

# Harsh Environments

Industries face unique challenges in dangerous and hostile environments, requiring innovative solutions. ERIKS and our partners are dedicated to improving productivity, reliability, and safety in these aggressive settings. In this issue, discover how we support these industries, offering solutions to enhance performance and ensure operational excellence.

#### **ERIKS In Action**

#### Strategies for enhancing MRO efficiency

Pamela Bingham, CEO of ERIKS Industrial Services, explores MRO and reveals our top five strategies to boost efficiency and unlock the best solutions available. Page 18.

#### In Focus

#### To upgrade your motors, upgrade your experts

A leading pet food manufacturer needed a motor upgrade but recognised that expert guidance was essential. They chose the right supplier - ERIKS. Page 24.

#### **Debate**

#### Will the New Government Support UK Manufacturing?

With the recent election behind us, a crucial question looms: Will the new government back the manufacturing and engineering sectors, or will history be repeating itself? Page 42.

ERIKS



#### Discover SKF Axios

#### The first line of defense for your machinery

Do you want to make informed decisions and avoid problems before they arise? Count on the simple, wireless, and scalable end-to-end solution from SKF for anomaly detection.

#### Always on

Automated equipment monitoring trends your machine data, detects anomalies around the clock, and sends alerts when you need to take action.

#### Always with you

Whether on your phone, tablet, or PC, condition monitoring data and alerts are at your fingertips.

#### Always one step ahead

The more data collected, the smarter the machine learning becomes. SKF Axios constantly evolves to safeguard your equipment.

















What comes to mind when you think of an Aggressive Environment? Perhaps you envision a dusty quarry or a fiery ironworks - and you wouldn't be wrong. However, not every environment needs to be dirty or hostile for it to qualify. When we fall into stereotypes, it's easy to miss potential risks within certain environments. By using our vast industry knowledge, ERIKS takes an innovative, stereotype-free approach to problem-solving.

This edition kicks things off with ERIKS In Action where we explore the rich history between ERIKS and Weetabix. A recent contract renewal allowed for a moment of reflection and to plan new and innovative ways of working together. We also hear from Pamela Bingham, CEO, ERIKS Industrial Services as she discusses all things Maintenance, Repair and Operations (MRO) and shares our 'Five strategies to enhance MRO efficiency' helping you to unlock the most efficient solutions.

We then turn our attention to our In Focus section where we learn how a simple switch from general abrasives to a non-woven alternative can save time, reduce effort, and improve performance. Furthermore, we look at recycling - from heavy concrete to sharp glass, recyclable materials pose a real risk to operating equipment, particularly conveyor belts.

So find out if you are making the best choice to deliver performance, reduce running costs, and save time on maintenance requirements.

In Making Industry Work Better you can hear how the latest condition monitoring solution from SKF can work for your operations. The Axios system is an out of the box solution, identifying faults before failure and providing you with ultimate reassurance and support right at your fingertips.

Finally, our Debate piece looks at the latest general election and as a result, the question emerges. Will this new government provide the necessary support for the manufacturing and engineering sectors, or will history repeat itself - what are your thoughts?

We always enjoy our reader's feedback. So, if you would like to comment on the subjects covered, please join the discussion by emailing or tweeting us at @ERIKS\_UK.

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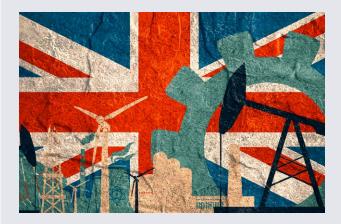
## Electric 'superhighway' gets approval

A multi-billion pound subsea cable project, connecting Scotland and England, has received approval from regulators.

The project, managed by SSEN Transmission, involves two cables running from Peterhead in Aberdeenshire to Drax in North Yorkshire. Designed to transport large amounts of renewable electricity, the cables will help balance the grid during periods of low wind or high demand.

Expected to cost £4.3 billion, the project is part of a broader effort to modernise the UK's energy network and reduce reliance on fossil fuels. The cables will carry enough electricity to power two million homes and are the first of four planned subsea links along the east coast, eventually capable of powering 7.5 million homes. The project is seen as crucial for improving energy security and reducing bills, with the first electricity transmission expected in 2029 after offshore cable laying begins in 2028.





#### Former Siemens boss appointed by Great British Energy

Juergen Maier, the former Chief Executive of Siemens UK, has been appointed Chair of Great British Energy, marking a significant step forward for the UK's clean energy ambitions. Maier will lead a new initiative in collaboration with The Crown Estate, announced by Prime Minister Keir Starmer and Energy Secretary Ed Miliband.

The partnership, supported by £8.3 billion in fresh funding, aims to boost Britain's energy independence. It focuses on accelerating offshore wind projects and investing in innovative technologies such as carbon capture and storage, hydrogen, wave and tidal energy. The Crown Estate estimates this partnership will lead to up to 30GW of new offshore wind capacity by 2030, enough to power almost 20 million homes.

This move is set to invigorate the manufacturing and engineering sectors, increasing demand for clean energy components, creating jobs, and driving necessary infrastructure upgrades. Overall, according to Labour, it promises to enhance economic stability, lower energy costs, and secure the UK's energy future.

# Government receives wish list from manufacturers

UK manufacturers are urging the new government to prioritise "stability" to support the industry, which employs 228,000 people and generates £18.7 billion annually in the East of England alone.

Andrea Wilson, director of Hone-All Precision Limited, emphasised the need for an industrial strategy that fosters long-term goals, rather than short-term reactions that have previously harmed the sector. She also called for a manufacturing champion within the government and a revamp of vocational training to address the ongoing skills crisis.

Meanwhile, Toby Garrett, who runs a plastics business in Dunstable, echoed the call for stability, particularly in relation to corporation tax, business rates, and energy prices, which are crucial for long-term investment planning.

The manufacturers also highlighted the importance of investing in production capacity, research and development, and workforce training to seize opportunities in sustainable products and renewable energy technology in the coming decade.



#### T-Levels hit new heights

Research from engineering charity Enginuity shows a change in public perception with more parents and students now viewing T-Levels as a credible alternative to A-Levels. This marks a substantial shift, suggesting a change in the prestige with which people view vocational qualifications.

