is the key benefit of AEMT membership identified by Andrew

Savage of Mid Kent Electrical Engineering in Sittingbourne. He was twice President of the Association, in 2003-5 and again in 2012 and sees his legacy as being a strengthening of the bonds between individual members.

"A trade association creates value by encouraging its members to participate in events and contribute something positive each time. So, as President I encouraged people to speak out and generally join in at every level. In a word, I promoted networking, but this can be broken down into various parts."

Mr Savage says that as he comes away from AEMT meetings he runs through what he has achieved. This typically includes creating and strengthening relationships with fellow members and potential suppliers, acquiring specific information and getting a general overview of issues and industry developments.

"Time spent with the AEMT is always

a learning opportunity," he says, "So a mental review is a good discipline to follow. It is usually worth hearing how other people think the industry is going to develop in the short, medium and long term, and discuss the justification for their ideas."

Absorbing such information and views is vital to the forward thinking and proactive actions that have characterised Mid Kent's management decisions. Over the years, many local competitors have closed down, but Mid Kent keeps ahead of the curve by constantly investing in new resources and developing new skills.

"As other companies have fallen away, we have steadily expanded our catchment area to a radius of about 50 miles. We work hard to offer the same levels of service to our furthest customers as we do to our nearest. Membership of the AEMT helps with this as we can, informally at least, benchmark ourselves against other companies all over the country."

Mr Savage says that Mid Kent also trades with other AEMT members, both as a buyer and as a supplier. "If we need some specialist work doing I often know off the top of my head which members could do the job, and one quick phone call will set everything up for a speedy outcome. Naturally this works the other way around too: AEMT members come to us when we fit their bill."

It is not surprising that each member identifies slightly different benefits to belonging to trade associations such as the AEMT. Overall all the benefits are available to all the members, but each moulds them to their own particular needs.

To sum up, we can say that AEMT membership offers an industry overview, learning opportunities and networking events. This motivates everyone and helps them lift their bottom lines, while setting standards and bringing people together in a common cause to address things like standards, legislation and emerging technologies. Perhaps above all it shows that an industry has many opportunities, so there is room for everyone. ■

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PARTZSCH – A 49,000 square metre electrical engineering power house.

Thomas Marks, secretary to the association, visits PARTZSCH Elektromotoren to find out how a German electrical engineering behemoth has boomed since the fall of the Berlin wall.



Thomas Marks
(AEMT Secretary)

Based in Döbeln, Saxony; PARTZSCH was founded in 1954, by Werner Partzsch as a repair business for electrical machines and systems, handling equipment up to approximately 200kW. Later in 1989, soon after the fall of the Berlin Wall,

Thomas Partzsch became head of the family company. With the German structural and social constrictions changing rapidly, the opportunities for developing PARTZSCH began to ripen. Over a period of 20 years, Thomas

Partzsch developed the small crafts business into a mid-sized enterprise committed to electrical machine manufacturing.



Thomas Partzsch's revamped technology business used funding from regional and European subsidies to get to the behemoth of today. The company has grown to include 27 purpose-built production halls, scattered within a 500-metre radius to make up a staggering 49,000m² production area, a rare find in Europe for this industry! The group of 6 companies offers a complete service in the field of rotating, electrical machines from 100kW up to 250,000 kVA. By bringing most services in-house Thomas Partzsch eliminated any dependence on collaborative partners, meaning the organisation can offer extremely short delivery times without compromising on quality.

These days, the spectrum of services the company provides ranges from a copper

rolling mill and laser cut laminated cores to the installation of windings into new and repaired machines, as well as components of different sizes and types. The extent of possibilities are far too vast to cover in this article, and a look at the company's website, detailed below, serves as a better outline.

The repair services are a growing side of the business, and includes disassembly, cleaning, drying, rewinding and re-impregnation of stator and rotor windings. Mechanical reconditioning includes the repair and reclamation of bearing housings, renovation of fans, overhaul of junction boxes, replacing cable leads, installation of laminated cores, rotor bars, welding, replacement of tie rods and much more. A rotor-balancing service can balance all rotors from approximately 10kg to 32 tonnes at their nominal speed (2-12 pole). Machines up to an individual unit weight of 120 tonnes can be reconditioned; with a rated voltage up to 18 kV. A 1200kW test bed tests motors and generators up to 11 kV.

Thomas Götze – Plant Manager, PARTZSCH Elektromotoren

Thomas Partzsch's involvement with the group runs deep after nearly 30 years at the top. As he reaches retirement age, it is becoming important for him to take a step back from the day to day running and let others understand the businesses for the benefit of its future. One protégé who has taken on the electric motor side of the business met with me to give an overview of the organisation.



Thomas Götze, Plant Manager of PARTZSCH Elektromotoren with a new generator.

In his mid-thirties, Thomas Götze is an approachable, and enthusiastic individual with an enormous capability to understand the complex systems in play at PARTZSCH. Now in his 18th year at PARTZSCH, he started his apprenticeship back in 1999 when there were only 90 employees, they've since grown to a staggering 700.

During an intense time in many areas of the company as an apprentice, Thomas settled in the testing field for a while before taking a degree in Electrical Engineering at Dresden university. On completion he was offered the opportunity to become the head of process planning and technology.

3 years ago, he became Plant Manager for the Electric Motor side of the business. The role enables him to have a much wider view of the company and takes away the burden of day to day activities from Mr. Partzsch. The role focuses on managing employees, operations and bringing in new business.

These days, Thomas's involvement in the procurement of larger customers is a large part his of job, particularly because he has the experience within the company to make quick decisions and make the sales process go smoother. With many ties developed over the years within companies such as Siemens, ABB and GE, his value to the company is proven.

He enjoys the job, overseeing 350 people brings a lot of responsibility and he feels honoured to be in the position.



Coil insertion production line.

Recognising the need to keep his own skills up to scratch, is the reason why he chooses to professionally develop himself – outside of work he is now studying for an MBA.

The problems he faces running a company in Germany aren't dissimilar to that of the UK and internationally. As the young look for desk-based jobs, finding skilled hands-on workers for winding a large variety of motors is getting harder. Situated near Leipzig and Dresden provides the company with many high-skilled engineers, but not at a practical hands-on level. Soon, as the market adapts, and technology takes over, these

jobs will become scarcer. Perhaps in a few years, Thomas speculates, what was once seen as a low paid job, will become much higher paid to attract the right talent again.

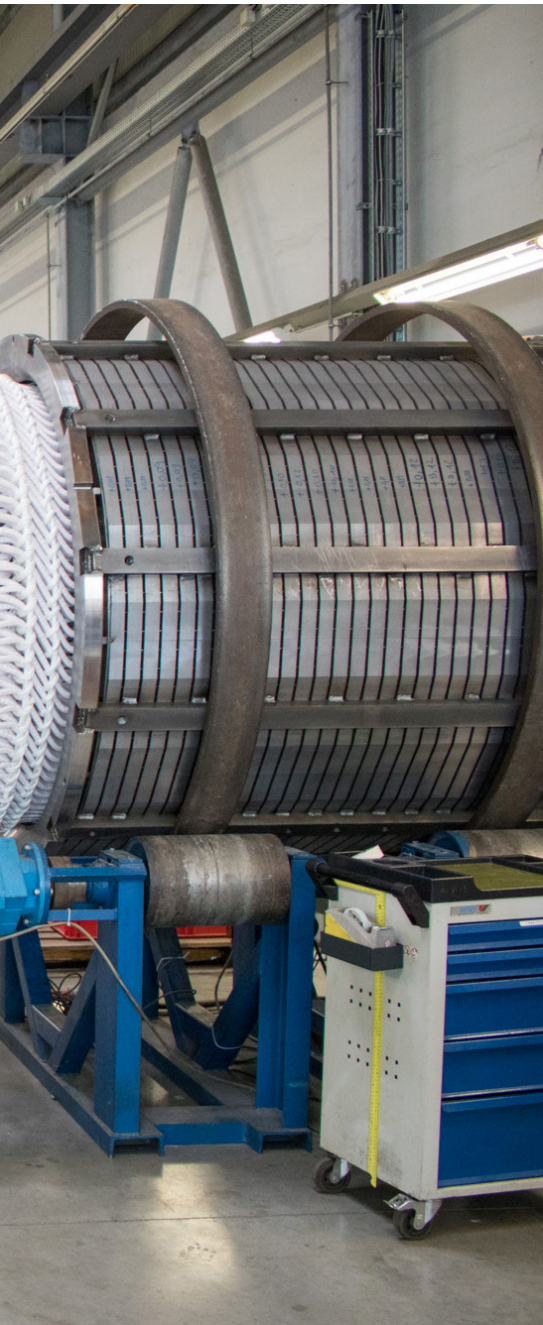
For the time being the company's strategy is based on marketing campaigns and visiting local school job fairs to attract young talent.

PARTZSCH Elektromotoren

Handling a huge variety of machines from 120kg to 160 tonne machines in the workshops means having a slick operation is critical. To get a competitive

edge, speed is of the essence and Thomas Partzsch's philosophy has been to instil a 'deep manufacturing process' in the company. With the capability to machine most aspects of AC/DC equipment from rotor/stator laminations to windings and coils, the most notable benefit has been having wire manufacturing in-house. Lead times are drastically reduced, with the goal to become the fastest repair shop in Europe, not far out of reach.