The research indicates that this change is driven by increasing awareness of the practical skills and direct career pathways that T-Levels offer. This combined with industry's continued demand for skilled workers in sectors such as manufacturing and engineering is hugely bolstering the appeal of these qualifications.

As employers increasingly recognise T-Level graduates for their job readiness, and with government initiatives aimed at expanding vocational education and addressing skill shortages in key industries, the impact of T-Levels on the UK's skill landscape will likely continue to grow, reinforcing the importance of vocational education in the country's future.





#### Food processors ask OKS to let us spray

10 years since OKS developed the OKS 3710/3711 lubricant, for use at extreme temperatures in the food processing industry, the latest OKS product offers the same benefits in a spray formulation.

Many smaller plants use manual rather than automatic lubrication. For them, the new 3710/3711 product with a spray valve offers all the traditional advantages of the lubricant, now with safe and consistent manual application.

As a low-viscosity, fully synthetic oil, OKS 3710/3711 has excellent flow characteristics and does not solidify even at -60°C. It is tasteless, odourless, and resistant to ageing, cleaners, disinfectants and ammonia. Also – crucially for the food industry – it has NSF H1 certification, and is MOSH/MOAH-free. So there's no risk of food contamination from either of those substances.

Now the new spray version ensures even and continual manual spraying, even under extreme application conditions and at extremes of temperature.



# Less stress, more tension, with Fenner®

Are your wedge belts wearing too quickly? Is your belt drive less efficient than it should be? A selection of simple but effective tools from Fenner® will help you avoid the stress of high maintenance costs and improve your drive's performance.

An inefficient drive system – with inaccurate belt tension, misaligned pulleys, or worn pulleys – can reduce belt life expectancy



Worn pulleys can also reduce drive efficiency by up to 5%. But you can achieve optimum belt drive performance with the Fenner® Belt Efficiency Kit.

Use the Groove Gauge to quickly identify if a pulley is worn and needs replacing. Use the Belt Tension Indicator to help maintain your drive belts at optimum tension, free from slippage. And read-up on wedge belt efficiency with the simple guide included.

For even more effective maintenance, why not add the Fenner® Drive Alignment Laser to your toolkit? It produces a laser line that enables perfect pulley alignment, in seconds. And reduces your stress just as quickly.

www.fptgroup.com

# Amazon Filters a step ahead in reducing carbon footprint

Using sustainable polypropylene is a first in filter manufacturing. And as the pioneers in the process, Amazon Filters is helping to reduce CO<sub>2</sub> emissions by 1kg for every 30" meltblown filter they produce.

Amazon Filters' sustainable polypropylene products have an identical specification to previous products. So they have the same material safety documentation and the same product approvals. The only difference is: they help you to reduce your carbon footprint.

Sustainable polypropylene comes from feedstocks such as waste cooking oil, instead of from fossil-based sources. It doesn't affect the filtration quality of the finished product. It doesn't even lengthen delivery times. But it does mean less carbon released into the atmosphere.

Choose Amazon SupaGard, SupaSpun II, Visclear II or Contour, and you can be sure that 75% of their polypropylene content will be from sustainable sources. Which means you won't just be talking the talk about your carbon footprint. You'll be walking the walk.



# ECON's tough butterfly will fly off the shelves

ECON's most robust-ever butterfly valve design is now available from ERIKS. And for applications that need a Lloyd's Register- and Kiwa-approved valve for maritime and drinking water applications, it's sure to take off.

What makes the new ECON Butterfly Valve Series 46/57/58/60 – in double flange, wafer, lug and mono flange types – so tough? It's not just that the liner is bonded to the valve body. It's also that the bronze bearing bushings are bonded to the rubber. Plus the bond between the rubber and the ductile iron body is stronger than the rubber itself.

The liners are available in EPDM, NBR, FKM and EPDM-KIWA, and the duplex and aluminium-bronze discs are free from reinforcing ribs, so offer less flow resistance.

Series 46 and 58 in sizes DN100 and above are certified to EN 10204-3.2 from a Lloyd's- and DNV-approved foundry.

The result is a butterfly valve series suitable for high flow velocities greater than 3m/s, and for high vacuum applications. Series 46, 58 and 60 are also suitable for end-of-line applications for the full pressure rating.



# Vision of the future from Bolle



New eyewear PPE standards are on their way [see article: p.40]. New products to meet their requirements are already here.

ERIKS now stock the first products from Bolle designed and manufactured to comply with the new EN ISO Standard 16321 for eyewear protection. The new compliant BOLLE PPE is from the SWIFT range of affordable safety eyewear, combining comfort and durability with design excellence.

The BOLLE-SWIFTN10E clear safety glasses feature PLATINUM Lite anti-scratch and anti-fog coating, for crystal-clear vision in all situations. Alternatively, specifically for outdoor use, the BOLLE-SWIFTN20E safety glasses have a Smoke tint, with 13% visible light transmission. They also filter 99.99% of UVA and UVB rays.

Lastly, the BOLLE-SWIOTN10E safety overglasses with clear lenses allow 90% visible light transmission, making them ideal indoor wear for wearers of prescription glasses.

The new BOLLE SWIFT range products not only help you protect your employees, but also help you stay ahead of the new ISO Standard. And with over 30% recycled polycarbonate content, they help towards meeting your sustainability goals too.



Unsurprisingly during the global pandemic, the number of in-person visits to branches plummeted. These numbers have never recovered and have permanently moved to contact by phone, email, or Skype/Teams.

At the same time ERIKS was analysing its data in regard to what percentage of customer requests were serviced immediately from local stocks and how much product was being dispatched centrally.

Also, the business was looking at its environmental performance and aiming to reduce 'product miles' as well as inefficient practices such as unpacking and re-packing products for local distribution via ERIKS' own vans.

#### An impossible quessing game

ERIKS has a broad product range and within each range there's a myriad of options. Plus. it serves an enormous number of industry sectors, and they all use different types of products. So, when deciding what to keep in a local service centre it's an impossible quessing game.



#### Aiming to reduce 'product miles' as well as inefficient practices ??

The only point of reference available is 'What do I sell already?' and from its data ERIKS was able to see that this broke down into broadly two categories: a) The showstoppers and b) the stock replenishment items.



The showstoppers are generally kept by the customer and the stock replenishment items are non-urgent and available from the FCE for next day delivery.

#### Centralised and flexible distribution

In terms of meeting customers' needs, the advantages of a centralised distribution are well known. ERIKS' FCE has 50,000 items that can be dispatched within one hour and more than 250,000 products on next day delivery. This huge range provides excellent supply chain redundancy as like-for-like products can be dispatched quickly if the specified product isn't available.

Secondly, the turnover of products in a centralised facility is much faster, ensuring that stock is 'factory fresh'. Same-day delivery is possible with the basic standards being next day delivery before 9am, 10am or midday (as stipulated by the customer) with no fuss returns

The use of courier partners allows ERIKS to deliver to multiple businesses within the same time window as opposed to their former local approach which meant deliveries were met sequentially by their own vans. Using courier partners means that customers can also 'Track and Trace' their goods, so they know exactly when to expect them.

Centralised distribution is also more environmentally friendly with less vehicles running more efficient routes and using recyclable packaging. This is an important point for many businesses as they align themselves with net zero regulations.

Due to COVID we all became far more familiar with the digital purchasing experience as exemplified by Amazon. This approach has many positives in terms of convenience, but the one major negative is the detachment from people that this brings.

When it comes to purchasing spare parts people like to, when necessary, speak



#### World class logistics coupled with regular communication ??

directly and immediately to an expert there's a fine balance between individual consultancy and automated logistics that needs to be struck.

ERIKS service centre teams are no longer concerned with basic logistics so now have more time to communicate with their customers, ensuring that the service they are receiving, be that basic spares delivery, getting advice about like-for-like parts with shorter lead times or having their own ringfenced area at the FCE, is working for them.

We feel that this modern approach to customer service is what's needed world class logistics coupled with regular communication and consultancy all tailored to the individual customer.

Scan to read more or for our digital users click here



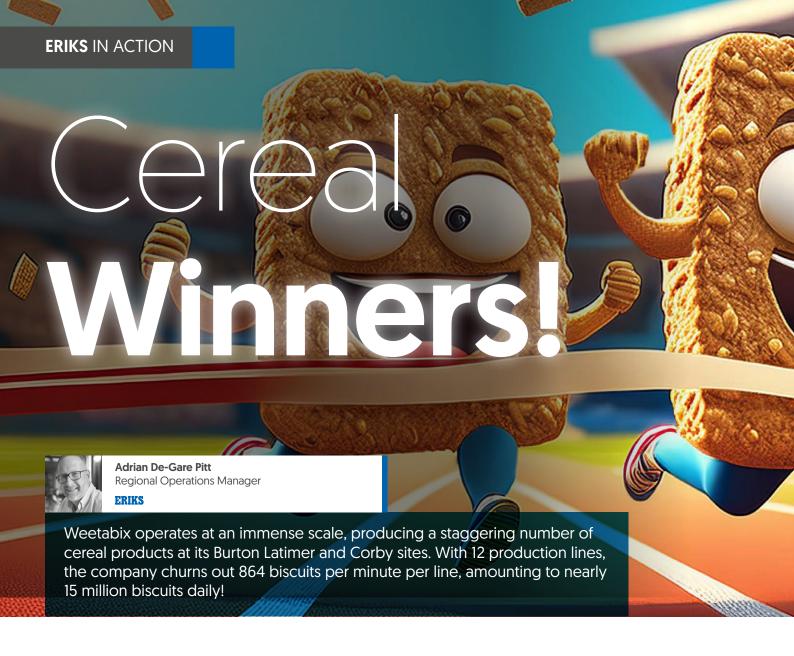














In addition to the classic Weetabix biscuit, the sites also manufacture other products like Alpen, Ready Brek, Weetos, and Alpen bars, as well as Weetabix 'on the go' drinks. To support this massive operation, the Weetabix engineering and maintenance team comprises 150 members, along with 40 contractors and 12 ERIKS OnSite staff, who handle purchasing and engineering product spend through dedicated Maintenance Repair and Operations (MRO) stores at both sites.

ERIKS has a long-standing relationship with Weetabix, having managed the MRO stores for over 20 years. Despite competitive tender processes, ERIKS has successfully secured the OnSite contract for Weetabix on nearly every occasion. When the most recent contract renewal, approached its end it prompted both parties to revisit their partnership and explore innovative ways to work together.



#### Shared goals and forward planning are essential

In preparation for the contract renewal, ERIKS and Weetabix took significant steps to align their business strategies. Adrian De-Gare Pitt, ERIKS' Regional Operations Manager, and Sava Mirkovic, Weetabix's Facilities Manager, collaborated closely to ensure ERIKS's services would meet the evolving needs of Weetabix. This alignment focused on shared goals and forward planning to effectively support Weetabix's production demands.

One of the key improvements ERIKS introduced was the identification of





'Priority 1' requests, which are crucial for preventing production line stoppages. This proactive approach involved direct communication with suppliers to expedite the delivery of essential parts, ensuring that Weetabix's operations ran smoothly. As Mirkovic noted, "Shared goals and forward planning are essential."





#### Safety and operational efficiency are critical

Safety has always been a top priority for Weetabix, and the partnership with ERIKS has seen a renewed focus on managing critical safety spares. Together, they have implemented visual controls to manage these essential safety components, enhancing both safety and operational efficiency.



The introduction of new Key Performance Indicators (KPIs) has also played a crucial role in improving transparency and efficiency. By closely monitoring monthly expenditures, Weetabix has successfully reduced costs with external suppliers, as engineers now rely more on ERIKS for their needs. This has resulted in more efficient operations, with a clear focus on critical needs. Mirkovic emphasized, "ERIKS is integral in moving our business forward."