With plenty of space to spread, the company has been lucky to be able to build and expand with purpose-built units when necessary. While touring



For larger coils or larger series, a robot is employed to tape on the insulation.

To get a competitive edge, speed is of the essence and Thomas Partzsch's philosophy has been to instil a 'deep manufacturing process' in the company.



An employee tying off the ends of a small turbine generator.



High-speed balancing service for rotors up to 32 tonnes.

the facility, it was clear that keeping the various facets of the company separated was playing to PARTZSCH's advantage. All units are bright, roomy, immaculately clean, and constructed with plenty of space to make use of. While many companies have a 'dirty' area for burning off and cleaning equipment ready for repair – PARTZSCH enjoys a separate unit altogether. For a 'dirty' area, it is also immaculately clean.

Productivity is a key driver in the business. When it comes to repairing a variety of different machines, unlike manufacturing, it is difficult to setup a production line, however, what's key is the flexibility of the space. Workspaces

are ergonomically setup for the worker, with plenty of light and space to move around the equipment. The machines are placed on rotating drums, so the worker can easily rotate the machine to allow ease of access to the slots being worked on. Tools are organised in trolleys which can be positioned close to hand for each worker.

With 350 employees to manage, training has been critical. Every employee is familiar with every aspect of a machine's build. They work on a rotational system allowing them to have variety, but it also allows them to jump into another's role if there's a high demand in the department.

The bulk of the work comes from different areas; traction, wind energy, general industry, power plants and chemical industry. Customers from all over the world are regularly welcomed in the small town of Döbeln. For special bespoke machines, retrofitting, and reverse manufacturing projects PARTZSCH engineers are called onsite to take measurements and specifications for a replacement machine. Once armed with all the details, the calculation office will design a replacement machine, while considering where optimisation can be used to increase the equipment's efficiencies. Often, repairing the machine brings a certain amount of constructive retrospect, making it easier



Spot welding air gap spacers onto stator laminations is an automated process, and an option offered by PARTZSCH.



The free programmable machine control of the double head-laser cutting units allows the production of any desired contour for the electric machine.

to improve the original design. After a significant run time, it's easier to find the machine's weak spots. It's obvious (from 20 years of experience) that using new technologies, in terms of materials or design, which worked well in other machines, will improve this machines design.

Predictive maintenance

What about the future? As smart factories become more commonplace (especially in Germany), more customers are becoming aware of predictive maintenance. PARTZSCH are starting to ask themselves how exactly to approach the new technology.

There's no doubt the technology is a benefit to customers, but many are wary about how to use the technology wisely. Who own's the data, and how do you analyse the data without getting bogged down in the detail? Does the customer notify PARTZSCH about a warning sign, or should it be PARTZSCH notifying the customer?

In time, more know-how will be made available to the customer as well as to PARTZSCH. Intelligently predicting faults is becoming an increasingly important subject, so concepts are being developed within the Research and Development department as well as with various partners. These concepts should bring

great advantages to the customer as well as develop PARTZSCH's know-how. ■

For members looking for a high quality, and swift service providing complete machines, or their components contact Armin Füssel on info@partzsch.de or phone +49 (0) 3431 7166-100. For a detailed overview of all PARTZSCH's capabilities, their website serves as a comprehensive guide: <http://en.partzsch.de>



Rachel Doherty of GES Group and Mayor Paul Hamill.

GES Group have been accredited with All Star Electrical & Mechanical Engineering Company 2018-19!

Leading lights in Irish Business descended on Croke Park on Thursday 19th April for the Fourth Annual All-Ireland Business Summit powered by Audi, where a 1000 strong audience from all 32 counties were captivated by speakers who revealed their top business secrets, confessions, and the do's and don'ts that have helped them achieve success.

The Business All-Stars presentation was a key element of the summit - an annual competition designed to identify, recognise, and accredit Irish companies and individuals that have distinguished themselves in the conduct of their business over the last 12 months, and

we are proud to announce that GES Group was accredited with the All-Star Electrical & Mechanical Engineering Company title.

Speaking at the event, Kieran Ring, CEO of Global Institute of Logistics, and

Deputy Chairperson of the Adjudication Panel, said: "The decision to designate GES Group with All-Star Electrical & Mechanical Engineering Company 2018-19 is based on the score achieved in four rounds of intense competition. Their application, supported by references, interviews, and independent ratings from the "mystery shopper" process, left the adjudication panel in no doubt that GES Group is richly deserving of this accreditation. We would like to extend our sincere congratulations to all concerned, and we wish you every success for the future."

In response to the announcement, GES Group Managing Director, David Moore, said: "On behalf of the team at GES Group I would like to express our sincere thanks for being accredited as the All-Star Electrical & Mechanical Engineering Company 2018-19. Achieving All-Star accreditation is a great source of pride for us, and we look forward to continuing to meet and indeed exceed the standards set by the all-Ireland All-Star Programme. The All-Star accreditation process required us to put our company and brand story on paper, and gave us the opportunity to reflect on who we are, our growth strategy, and above all the value we create for our stakeholders. We would like to thank all involved in the programme for taking the time to listen to our story, and for understanding and accrediting our business."

The formal accreditation took place at the All-Ireland Business Summit. Speaking at the summit, Dr. Briga Hynes, Kemmy Business School, University of Limerick, and Chairperson of the Adjudication Panel, summed up the entire process by saying: "GES Group has demonstrated an ability to innovate, and have impressive growth plans, which no-doubt reflects the resilience and optimism that are hallmarks of Irish entrepreneurs. GES Group bring a real inspiration for what is possible in business in Ireland, and provide important role models for the many aspiring entrepreneurs and existing small firms."

GES Group are now included in the 2018-19 All-Stars Role of Honour, a list which is published annually to coincide with the All-Ireland Business Summit at Croke Park. ■



Master of Ceremonies and Dragon's Den star, Gavin Duffy, with Rachel Doherty, HSQE & Marketing Manager of GES Group.

GES Group – Ireland's Best Managed Company

GES Group has been named as one of Ireland's Best Managed Companies in the Deloitte Best Managed Companies Awards 2018.

Established in 1972, GES Group are a leading electrical and mechanical engineering company, serving customers throughout Ireland, the UK, and Europe. The company, which demonstrated superior business performance, was recognised at an awards gala symposium and dinner in Dublin on Thursday, 15th March 2018.

The Deloitte Best Managed Companies Awards programme is celebrating ten years of recognising management excellence, with 22 new companies joining a requalifying network of more than 100 businesses, built over a decade of the programme.

The awards, in association with Bank of Ireland, culminated with the Best Managed Companies Awards symposium and gala, which was attended by over

1,000 people from the Irish business community.

In total, 137 companies were recognised as Best Managed Companies, which have a combined turnover of over €12 billion, with 26 of the 32 counties across the island of Ireland represented by winning companies.

Commenting on the award, David Moore, Managing Director of GES Group said: "I can't state clearly enough how proud I am of our company's success in achieving the Deloitte Best Managed Company award for 2018. We have been focusing our strategy to achieve growth and company-wide development, which has been a major catalyst in developing our award-winning solutions. We pride ourselves on working with our employees to create valuable brand recognition, and

I believe this has driven ambition and success throughout our organisation. I am certain our ongoing success is down to best management practices, which creates successful people and successful outcomes in our core operation. My thanks to all of our team for their energy and ambition to gain this well-deserved award."

Speaking about the awards, Deloitte Partner, Glenn Roberts said: "2018 marks the 10th year of the Deloitte Best Managed Companies Awards programme, which has grown from 25 companies in year one to 137 in year ten. The programme represents companies from different industries with many industry-specific challenges, but also common characteristics such as adaptability, innovation, and ambition. Their stories are the stories of Irish business this past decade, and they are stories of resilience, recovery and confidence. It is pleasing to see continued strong representation from companies in Northern Ireland and we're also proud to recognise those who have been in the programme since it began in Ireland."

Andrew Graham, Director, Bank of Ireland Corporate Banking said: "The Best Managed programme puts the spotlight on well managed companies that are generating strong returns, as well as growing their businesses through investment in technology, a customer-centric approach, and commitment to developing leaders of the future. The process and frameworks used by these businesses continues to serve them well in adapting to and succeeding in the dynamic and ever evolving global markets in which they now compete. We have been really impressed by not only the breadth of businesses but also their ambition, drive and determination. I have no doubt that they will continue to set the benchmark for excellence in the years to come and we wish them continued success."

The Deloitte Best Managed Companies programme, in association with Bank of Ireland, promotes and recognises excellence in Irish/Northern Irish owned and managed companies. It is the only awards scheme on the island of Ireland that considers a business' performance from every perspective. ■



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Joe Turnick of AEV with his new works van.