Another key aspect of the renewed partnership is improved communication. This has fostered a more collaborative and



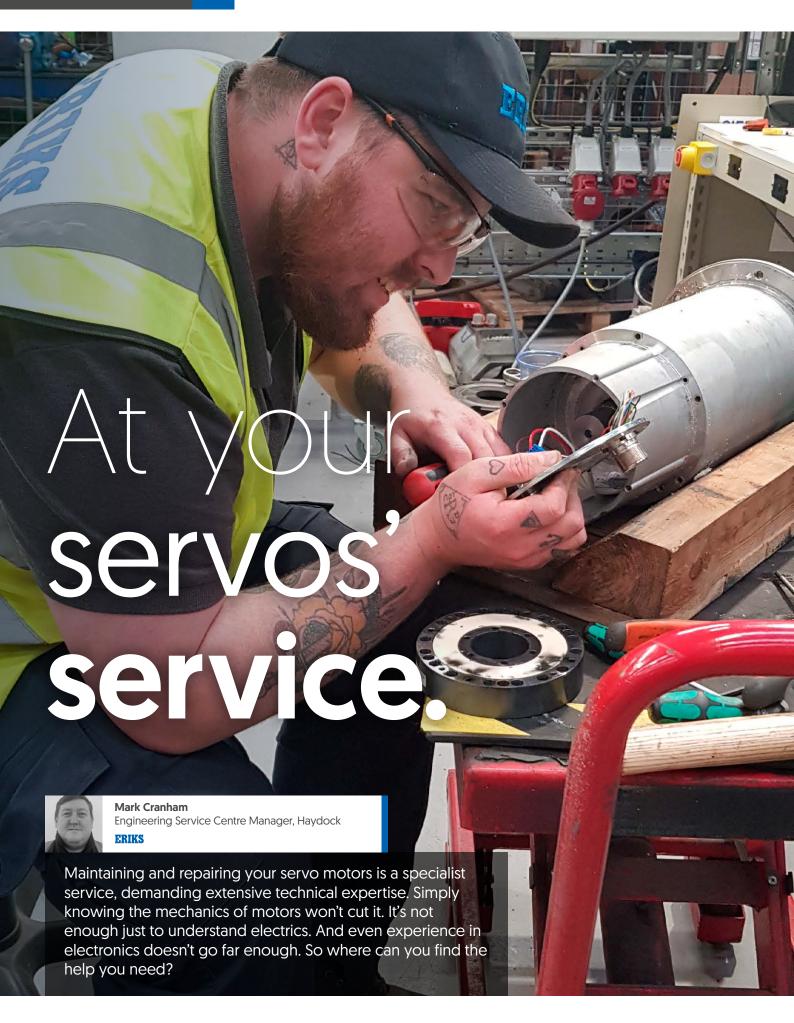
#### Weetabix has successfully reduced costs with external suppliers ??

proactive relationship, allowing ERIKS to better understand and address the needs of Weetabix's engineering teams. Additionally, Alison Blakey, ERIKS' Customer Operations Manager, now regularly attends Weetabix's engineering team meetings, providing tailored support that strengthens the partnership.

The renewed contract between ERIKS and Weetabix marks a new chapter in their long-standing relationship. Both parties are committed to continuous improvement and innovation, with a strong focus on achieving common goals and enhancing operational efficiency.

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#### Operates 24/7, with an anytime call-out option ??

For the very specialist task of taking care of servo motors, Resolver servo motors, spindle motors, encoders, Hall effect sensors and tachometers, you need a very specialist skill set. One that combines all three of the disciplines above. Plus specialist equipment. Plus a dedication to fast turnround, to get these essential assets back up-and-running quickly. All of which you can find, at your service for your servos, at ERIKS Haydock.

#### No room for error

One thing which makes servo motors so challenging to repair is the precise positioning and control of their applications.

A servo motor comprises a magnet rotor, a stator and a feedback device, with an electric signal controlling the precise amount of movement required. To maintain the motor's performance after repair or maintenance, it's essential that the feedback device is restored to its exact original position.

In fact, re-installing and correctly repositioning the feedback device element is as essential a part of the job as any initial repair.

Even so, there are striking differences when you compare an OEM's methods with ERIKS' approach.

#### Flexible as standard

Sometimes customers find it hard to believe many OEMs work to a standard timetable for repairs. ERIKS, by contrast, works to the customer's requirements. And the only thing that's standard is the comprehensive servo overhaul that's all part of the service.

Send a failed servo motor to an OEM, and it will be 10-14 days before you even receive

a repair quote. But send it to ERIKS, and the motor will be stripped, inspected and a comprehensive repair report delivered in 7 days at most – often sooner. In fact, in an emergency, the report can be produced in a day.

And flexibility extends to the solutions, too. ERIKS' renowned repair/replace impartiality means you'll always get the right advice for you: whether your servo motor needs a simple test, a complex repair, or a complete overhaul.



#### All part of the service \*\*\*

#### Working hard – because you do

One reason ERIKS' speed of service is so much faster is that, unlike an OEM, ERIKS's specialist servo repair centre operates 24/7, with an anytime call-out option to anywhere in the UK.

It's a service which has proved itself time and time again.

For example, when a manufacturer's popcorn-making machine failed on a Friday night, the OEM had gone home for the weekend. So ERIKS Haydock servo centre collected the failed servo motor, repaired and returned it, all by Saturday evening.

Another customer contacted their local ERIKS Technical Service Centre at Kings Lynn, with a report of a failed servo motor. The Service Centre arranged collection and delivery to ERIKS Haydock, while the customer installed their spare motor. When this also failed, it was delivered to Haydock by 10pm Thursday and was back at the customer's site, repaired and fully-functioning, by 6am Friday.

Meanwhile the first failed servo motor, originally presumed ready to scrap, was refurbished by ERIKS and returned to the customer as a spare.



#### When know-how really counts

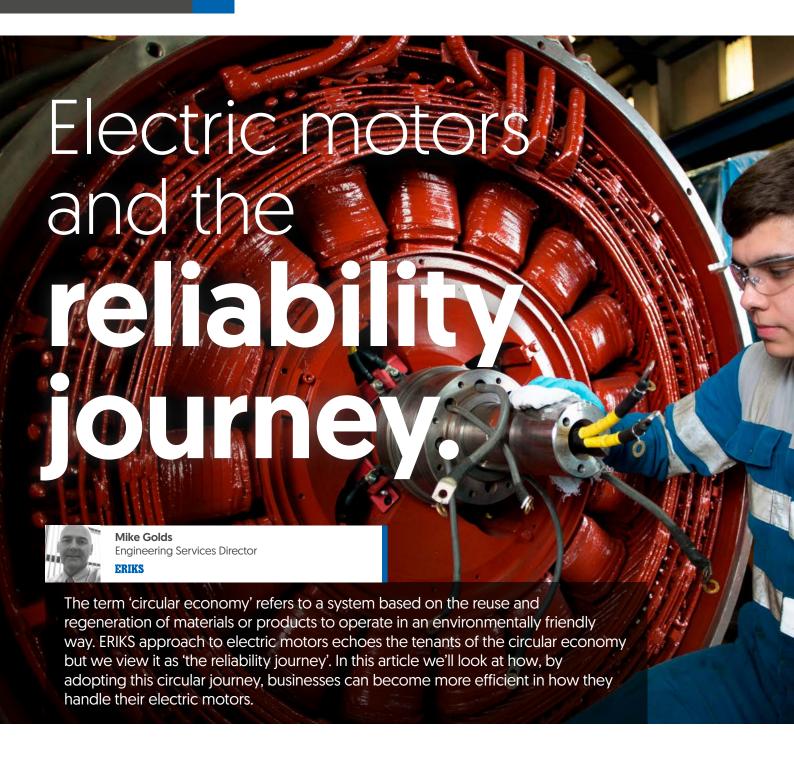
A major manufacturer ordered two servo motors from the OEM for a crane application - one for duty and one for spare.

When the first one failed on installation, they sent the spare to ERIKS Haydock, to test before swapping out the other. No fault was discovered, but when this spare was installed, is also failed to function.

This time, instead of the problem coming to ERIKS, ERIKS went to the problem: making an urgent visit to the customer. Using their servo motor know-how on-site, the ERIKS engineers quickly diagnosed the problem. The OEM had set the servo motor feedback to their factory standard, and not to the customer's highly-specific requirements.

Once the issue was identified, ERIKS' engineers had the new motor operating perfectly in less than two hours.

That's not just any servo service. That's ERIKS specialist servo service.



#### **Stage 1:** condition monitoring

The first step in the journey is condition monitoring. ERIKS' Reliability Platform everages sensors that collect data on vibration, temperature and other critical parameters in real time.

This data is automatically analysed using artificial intelligence and displayed on the ERIKS Smart Asset Management [SAM] platform. SAM trends the data, analysing current and historical condition and maintenance history and advises on the course of action.

#### Stage 2: assessment

The next step on the journey is the assessment phase. ERIKS Engineering Services has a growing team of more than 250 people and carries out over 7,000 individual motor repairs every year and can provide an independent assessment of a motor and advise whether to repair, replace or even upgrade it.

ERIKS has 13 motor repair locations around the UK and while all can handle AC and DC motors some of the sites do have their specialisms. The Chesterfield site is where the large motors (up to 11kV and 30 tonnes) are repaired and Haydock houses a specialist servo motor repair facility.

#### Stage 3: repair

Following the assessment and the motor's arrival at an ERIKS workshop, the next phase in the reliability journey is the repair itself. An advantage for customers is the consistency of repair that ERIKS delivers across its network. First, ERIKS can handle the entire motor repair in-house (whereas many competitors will need to outsource certain aspects).

This in-house approach means the quality of repair is easier to manage and lead times are reduced. Similarly, ERIKS is one of the few manufacturers in the UK of commutators and slip rings for DC motors and in fact most other motor repairers outsource this type of work to ERIKS.



#### **Stage 5:** continual improvement

For larger customers all aspects of the electric motor reliability journey can be handled through an ongoing framework agreement.

Aside from improved pricing, achieved through economies of scale, this framework approach also offers customers a reduction in the number of vendors that need to be engaged and the elimination of any warranty issues that 'multiple handling' can create.

More importantly a Service Level Agreement (SLA) can ensure that the customer has the support they need, which may include 24/7 emergency response.

#### **Stage 6:** the completed journey

And so, we arrive back at where we started our reliability journey. From the benefits of the various points of the journey, at a minimum, we will be in a place where the motor is repaired and returned in 'as new' condition and if you engage with ERIKS as a partner we can optimise the performance and availability of your system.

There is no one size fits all solution but to start your journey towards reliability please contact ERIKS.

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#### Stage 4: testing

Testing is a crucial part of the reliability journey and ERIKS tests every repair at predefined stages in the process. In many instances, for bigger units, customers can witness the testing as part of their quality procedures.

As well as dynamic balancing, the testing that ERIKS can offer includes partial discharge; Tan delta; insulation resistance; polarisation index; surge testing and IMCA broken rotor bar detection.









The disruptions we've all faced in recent years whether stemming from Brexit, the pandemic, or geopolitical tensions have fundamentally altered the way we approach supply chain

management. It's increasingly evident that traditional methods are no longer sufficient. The demand for resilient, responsive MRO practices is more critical than ever.

#### Availability of parts crucial for continuity

One of the strategies we highlight is the prioritisation of critical components. In an environment where resources are often stretched, particularly in facilities with limited personnel, ensuring the availability of essential parts is crucial for maintaining operational continuity.

This approach not only reduces downtime but also aligns with broader business objectives, such as enhancing productivity and controlling costs.



#### Responsive MRO practices ??

Data integration and accurate inventory management are other areas where we see substantial potential for improvement. Leading companies are increasingly leveraging data analytics to predict parts failures and optimise their operations.

By adopting these practices, businesses can shift from a reactive to a proactive maintenance strategy, ultimately benefiting the bottom line.

#### Managing obsolescence must evolve

As industries evolve, so too must our approach to managing obsolescence. The rapid pace of technological advancement means that components and systems can quickly become outdated.

Proactive obsolescence management is essential to ensure that businesses are not caught off guard, thereby maintaining the efficiency and longevity of their operations.



#### Prioritisation of critical components ??

Reflecting on these strategies, I encourage industry leaders to consider how these principles can be integrated into their own operations.

Are your MRO practices aligned with the current and future needs of your business? How can you better leverage data and supplier partnerships to drive greater efficiency and resilience?