Mobile lab can test varnishes and resins on site

Manufacturers of Resins, Varnishes, Compounds and Insulations; AEV Ltd has created a mobile laboratory so that it can take its test and analysis services to the customers' doors. It is an interesting story of adapting to changing market needs, improving customer services and using innovation to kick-start a whole new business opportunity, as Key Account and Distribution Manager Chris Birks and newly mobile Technical Support Engineer, Joe Turnick tell the Journal.

The emergence of the internet has led many, many companies to rethink the way they connect with customers and supply them with physical goods. As a result, there has probably been more change to business in the past ten years than in the previous 50.

A critical element for success in such an era of change is to constantly check and monitor every aspect of business to make sure that everything is progressing, and nothing is being left behind. Chris Birks says that while companies in the consumer sectors are in very different businesses to AEV they can provide

useful pointers as to what will be happening in the industrial arena in the near future.

“We manufacture our own Resins, Varnishes and Compounds which are used as insulating and encapsulating materials for the Electrical and Electronic industries. We buy in raw materials and specialist products from UK suppliers and increasingly from overseas manufacturers for our production process. In the last 10 years AEV have developed new products which now account for over 75% of our Group Sales. All our products while generally very

stable can, over extended periods of use and storage, degrade due to things like the slow evaporation of the solvents, or ill-advised work practises. This causes thickening, which can lead to changes to curing characteristics, impregnation and long-term performance levels. Similarly, the longer they are stored in the work place, the more likely they are to be contaminated with impurities, no matter how carefully they are managed.

In the past, like many manufacturers, we ran a direct sales force but then switched to a third party distribution route to market. On the face of it, this was



Samples can be brought back to HQ for cure tests.

successful and the contribution to the bottom line was self-evident. However, my colleagues and I were aware that the arrangement meant we lost the regular face-to-face contact with many of our customers and the opportunities this created for feedback and intelligence gathering on resin/varnish tank maintenance.”

At this time AEV started encouraging its customers to regularly mail in samples of the varnishes and resins they held in stock for analysis and testing. However it soon became evident that many customers were not sending in samples often enough – and a significantly large proportion were not sending them in at all.

Mohammed and the mountain

“We were becoming concerned about these issues and started to look for ways to address them, either individually or all together. One day when driving behind a supermarket’s home delivery van, I thought of it as a modern incarnation of the mountain going to Mohammed and began to wonder if this was a model we could adopt for our analysis services.”

Chris knew that no one in the UK was

offering a mobile testing service and, not wanting to rush headlong into things, AEV started doing some research into overseas companies. After a while AEV concluded that there were no such operations anywhere in Europe, America or the rest of the AEV Groups’ global market. “We checked amongst our 46 Global Distributors, and over 75 export customers and found that once again the AEV Group had come up with a first”

He then started working on the idea with his senior colleagues, wondering if it was possible to design and build a mobile laboratory that would work and, if so, how much would it cost? This led on to questions like: how many people would it need to man it effectively, how many visits could they do over a month, what would the limitations be and what were the benefits that were likely to accrue? Those were the in-house questions; just as important were the market questions: how many potential customers were there? Would they welcome such a service, or be overtly suspicious? Did they even have alternative ways to test their stocks?

Designing a mobile laboratory actually proved relatively easy. It pretty much had

to be based on a commercially available van. These come in a limited number of sizes so it was mainly a matter of seeing what equipment would be suitable to be fitted inside the chosen vehicle. The van will also be used by AEV Process Technology for the routine maintenance and management support of the UK’s Vacuum Pressure Impregnation (VPI) plants. But that’s another story!

Chris explains that, “fairly quickly we were able to identify what the mobile lab should have, namely an analysis station that incorporated scales, a viscosity flow cup, a specific gravity cup, a filter or other means of checking for contamination, plus other equipment to aid these analyses.

“We considered including a curing oven but decided against it because cure tests can take a long time (often several hours) and there were practical restrictions and safety concerns as well. Instead, we went for storage racks so that we could bring samples back to our main lab at our global HQ in Birkenhead.”

Given the sort of tests that the mobile laboratory was going to do, Chris estimated that to start with, each visit

would last for about an hour and a half. This suggested that, allowing for travel time, between three and six customers could be seen per day. This would be for three and a half to four days a week, with Fridays reserved for further testing in the Birkenhead laboratory.

Looking at AEV's extensive customer base and a second database of potential customers, it was realised that there was plenty of apparent demand. Thus it was decided to light the blue touch paper, commission the mobile unit, and start promoting the new service.

Manning up

The next step was likely to be critical for mission success. Could they find the right sort of person to run the service? They had to be technically competent, personable, have a bit of commercial savvy and, all told, be suitable as a roving ambassador for AEV.

"Fortunately, we had just such a person in mind," says Chris. "We had a young man, Joe Turnick, who was finishing his four year apprenticeship with us, during which he was always enthusiastic and hard working. As well as being a fully qualified lab technician, he has excellent people skills and a desire to get on in his career. It was great that we were able to offer him an exciting challenge."

"I joined AEV in 2013, soon after leaving school and settled in straightaway." Joe explains, "I had always liked the science subjects so was delighted to work in a lab and learn the rigours of scientific procedures and techniques for analysis.

"AEV is an international group of companies and very progressive in every respect, so job security and career prospects were great. I quickly realised that I had found a long-term home."

As his training progressed Joe became a trusted member of the Technical Team and he began to be sent out to visit customers, and to do presentations in schools on promoting modern apprentices. This allowed him to master key skills in communication and representing the company.

"Looking back, I now realise that these visits were an important part of my

professional development and that the management team were putting a lot of trust in me. I really enjoyed meeting new people and getting over ideas about our company's abilities and services, while also picking up feedback to take away with me."

Joe finds it hard to hide the excitement he felt when he was asked if he would like to set up and run the new mobile testing service. "This represented the company putting a huge amount of faith in me and also gave me the almost unbelievable opportunity to develop and build a whole new business segment for AEV."

Joe hit the road with his new, and unique, wheels in early June 2018 and has had a smile on his face ever since.

"Arriving at my first ever call was a bit daunting, but I knew I could do a capable job quickly and efficiently. So I concentrated on being polite and sharing a joke or two. Next thing I knew I was handing over the results and being rewarded with a cuppa before moving on. I was on Cloud 9 as I drove away and could not wait to get to my next call."

In the following weeks, Joe logged many such calls and began to see patterns emerge. Most first-time calls can be a bit fraught because the clients do not

know what to expect, but Joe's quiet confidence and obvious capability soon wins them over. In fact, the clients' parting words are usually to book another appointment for six or eight weeks' time.

"Monday to Thursday I am travelling the country and meeting clients. I also look forward to dropping in on firms that do not currently use AEV products, which we will also test free of charge. In doing their analyses, we hope they will either ask me to call back in future, or even place an order with us".

"Fridays back at headquarters are great too. I tend to spend the mornings working the lab ovens, doing gel tests and measuring cure times. Then I schedule a meeting with Chris and the sales and marketing team, telling them what I have learned, working out how we can better serve individual clients and how we can spread the word of our new mobile lab services to an ever-widening circle of customers."

Joe says that in many respects he is a normal young man who spends his weekends supporting Everton, playing a bit of five-a-side and fishing. "Where I differ from some people is that by Sunday evening I am all hyped up and planning another exciting week at work." ■



The van incorporates scales, viscosity flow cup, specific gravity cup, a filter for checking for contamination and more.