Let's continue to push the boundaries of what's possible in MRO, ensuring that our operations are not only efficient but also resilient enough to withstand future challenges.

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#### **Generations of professional engineers** have placed their trust in Fenner® **Power Transmission Products.**

This range has set the standard in innovation and performance to form the very foundation of their transmission drives.



















#### An aggressive environment and a new set of risks ??

Health and safety risks are inevitable in industry. As new industries, technologies and manufacturing techniques arise, so do brand-new risks. The manufacture of lithiumion batteries for EVs creates a particularly challenging combination of an aggressive environment and a new set of risks.

Ansell have pioneered hand and body protection solutions for decades, so are naturally at the forefront in offering effective solutions to keep employees safe in this changing manufacturing landscape.

#### Step-by-step protection

The production of lithium-ion batteries can be broadly broken down into five steps:

- 1. Electrode manufacturing
- 2. Cell assembly
- 3. Cell finishing
- 4. Battery module assembly
- 5. Packaging and transportation

At each stage, different hazards require different categories of protection. For example, there's painful and potentially debilitating hand fatigue when handling materials and tools for placing cells. Or potentially fatal electric shock, when working with high-voltage components and wiring.

So at various stages of production, workers will require protection from abrasion, cuts and chemicals. ATEX, thermal and welding protection will also be needed at certain times. And protection can work both ways. So during cell assembly, battery module assembly and cell finishing - conducted in cleanroom environments - employees need PPE to protect the product itself from contamination.

But even in this relatively new industry, some stages haven't changed. Unloading and unpacking raw materials, and loading and



#### Keep employees safe in this changing manufacturing landscape "

transporting finished products, means - as always -risk of crush and pinch injuries and other material handling-related harms. These also need to be prepared for and protected

#### **Protection at your fingertips**

One type of protection won't resolve all risks involved in lithium-ion battery production. Which is why Ansell produces a range of protective gloves and body protection equipment.

With Ansell's expert guidance you can choose the right equipment for the particular challenges of every manufacturing stage, and give your employees the best possible protection at all times.

#### Chemical hand protection

Protect against exposure to chemicals during loading, mixing and coating, for example, with a selection of AlphaTec® gloves for use during electrode manufacturing and battery module assembly.

#### Cut protection

Cuts and lacerations are an issue when, for example, changing blades during electrode manufacturing. The HyFlex® 11-754/755/757 provides the hand protection needed, including for battery module assembly and battery packing and transportation.

#### Abrasion protection

Protection from abrasion is often necessary during battery module assembly, battery

packing and transportation. The HyFlex® 11-561 provides up to 20% more abrasion resistance with improved FORTIX™ Technology.

#### Touchscreen / ESD protection

The HyFlex®11-819 ESD is EN 16350:2014 certified to protect products from electrostatic discharge - essential during battery module assembly. It is also touchscreen compatible.

#### Single-use protection

Various 'one-off' hazards arise during the manufacturing process, requiring a singleuse disposable glove for quick and easy donning and disposal. Ansell offers a choice of TouchNTuff® gloves – for chemical splash protection or clean room environments, for example - and MICROFLEX® glove options, to meet all needs.

#### Electrical protection

Essential during electrode manufacturing, cell assembly and battery module assembly, effective electrical protection is offered by the ActivArmr® Rubber Insulated Gloves portfolio.



#### One type of protection won't fit all risks involved ??

#### Chemical body protection

At some point in all the lithium-ion battery production processes, full-body chemical protection will be required - and Ansell currently offers four different PPE outfits in the AlphaTec® range. In addition, the BioClean™ 2000 Model 111 will soon be added to the

If you want to power-up the PPE for your own lithium-ion battery production line, talk to your usual ERIKS contact about Ansell solutions.

#### Tailored safety assessments

AnsellGUARDIAN® is a tailored service designed to help you create a safer, more productive and less injury-prone working environment.

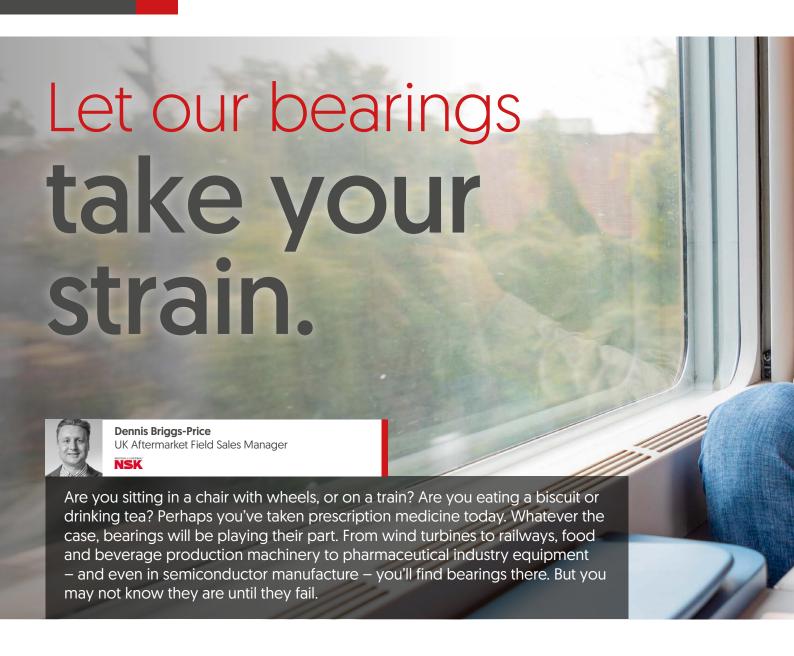
Ansell safety experts, supported by datadriven methodology, will provide:

- a personalised risk management solution
- business performance improvement advice
- PE dispensing best practice recommendations – for increased productivity and less waste.

To help you select the most effective chemical PPE solutions for your particular needs, AnsellGUARDIAN® Chemical provides a suite of digital tools.

Contact your local ERIKS Service Centre - click here





When bearings malfunction, an entire operation can grind to a halt. Meaning long, costly delays and (if it's your production line or manufacturing operation), stress you can do without.

And when life's even tougher for bearings in some environments, you need bearings that are tougher too.

#### Dig, build, blast

Mines, quarries and building sites could have been created just to put equipment to the test.

The work itself puts a physical strain on the mechanical assets involved. And the whole operating environment is as unhealthy as you can imagine for the equipment. Dirt, dust and countless other forms of contamination find their way to everywhere they're not wanted.

Even worse, if bearings fail here, then the remote location of many quarries and mines means real problems getting hold of parts, so downtime clocks up alarmingly.



#### Bearings that are tougher too "

The steelmaking sector is another harsh environment, where bearings have a vital role with no concessions to make their working life easier. Day in, day out, they face particle contamination, the presence of water, heavy loads, shock loads, strong vibrations, rapid acceleration and deceleration, and extreme temperatures.

Fortunately, wherever you find exceptionally challenging operating conditions, you'll find NSK have the experience – and the products - to match.

#### Bearings and the bottom line

Just as a failed bearing can lead to unwanted costs, the ideal bearing can lead to unexpected savings. That's something NSK have proved many times to customers worldwide.

A Central American quarry took NSK's advice to choose vibratory specification (VS) Series spherical roller bearings. Made from HTF Steel and designed for the harshest of environments, they saved the customer over £41,000.

A quarry in the United Arab Emirates now saves an incredible £1,637,169 every year in repair costs, thanks to two NSK suggestions. One: a modification to the shaft and housing on a jaw crusher. And two: training for the maintenance team on the correct installation of NSK bearings.

Even some of the smallest and simplest products can lead to significant savings.

That's what a market-leading manufacturer of construction industry insulation products discovered. In spite of their investment in a new automated line, production was erratic due to repeated failures of the bearings on the band saw's blade guide rollers.









#### The experience and the products to match' ??

Sometimes the bearings lasted just three hours, and bearing changes were being made on a daily basis. The result, of course, was huge amounts of downtime, greatly increased maintenance, and major production shortfalls.

#### Simply staggering savings

After a thorough investigation, NSK experts identified contamination as the root cause, as it made its way into the inner workings of the bearings. The NSK solution was as simple as it was effective.

A trial installation convinced the customer to replace their current failing bearings with NSK Deep Groove Ball Bearings (DGBBs) with DDU seals.

These could provide longer bearing life, reduced maintenance costs, less unexpected downtime and no more lost production.

NSK DGBBs are designed with not only a face-riding contact seal – providing maximum protection against any contaminant – but also a patented triple lip mechanism. This forms a complex labyrinth to protect against the ingress of dust and water. Other features include constant friction torque, good grease retention, and a grease return feature on the inside surface of the seal.



#### As simple as it was effective \*\*\*

Once the customer switched to the NSK product, the results were staggering.

Firstly, rather than swapping-out bearings on a daily basis as they had previously, the customer is able to rely on the DGBBs for three to four months at a time.

So this simple change alone has resulted in major savings

Instead of spending almost £14,000 a year on new bearings, with NSK DGBBs they spend just £878.00. Engineering costs, which had racked up due to daily bearing changes, are reduced by around £20,000. And lost production time is recouped to the tune of £503,500. All in all, the customer is saving more than £538,500 per annum.

That's just one of many examples proving that, with NSK, the harsher the environment, the sweeter the savings.

Scan to read more or for our digital users click here





A major pet food manufacturer carries out continual process evaluations and efficiency, emissions and productivity assessments. That's what helped them recently to identify the need for an upgrade of their motors. However, their engineers realised that to achieve the best solution, they would need expert advice and support. So before they looked at motors, they looked at suppliers.



#### Room for improvement in energy consumption ??

In the first instance, the customer contacted WEG and a competitive motor OEM. As ERIKS' motors partner, when WEG got the call they contacted ERIKS to arrange a joint site visit. After all, why offer a customer only energy-saving motors technology expertise, when you can combine it with unparalleled application know-how?

#### **Room for improvement**

The customer's engineers had recognised that the 250kW IE2 motors powering one particular application were a weak point in their energy-efficiency efforts. As IE2 is the second-lowest energy efficiency rating for electric motors, replacing IE2-rated motors with more energy-efficient options gives plenty of room for improvement in energy consumption and emissions reductions.

There are five of the motors on the site, all used to power an essential part of the manufacturing process. The customer decided initially to replace just one as a test case.

However a handful of additional challenges and requirements meant the solution wouldn't necessarily be as simple as just swapping out one motor for another. A little more thought was needed.

#### **Cost-saving drive**

The first challenge was the customer's existing standardisation of drives throughout the site. This meant there was little to be gained - and a great deal to be lost -



#### WEG technology and ERIKS know-how ??

by choosing a motor which required a different drive. So any new motor proposed had to be fully compatible with the existing drive.

The competitive tenderer for the new motor proposed a model which would have required a change of drive. This would have created extra unnecessary complications for the installation, as well as increasing installation costs and - potentially maintenance costs too.

The ERIKS and WEG solution, on the other hand, integrated seamlessly: saving installation time, reducing disruption and costs, and maintaining the customer's sitewide standardisation.



In addition to integrating with the existing drive, the customer wanted the new motor to retain the 250kW rating of the old one. This would enable it to fit the same frame size and footprint. Again, the aim was to minimise extra work, costs and disruption.

ERIKS and WEG proposed two alternative motors, and ultimately the customer opted for the WEG 260kW IE5 permanent magnet 6-pole motor, operating at 75Hz. This not only met the customer's criteria, but with its permanent magnet technology also has the added benefit of not having the need to replace the existing drive configuration.

The asset's operating environment places additional demands on the motor, which WEG technology and ERIKS know-how helped to resolve.



The potential for heat transference from the asset to the motor raises the possibility of lubricant failure. WEG's solution was to fill the motor bearings with high-temperature grease. And the frequent high-pressure cleaning which takes place around the asset, using aggressive chemicals, meant that the motor casing had to be treated with a specially resistant and hard-wearing paint finish.



#### The power of two

By upgrading to a more energy-efficient motor, the customer had been targeting a 5% energy-saving with a 5-year payback period.