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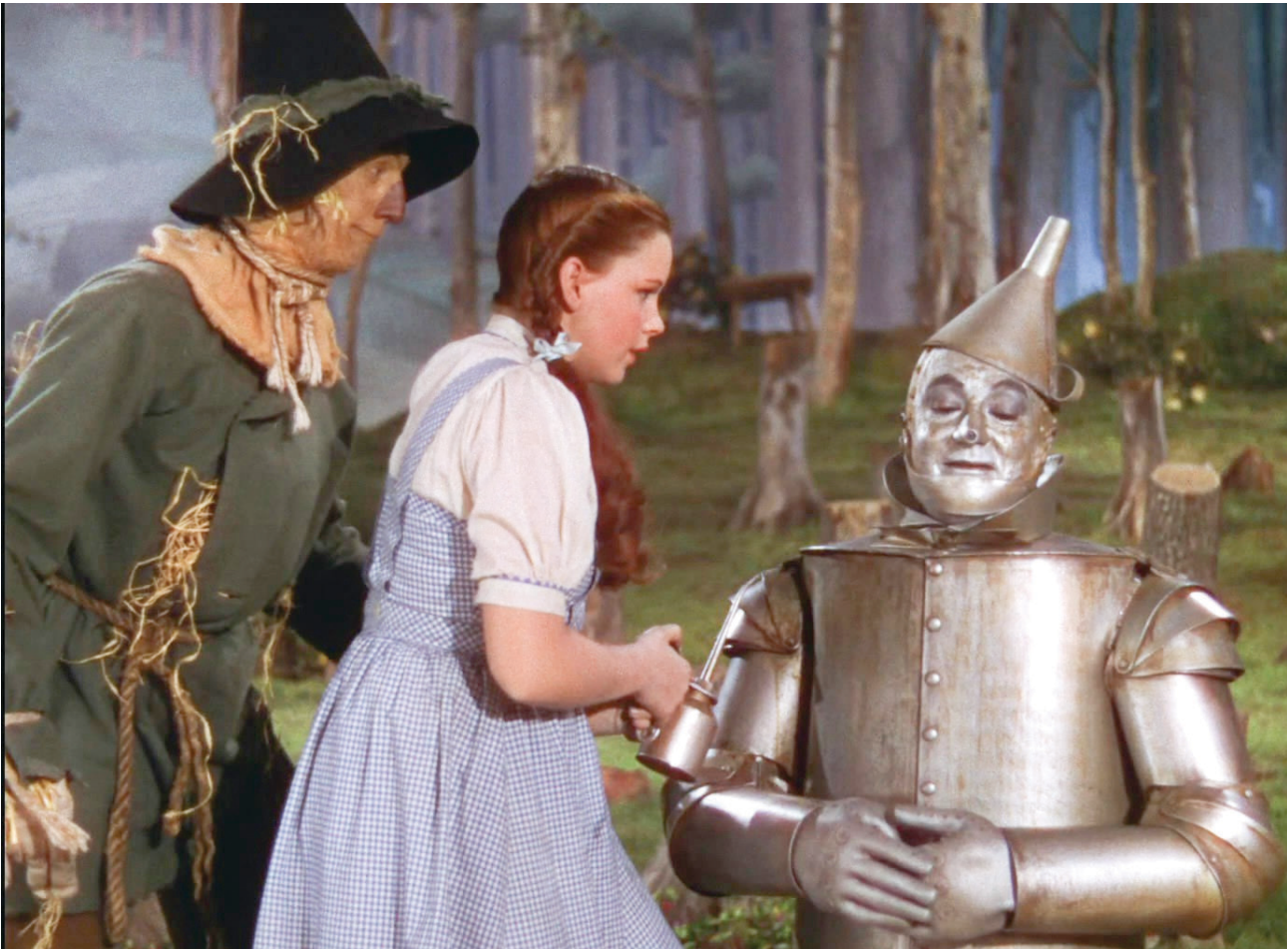
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Those unwanted build-ups in Engineering Lubricants

As the Wizard of Oz’s Tin Man would tell you, moving parts are lifeless without the revitalising flow of lubricants, engineering fluids and coolants running across their surfaces.

Oils and greases are an essential component for any machine, gearbox, transformer, or hydraulic system, and checking them not only ensures the strength of the machine, but the efficiency, safety and low running costs.

Poor or sporadic monitoring can lead to metal or water contamination weakening the effectiveness of the coolant or lubricant. In some cases, machinery failure can be catastrophic. In the automotive and rail sectors, engine wear or lubricant degradation can create

unnecessary risk to passenger safety. The industry, therefore, has been conducting chemical and physical analysis for over 40 years and the approach has been key to extending equipment life and safeguarding today’s modern rail infrastructure.

Mechanical Oil

Depending on the type of mechanical oil or grease, a complete test will look at both the lubricating physical properties of the oil and then any subsequent wear or contamination within the asset. Levels



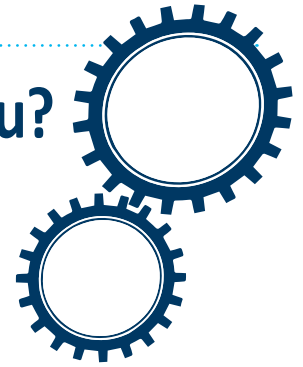
Oils condition monitoring and analysis

of silicon, iron, copper and zinc can indicate that there is wear on the bearing or gears, while viscosity, oxidation and acid levels suggest the oil is aged. Dirt ingress (grit or brake dust, for example) indicates the seals are no longer suitable, and will cause further deterioration of the equipment.

Electrical Oil

For electrical oils, frequent analysis can help determine how well the oil is performing as an insulator, and how well the transformer is operating. Fault

What can oil condition monitoring tell you?



Root Cause Detection



Predictive: Identifying a root cause or condition that can lead to failure. Cost Savings: £££££

Early Fault Detection



Proactive: Identifies an early stage fault that is otherwise going unnoticed. Cost Savings: £££

Failure Prognosis



Proactive: Determines the severity of the condition, the time remaining and any potential correction actions needed. Cost Savings: £

Post Mortem



Reactive: The cause of machine failure, could it have been avoided.

Problem Diagnosis



Proactive: Identifies location and root cause of failure. Cost Savings: ££

diagnosis is important in keeping the asset running, with oil analysis forming a large part of the diagnostics. Typically, the minimum tests for insulating oils are to test its physical properties and detect any dissolved gases within the substance.

To determine the physical properties of the oil, a number of tests can be performed:

High moisture content can be detected using the Karl Fisher titration method. If water is found to be present within the oil samples, it can have critical effects on the aging rate of lubrication oils as well as direct damage to machinery.

Acidity within oil occurs as and when it comes into contact with air. Following oxidation, increased acidity can cause a decrease in resistivity and causes a sludge to form. By using the titration method to monitor the substances colour, an indication of the acidity levels can be formed.

Electrical strength test kits can determine di-electric breakdown of the insulation properties, where a low di-electric strength indicates low conductivity.

The above tests are important indicators of oil age, physical condition and insulating properties, but they are not fully inclusive.

Gas build-up:

A build-up of dissolved gas within the oil can also cause transformers and electrical assets to break down. Testing the rate at which the gas builds-up and understanding the distribution of these gases provides crucial information on the type of electrical fault, as well as the severity of it. By investigating the concentrations and ratios of rogue gases, a dissolved gas analysis can spot the potential for high energy arcs and sparks.

Gases looked out for include: Methane (CH₄), Ethane (C₂H₆), Ethylene (C₂H₄), Acetylene (C₂H₂) and Propane (C₃H₈); as well as atmospheric gases: Oxygen (O), Hydrogen (H), Nitrogen (N), Helium (He), Carbon Monoxide (CO) and Carbon Dioxide (CO₂).

Summary:

In summary, if you've any sympathy with the Tin Man, then you'll remember that monitoring both the physical and gaseous properties of oil is essential in prolonging the life of the asset and its long-term care and use.

Detecting the 'unseen' issues in advance, can prevent damage and failure to electrical and mechanical equipment, thus reducing costly repairs and production downtime. Using sample collection kits, trends and patterns can

be identified through an online asset management portal. Done regularly, informed decisions can then be made to maintain the quality of the equipment's oil.

SOCOTEC's highly experienced team have a dedicated UKAS accredited lubricant and fluid analysis laboratory in Hexthorpe, South Yorkshire. They provide full scrutiny for your mechanical and electrical oils, fuels and greases.

SOCOTEC's condition monitoring services include:

- Chemical, physical and microbiological analysis of lubricants and fuel.
- For transformer oils, we check water content, electric strength, contaminants, and acidity.

We also provide:

- bespoke sample collection kits
- analysis of lubricants for wear
- additive and contaminant elements within engines
- gearbox and hydraulic oils
- expert interpretation of results and trend predictions

For more information about SOCOTEC's services or advice on condition monitoring and analysis, please visit www.socotec.co.uk or call 0845 603 2112. ■



The fish processing lines can be reconfigured for different products

Stainless drives take over at fish processing plant

Creating a reliable, efficient and robust processing line for a hygienic environment that can also operate at $-43\text{ }^{\circ}\text{C}$ ($-45\text{ }^{\circ}\text{F}$) is no simple task. However, having found a solution that met so many requirements, one major international fish supplier chose to upgrade its conveyor drives to stainless steel variants to improve the mechanical resilience of the system.

Processing fresh fish requires a hygienic environment, regular washdowns and very low temperatures for freezing the final products. Keeping the whole process moving, while still offering low costs of ownership, requires specialist equipment that can endure the environment whilst providing reliable and efficient service. The solution for one leading international fish supplier came from Bauer Gear Motor, which has supplied the latest stainless steel

gear motors for use throughout the company's facility in Urk, Netherlands.

Designs for hygienic applications

Van Der Lee Seafish processes approximately 200 tonnes of fresh fish every week and every last product is moved through the sorting, filleting, breasting, freezing and packaging processes by conveyors. The drives for these conveyors must be able to meet

the strict hygiene requirements of the food industry as well as offering a host of other features.

Willem Van der Lee, Technical Director at the company, explains: "The quality of our products is paramount, and that requires the fish to be processed quickly and efficiently. At any given time, we have seven processing and five packaging lines operating and each one uses a variety of motors and drives. All of this

equipment requires spare parts to be kept in stock to minimise any downtime in the event of a breakdown.”

In an effort to standardise the equipment on the production lines, the company was introduced to Bauer’s gear motor concept, which would allow a single product line to be used throughout the factory. The AsepticDrive from Bauer Gear Motor, which is part of Altra Industrial Motion Corporation, offered a hygienic design with smooth surfaces and no cooling fins, preventing the accumulation of bacteria.

Improved efficiency, lower costs

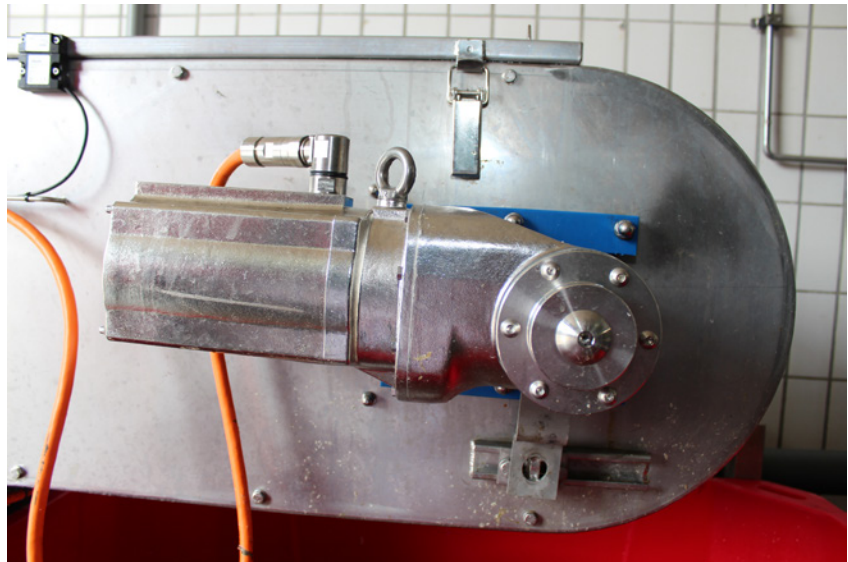
The introduction of the AsepticDrives greatly reduced the spare parts inventory, saving the company both time and money. The permanent magnet synchronous motors (PMSMs) offer excellent energy efficiency, especially under partial load. Furthermore, the synchronous design of the PMSM motor means that not only is it superior at converting electrical energy into mechanical power, but it also offers the added benefit of maintaining constant speed independent of the load. This means that motor speed does not vary, despite overload variations, or cases of voltage drop, as long as the mains frequency is kept constant.

Having installed the new gear motors several years ago, the company reviewed their performance and found that, on the whole, they had delivered beyond expectations. The only exception was the hygienic coating, which had suffered mechanical damage caused by other equipment thus jeopardising the hygienic design of the units.

This led to a discussion with engineers from Bauer who explained that since the AsepticDrive units had been installed, Bauer had created a stainless steel version of the HiflexDrive range. This offered considerably greater mechanical resilience as well as hygienic design and the ability to withstand a heavy washdown environment.

Versatility improves productivity

Willem Van der Lee explains: “This really is the ultimate solution for our



Variable speed drives ensure conveyor speeds are matched precisely

business. The AsepticDrive has delivered a number of savings in terms of spare parts inventory. The new HiflexDrive in stainless steel will be a direct replacement and still be able to operate reliably in our frozen storage areas, which are so important in maintaining the quality of our products.”

Bauer’s HiflexDrive is offered in a modular format that allows the ideal combination of gearbox, electric motor and external finish to be selected for every application. Motors rated up to IE5, according to IEC TS 60034-30-2, offer excellent energy efficiency and the addition of variable speed drives allow the conveyor speeds to be set exactly.

Including a PMSM in the drive arrangement offers several key benefits. It reduces heat losses from the rotor by 100%, total losses by approximately 25% and increases total efficiency by 10% or more. These savings represent a significant advantage, especially for stainless steel versions, which dissipate heat less efficiently than aluminium or cast iron.

The excellent flexibility of the HiflexDrive system makes it ideal for a wide range of tasks in the food and beverage industry. Choosing the stainless steel construction eliminates hygiene risks due to mechanical impacts or long operation in areas with intensive cleaning regimes. The design provides the best possible ingress protection, up to IP69K, which is a special designation for washdown



The AsepticDrive units reduced the spare parts inventory and offered excellent energy efficiency.

applications where high pressure high temperature water is used.

For Van der Lee Seafish, this flexibility means that conveyors can be moved from one process area to another and still operate reliably and efficiently. The implementation of the stainless steel HiflexDrive units will provide the level of mechanical resilience that is required in this application and ensure continued productivity. ■

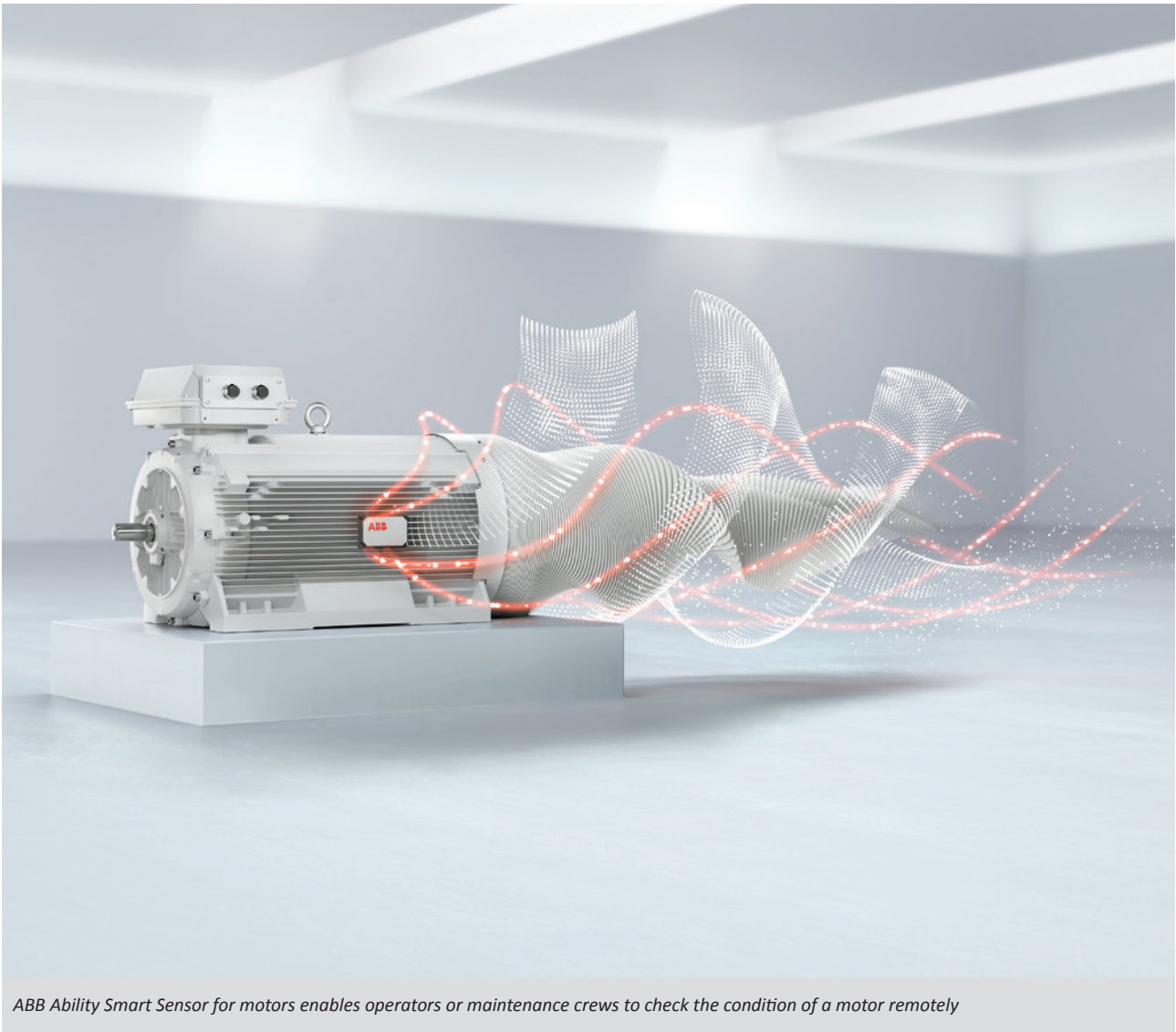


ABB Ability Smart Sensor for motors enables operators or maintenance crews to check the condition of a motor remotely

How smart sensors add value to the motor repair business

The low voltage (LV) motor is the workhorse of industry, driving conveyors, mixers, pumps and fans. Monitoring the condition of each LV motor is a complex and costly challenge. That all changes with ABB's smart sensor technology.

Now tracking the motor's health is as simple as opening a smartphone app. Studies show that a good proactive maintenance regime can lead to a 30 percent improvement in equipment lifetime compared to reactive maintenance. Yet some 90 percent of low voltage motors are maintained reactively, with failure usually detected by a change in noise level. This is because plant operators argue that the

cost of proactive maintenance is greater than the saving in longer equipment life.

Yet research also shows that if motors are proactively looked after, then downtime can be reduced by up to 70 percent. Now a new breed of low cost, smart sensors are starting to play a vital role in proactive maintenance.

Take the ABB Ability™ Smart Sensor for

motors. This device takes advantage of the Internet of Things and opens up new opportunities for machine builders and for end users operating large production facilities.

Attached directly to the motor frame, the sensor is unobtrusive, self-powered and does not require a wired connection to the motor. It can be fitted in under 30 minutes. An app is downloaded to



A proactive maintenance regime can reduce motor downtime by up to 70 percent

a smartphone or tablet and the motor nameplate data is entered including rpm, operating frequency and bearing type. In-built Bluetooth low-energy technology connects between the motors and the smartphone and data is transferred.

The smart sensor monitors the motor's performance and detects issues like bearing faults, air gap eccentricity, cooling problems and overloading. It can reveal issues that account for 70 percent of motor failures.

This is nothing short of a maintenance revolution. Instead of making time-consuming manual measurements and reports on each motor, engineers can now easily access each motor's health parameters at any time from smartphones, tablets or PCs. A quick glance at the screen provides a first level indication of the motor's condition. Red means critical; the findings need to be verified immediately and corrective

action taken. Yellow indicates the motor is okay for now, but will need maintenance during the next scheduled downtime. Green indicates all is well, no action required.

The smart sensor can even send alerts to smartphones if problems are detected. Maintenance engineers can use a desktop PC to quickly and easily access the motor's trend data held on a secure ABB portal for further insight into the motor's health and operational profile.

Reactive maintenance

From the moment a motor fails the cost of lost production and the damage to a company's reputation starts ticking away. There may be a spare motor on site, which needs to be located in the warehouse and transported to the application. Lifting gear may be needed to remove the damaged motor and lower in the replacement. All of which takes technicians to lift the motor, disconnect

it and wire it in place. This could take the best part of one day.

What if the motor failure caused damage to the load? Further repair work may be needed which takes additional time to rectify.

Proactive maintenance

Now imagine knowing that a motor is about to fail and being able to schedule the downtime. You can arrange for the lifting gear to be in place, book the maintenance team in advance and plan the closure of the application. With everything aligned, a typical low voltage motor could be up and running within a couple of hours.

Proactive maintenance can reduce the plant's own stock of spare motors and spare parts. While some process industries would not risk the external supply chain for its critical motors, the spare motor stock holding can be significantly reduced in many cases. For instance, the majority of low voltage motors are available from a manufacturer's stock, most with a next day or even same day delivery, from a local distributorship. Most production motors are available within four to eight weeks.

The ABB Ability Smart Sensor for motors is one such device making a profound impact on motor repairs. The smart sensor can, for example, provide an alert two months before any condition becomes critical. The operator can order new spares from the manufacturer instead of using spare parts stored on site.

Payback

Consider an application with a downtime cost of only £100 per hour. Reducing the downtime from 24 hours to just 2 hours gives a saving of £2,200. And that is for just one motor. For a plant with 100 motors, a rule of thumb indicates that motors need replacing between five to 10 times per year. The entire investment in the condition monitoring solution could pay for itself the first time a major incident is avoided.

Some applications in industries such as metals and oil and gas can lose tens of thousands of pounds per hour through downtime. It is cost effective, therefore, for these types of applications

Smart numbers:

300,000,000	the estimated number of electric motors operating in industry globally
120 years	since the first electric motors were introduced
100 large power plants	the output of which could be saved if all electric motors were equipped with smart sensors
70 percent	reduction in downtime of motors if equipped with smart sensors
65 percent	estimated energy consumed by motors in industry
30 percent	extension in motor life span if equipped with smart sensors
10 percent	cut in energy consumption if equipped with smart sensors

to implement predictive maintenance regimes. However, for some 95 percent of all low voltage motor applications it has been prohibitively expensive to monitor their daily performance. That is until now.

A reduction in inventory frees up net working capital, which the operator can put towards energy efficiency upgrades to help reduce the running cost of the plant.

ABB Ability Smart Sensor for motors can help to document that the motor or generator has been treated well. That is a concern for companies with warranty obligations, contracts with high demand on failure rates, or for companies that are leasing/letting plant to their customers.

Controlling energy costs across the installed base

With an installed base of low voltage motors, the potential to reduce energy is high. ABB conservatively estimates that at least 10 percent energy saving potential exists and that the return on investment is between one to three years, depending on electricity tariff and accounting policies.

The key is for the plant operator to know where to look. Among the most common ways to save energy are:

- Switching motors from fixed to variable speed – savings of typically 30 percent or more
- Replacing old motors with the latest EU MEPS motors – savings of typically two to five percent
- Replacing over-dimensioned motors running with low efficiency with those that are correctly sized – savings of typically 10 percent or more

Newer motors that are over-dimensioned can have a significant negative impact due to the efficiency characteristics of new designs. Older motors have a flatter efficiency curve, but tend to be engineered with more generous margins.

ABB Ability Smart Sensor for motors helps identify applications that are:

- better suited to speed control
- running at the wrong load point
- running with very high slip

The smart sensor enables the analysis of energy consumption patterns. This helps identify poorly-dimensioned motors to help plant engineers select the correct motor for the actual load. Analysis also helps users optimise processes to reduce energy use.

Reducing personnel costs

ABB Ability Smart Sensor for motors enables operators or maintenance crews to check on the condition of a motor remotely and determine if there is a need to despatch a technician. This facility has considerable cost-saving benefits.

With the hourly rate for a technician typically between £50 to £100, just a couple of avoided call outs could see the investment in the smart sensor payback easily within the first year of operation. For those sites with a large installed base of motors, or remote locations, such as a wastewater piping network, knowing the status of a motor in advance of sending a technician will also avoid incurring any transportation costs.

Furthermore, maintenance based on alerts from the smart sensor will lead to significant time savings compared to traditional schedule-based maintenance.

These savings will be further optimised if the smart sensor is used in conjunction with sophisticated maintenance planning software such as Oxando from SAP.

The time saved frees up the technician to engage in other proactive plant improvements, such as energy-saving measures.

For those businesses with a shortage of skilled personnel, the smart sensor allows operators to more effectively schedule the use of technicians versus the use of a lesser skilled apprentice. Predictive technology boosts productivity. While motor condition monitoring is not a new concept, the differences with this new smart sensor are its cost and simplicity. Compared to other solutions, the new ABB smart sensor is very economical, especially where hundreds of motors are installed.

Never before has so much accurate data been made available so easily from operating motors. The impact on business will be profound.

Identifying potential problems before they occur saves money in several ways. It helps prevent unplanned downtime and the associated costs of lost production. Remote conditioning monitoring enables more accurate maintenance during scheduled downtime, and the spare parts inventory can be tailored according to motor performance data and needs. It also changes the practice of installing a motor and letting it run until it fails, knowing precisely when a motor will need servicing. The capabilities provided by the sensor translate into a very short payback time. ■



Bucyrus Erie 1150B Walking Dragline Excavator

Preserved at the St. Aidan's former Opencast Site, Swillington, Leeds.

Our Dragline was made in America in 1948, and was named Clinchfield. She worked in America before coming to Britain with two other Draglines, in 1954, as part of the "Lease Lend Scheme" when America was helping Britain to get back on her feet after the

Second World War. She worked first in Wales, then moved to Cannock in 1964.

Her final move was to St. Aidan's in 1974, where she worked alongside another Dragline, a Rapier W2000 known as Big Bob. By this time, the 1150B had

acquired the name Oddball. This was due to her having General Electric workings, which did not seem to suit the British power supply, and caused her to make unusual sounds, described as "Oddball" by some people, and, over time, the name stuck. The other two Draglines had



Oddball's 150 cubic yard bucket.

Westinghouse workings, so did not have this problem.

On the 19th of March, 1988, there was a disastrous flood at the St. Aidan's site. One of the Draglines was at the top having some maintenance work done, and the other one had time to walk out of the mine before it was filled with water. Coal extraction recommenced in 1998 after a considerable amount of pumping out and remedial work. However, due to our Dragline being the older one, and having been standing for so long, she had deteriorated in condition, and it was not practical for

her to work again. Big Bob alone did the remainder of the work, and was then offered for sale as a working machine, but as no buyer was forthcoming, was cut up for the metal. This could well have been the fate of our Dragline, and by then she was the only example of a large Walking Dragline Excavator remaining in the country.

Many people at this time felt that she should be preserved as the last one, and worked hard to organise this. The late Richard John Budge, of RJB Mining, who owned the machine, said that he would donate her instead of having her cut up for the scrap value. Also involved were various Mining people, including the late Dr Ivor John Brown, and also the nearby Leeds City Council. Various firms became involved, including one who got power back in to the Dragline so that she could be walked to where she now stands. A notice on site lists all those who gave assistance. Two groups were set up. The St. Aidan's Trust, which is a branch of Leeds City Council, and who took over ownership of the Dragline, and the Friends of the Dragline, who are volunteers and who carry out general

maintenance on site and also hold four free Open Days for the public each year.

In addition to being preserved as an iconic piece of historic mining equipment, the Dragline is the National "Landmark" or Memorial, to the Sunshine Miners, as Opencast Miners became known. Opencast Mining was especially important after the Second World War, as coal was required in large quantities to help rebuild Britain, and also, Britain had lost so many men of working age on active service. Opencast Mining enabled fewer Miners to extract coal in the amounts required.

Our next Open Days are from 1pm to 4pm on Saturday & Sunday, the 15th & 16th of September, 2018. We hope that you will be able to visit us then, in the meantime, please have a look at our Website, www.walkingdragline.org or if you have any questions, please email me on contactus@walkingdragline.org and I will be pleased to help you. ■

Mary McNulty, Secretary, Friends of the Dragline.

Opencast Mining was especially important after the Second World War, as coal was required in large quantities to help rebuild Britain, and also, Britain had lost so many men of working age on active service.



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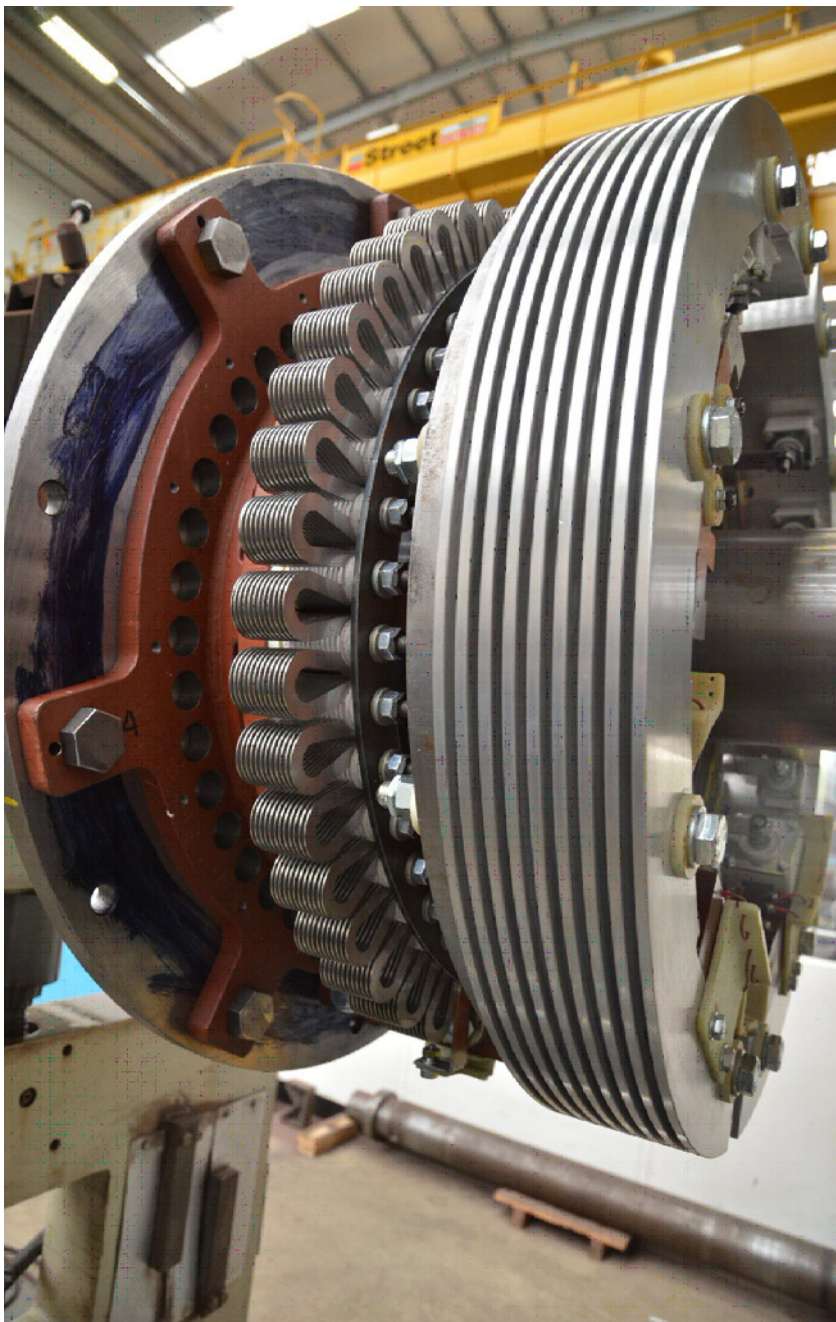
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Split Rosenberry hub set to revolutionise motor safety and longevity



Split Rosenberry synchronous motor starter hub mounted on shaft.

When a utility company based in Saudi Arabia experienced operational problems with the starting hub of a critical synchronous motor drive, the company initially approached the motor OEM for assistance. On learning the existing 35 year old hub was considered 'obsolete' they found no support was forthcoming. Seeking a viable alternative, Quartzelec, the independent engineering service provider, and globally recognised as an expert in rotating electrical machines, was approached to provide technical support.

Working through a third-party engineering sourcing specialist, Quartzelec responded to the request for a solution; but rather than simply looking to fabricate replacements for the hub components that had failed and 'nursing' others that were becoming increasingly unreliable, Quartzelec proposed developing and fitting an 'all-new' external starting hub – Quartzelec's Rosenberry Hub; a cost effective solution for synchronous motor starting and often used in machine life extension programmes.

Upon detailed on-site investigation it was discovered that the in-situ vertical motor had no suitable end of shaft location for a conventional Rosenberry Hub. Unwilling to admit defeat, Quartzelec rose to the challenge of designing and reengineering its original hub design, ultimately developing a totally new solution to fit around the shaft – creating the first ever Split Rosenberry Hub.

The stresses created when starting synchronous motors can cause serious equipment damage but for fixed speed synchronous motors that need to start asynchronously, extra switching devices are installed on the rotor to allow the induced field currents to flow safely without damaging components.

Designed for mid-shaft mounting where there is insufficient space for conventional solutions, the new state-of-the-art electronic Split Rosenberry Hub can either be installed on a new motor or retrofitted to existing machines where components have become obsolete or the existing design is troublesome. This protects and enhances the operation and lifecycle of a host of rotating machine assets. The



Split Rosenberry Hub 3D Drawing.

Rosenberry Hub range complements other Quartzelec branded and marketed products that include fault rated and certified terminal boxes, flexible condition monitoring services, electronic and pneumatic purge solutions; all available with ATEX and IECEx certification.

The replacement process

Within seven weeks of order placement, a full diagnostic check had been completed on the existing machine and a proposal for the new design approved. Over subsequent weeks Quartzelec engineered and tested the new hub before it was air freighted for installation in the utility company's plant.

The existing starting hub was removed along with all associated rotor-mounted controls, power cabling and resistor elements before being replaced with the new one. Each new Rosenberry Hub is supplied as a complete assembly for ease of installation; also dynamically balanced with a residual mass imbalance of less than two gram.metre. This ensures that the assembly has a neutral balance effect, but in-situ balancing can also be implemented during commissioning, if necessary.

"Our hub is designed with conservatively rated devices able to withstand high dv/dt with a high current (600Adc) rating;

and it does the job perfectly," stated Ian Martin, Design Manager, Specialist Products at Quartzelec. "Our design not only improves motor safety and longevity but by reducing oscillating torques, stresses on other motor components are minimised making for a more efficient machine. The design and development order for our client went without a hitch and took just five months from initial contact to final commissioning and again proves our expertise and ability to breathe a new lease of life back into an ageing motor."

About the Hub and its operation Based on Rosenberry Hub principles first developed in the 1990s, a typical hub weighs in at around 250Kg and at 400mm in length can be fitted on machines with a rotor diameter up to a maximum of 425mm. Suitable for rotating speeds of up to 1500rpm, it is designed to run for more than 1,000,000 hours, so should deliver almost faultless operation throughout the life of the machine. The hub is also exceptionally flexible, being conservatively rated at 600Adc and 750Vdc (1500V PIV) and is appropriate for use on the majority of OEM manufactured synchronous motors.

When starting the motor, the stator supply is energised with no excitation being applied to the exciter field. This means the stator current produces a

rotating field that induces an alternating voltage in the motor field which in turn forces the motor to accelerate until it reaches synchronous speed. Motor starting torque during run up is improved by a short term rated starting resistor within the rotor circuit which is switched out once the motor is synchronised to minimise losses.

Developed using devices with high dv/dt withstand, all components are easily accessed and have been specifically selected for rotating duties. Many of the standard silicon devices used are readily available to help minimise costs and provide supply chain security. The hub also features the minimum number of connections and wires to improve reliability. Full maintenance and support is also available from Quartzelec for any hub it delivers and full support for any machine can also be incorporated.

Success at Quartzelec

In 2017 Quartzelec celebrated 10-years of OEM independence and 100 years of heritage, building its reputation as a cost effective provider of electrical engineering services. Key to this was strong leadership, a dedicated and knowledgeable 600 plus workforce and a positive 'can do' approach that enabled the business to achieve a £63.4m turnover with continual global growth. Commenting on this Daniel Laval, Quartzelec's MD concluded: "The past 10 years has given us the opportunity to flourish and truly establish ourselves as the competent partner of choice for reliable, responsive and cost effective independent support solutions and we are now consolidating plans to grow the business further over the coming decade and beyond."

Quartzelec has the ability to design, manufacture, repair, refurbish and rewind large, project critical motors and generators with state-of-the-art production facilities along with an extensive library of design drawings and a full design department and has the ability to work on any OEM manufactured machine and/or equipment, including those built by its previous heritage companies such as GEC Machines, GEC Alsthom Large Machines, ALSTOM and Cegelec. ■

AEMT's 73rd AGM and Triumph Factory Tour



Sam Agnew
(AEMT Events and Membership)

In the presence of 40 members, the AGM looked back at the success of 2017. Gary Downes, current President of the association thanked all those present for attending, and for the work the council and secretariat had put into the year. The council is in a strong position these days with a full line up of officers in place for the first time in many years.

Thomas Marks, secretary of the association, continued by looking at how the AEMT Awards and work with a new PR company had boosted the association's online presence by a significant 54% during 2017, reflecting the increased awareness of the association. Not only that but the numbers of non-members starting to attend events in 2017 were much higher than previous years, indicating a much more open and outward looking association.

The members present at the AGM then endorsed the selection of officers and council members for 2018/2019. Gary Downes of Solutions in IT will continue for another term as President, David Hawley of ABB will become Vice President, Chris Powles of Sulzer will become Junior Vice President, and Shaun Sutton of Central Group will become the association's new Honorary Treasurer, replacing Matt Brown, who will continue to be the association's representative in South East Asia.

Graham Brooker also continues his position in office as Immediate Past President. Simon Brooks of Rotamec retired his position on council, and the President thanked him very much for his services to date. Continuing council members include; Len Jones, Parsons Peebles; Derry Sheehan, Avonmore Electrical; Tom Grant, GES Group; Matt Fletcher, Fletcher Moorland; Tom Beatson, Beatson's Fans and Motors; James Stevens, Preformed Windings; Simon Swallow, Rotary Engineering; Dennis Rawle, Exalto Bearings.

A Programme of apprenticeship talks followed on from the official AGM. Terri Lennon from the Manufacturers'



1. Alex Page from Mid Kent Electrical.
2. Chris Birks of AEV.
3. Richard Peach of Regal Beloit.

Organisation began by dispelling the confusion surrounding the new Apprenticeship Levy. The levy (essentially a tax) will be paid by all UK employers with an annual pay bill of over £3 million, 0.5% of your employee payroll and is collected monthly

via PAYE. The government will top it up by 10%. You can then use this money to train apprentices, which can be existing employees as long as they meet the

criteria and follow an apprenticeship standard.

Non levy payers can access funding and will only have to pay 10% of the apprenticeship training and assessment. There are currently two types of apprenticeships, frameworks and standards. Standards are seen to be more rigorous and higher quality, therefore attract higher funding.

Following on, Alex Page, Service Centre Manager at Mid Kent Engineering (MKE), gave an excellent insight into MKE's innovative approach to apprenticeships. The key to MKE success is their proactive approach to recruitment and bridging training gaps. MKE forge relationships with local schools, offering work experience, and as a result they are

able attract more talent enabling them to identify those with the skills and attributes required to be an excellent engineer, as well as those with the attitude to fit well into the company's culture. The standard training and resources at MKE are not always adequate to give the apprentices the full range of skills required, so MKE utilise their partnerships with fellow AEMT Members who will bridge any skills gaps.

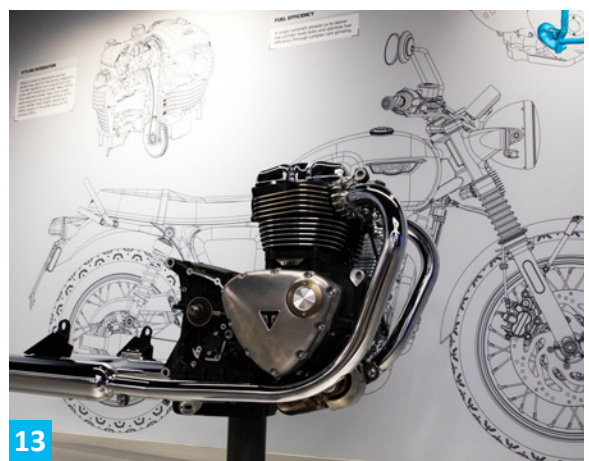
AEMT Technical Expert Dr Martin Killeen concluded the apprenticeship session with an insight into how the AEMT can help its members, identify training providers, find appropriate standards and signpost recruitment opportunities. If any members are looking for help with apprentices, do get in touch with Martin via the secretariat, who will be happy to

help members decipher the wood from the trees.

Following lunch members headed over to Triumph Motorcycles for a guided factory tour. Entering the factory, you are confronted with huge racking systems stuffed to the rafters with gleaming new motorcycles. The camaraderie and mutual respect among the employees struck a cord as we walked around the shop floor, as well as how tidy and ordered the shop floor was. It was also fascinating to hear about how the company adapted their manufacturing approach to meet various market demands such as sending their bikes in kit form to Brazil in order to pay less import duty on the bikes – maybe something for Harley Davidson to think about now after President Trump's trade war!?



4. David Donoghue of Drummotors and More.
5. Joe Turnick of AEV.
6. Simon Swallow of Rotary Engineering.
7. Dr. Martin Killeen of the AEMT speaks to members about apprenticeships.



- 8. Engine's going through production at the Triumph Factory Tour.
- 9. Graham Brooker from Wilson Electrics.
- 10. Richard Hale of Deritend speaks to Robert Shoebridge of W H Shoebridges.
- 11. Mark Robinson of WES speaks to David Hawley, ABB.
- 12. Sulzer's Lisa Neath and Kevin Smith.
- 13. Triumph engine design in the Vistor Experience Centre.
- 14. The EEF presenting apprenticeships to members after the AGM



Take the crisis out of an Emergency

AEMT members are highly skilled Electrical and Mechanical Engineers often prepared to work round the clock to collect, repair and return faulty equipment, and keep downtime to a minimum. Most supply, service, and rewind electric motors, and look at the most economical and energy efficient solution.

The majority also repair pumps with some operating in confined spaces to remove and refit centrifugal and submersible pumps. Many also service gear boxes. AEMT members try to prevent problems and are probably the largest network nationally and internationally of companies able to carry out thermography, vibration analysis, and laser alignment. Their mechanical ability to rebuild and refurbish items is legendary. Many AEMT companies are trained to repair and work in Hazardous Areas, and most offer the quality expected with ISO9001.

So when you require help quickly at 1 am in the morning, or 5 pm on a Sunday afternoon, help is at hand! Whether you are in the UK or in Miri in Borneo, just look up the AEMT Website for a list of companies that are able to help you.

Remember: www.theaemt.com



Image credit: Quartzelec

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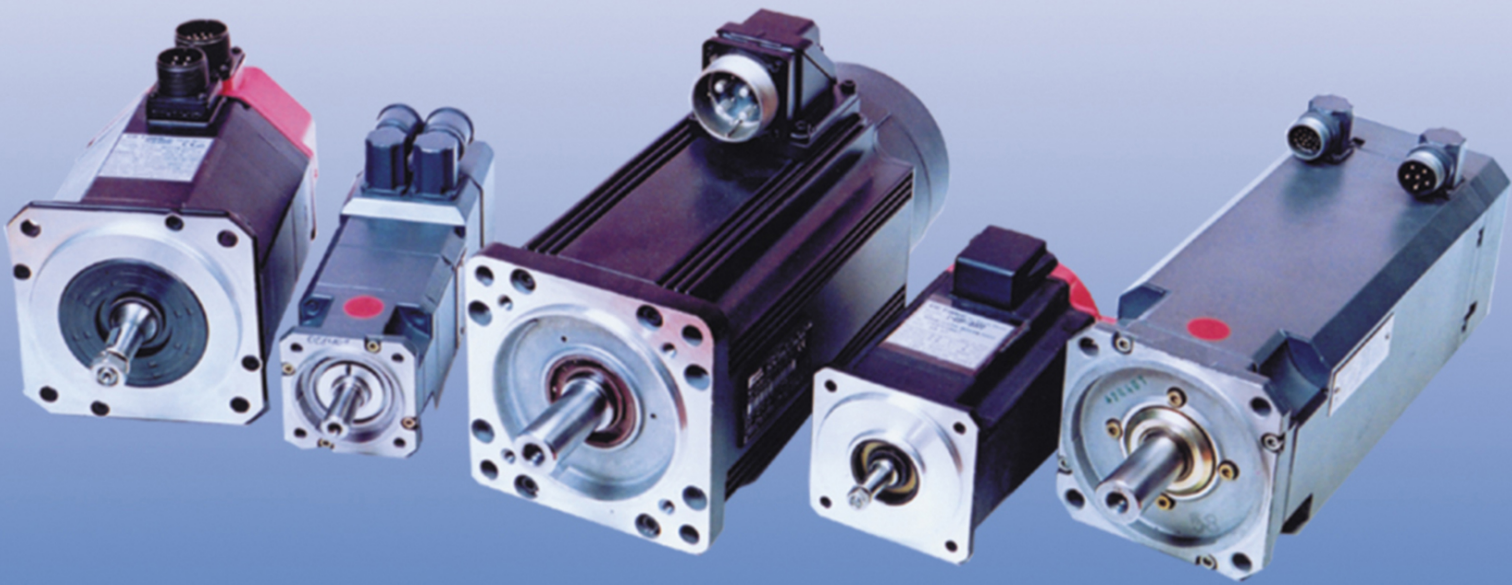


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