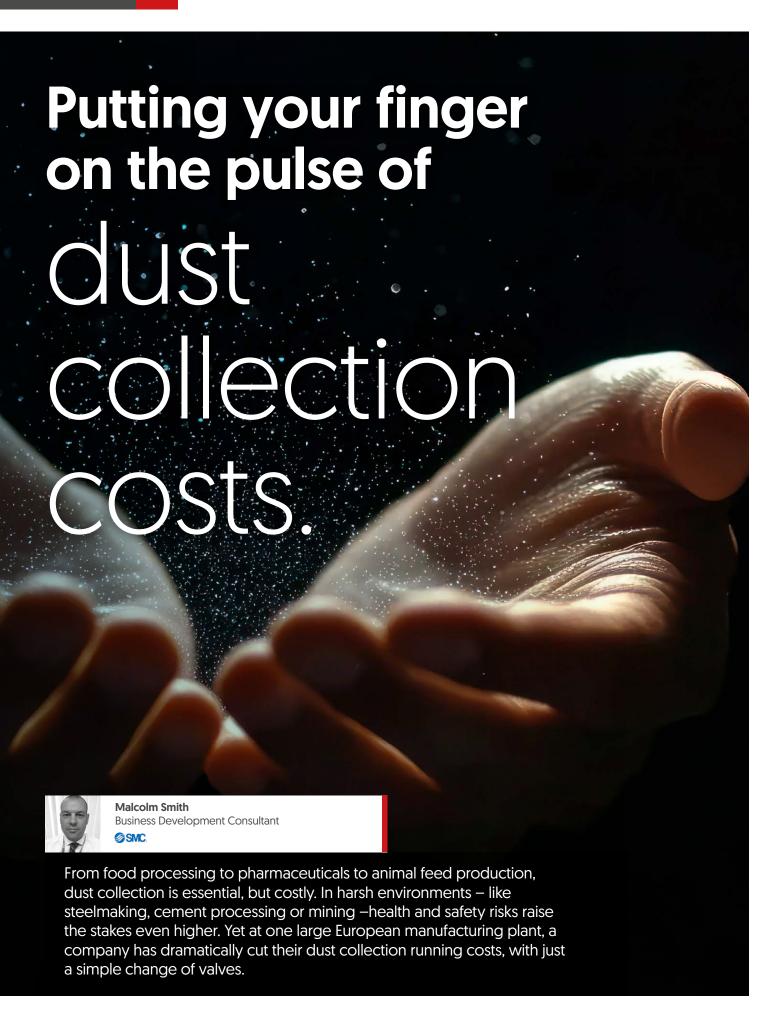
In fact, thanks to expert support and advice from two leaders in motors, industrial applications and energy-efficiency, they have achieved energy savings of 8-9%. That means energy cost savings, calculated by the customer, of £12,492 p.a. with a payback period of just 2 years.

With four more IE2 motors powering the same application on this site alone, and 80 more worldwide, there is enormous potential to make even more significant savings and carbon footprint improvements, by upgrading them all to a higher energyefficiency rating.

Five energy-efficient motors are better than one. And when it comes to energy-saving advice, two heads are clearly better than one.







Where high performance dust collection is essential - to protect the health of staff, preserve the operation of machinery, and prevent the risks of fire and pollution effectiveness takes priority. But that doesn't mean cost has to be ignored. By talking to SMC about air consumption reduction, one customer managed to virtually eliminate leakage and significantly reduce system running costs – while still maintaining effective dust collection.



#### Significantly reduce system running costs ??

#### **Highs and lows**

It was clear to SMC that getting this customer's air consumption under control required a multi-faceted approach. As well as the obviously poor control of consumption, undetected leaks and speed of system shutdown were all playing their part in reducing efficiency.

Fortunately, the SMC JSXF Pulse Valve has been developed to tackle exactly these issues.

Using high peak pressure, the JSXF offers increased pulse blow efficiency compared with standard designs. So the amount of compressed air used per cleaning cycle is kept to a minimum. This in turn means that energy is saved, and the operational costs associated with compressed air generation are reduced.

By generating rapid and intense pulses of compressed air, the JSXF valve ensures dust particles are dislodged more effectively from the dust collector's filter cartridges. So even the most deeply embedded particles are removed. This more intense and thorough cleaning process reduces the risk of dust build-up and clogging, which can lead over time to impaired system performance. Filters remain cleaner for longer, and the dust collector can run at optimal efficiency for

In this customer's case, once the JSXF Pulse Valve was installed at their plant, the high peak pressure coupled with the low air consumption design meant that their mains air



supply pressure could be reduced, with little to no effect on cleaning performance.

#### Keeping up the pressure

Pressure loss is another potential problem with compressed air systems. Valve seal wear, improper installation and incorrect valve sizing can all contribute to pressure loss, as can inadequate maintenance and dust build-up. Yet it's an area that's often overlooked: wasting money and resources as air quietly leaks out unchecked.

The JSXF Pulse Valve has been designed to tackle the issue, by removing the requirement for welded connections. So seal failure becomes a thing of the past.

With a choice of compression, threaded port and immersion-style connections in 3 port sizes (32mm, 40mm and 50mm diameter). the JSXF enabled fitting in a large number of different locations - virtually eliminating the customer's air leakage problem. This flexibility means the JSXF can also easily be integrated into new or existing dust collector applications.



#### A less moving story

Like any manufacturer, this customer wants to avoid costly downtime for system repair or maintenance. So they were impressed by the SMC valve's high-strength elastomer



diaphragm, compared with the traditional spring-operated design.

The diaphragm is the valve's only moving component – enabling the product to reach an exceptionally long operational lifetime of 10 million cycles or more. The elastomer diaphragm forms a tighter seal, reducing or eliminating leakage and ensuring a consistently powerful pressure pulse. It is also more resistant to abrasive dust particles, which is a vital consideration in harsh environments such as sawmills and cement plants, where coarse dust is an issue.

And unlike metal springs – which become misshapen over time or eventually wear out completely – the high-strength material of the JSXF diaphragm has been specifically designed to withstand repetitive flexing without cracking or deforming,



#### 45% reduction in 'OFF' response time ??

#### When 'OFF' means 'OFF'

How a valve operates when it's on is important, of course. But how it responds to the 'OFF' command is often overlooked. A slow response to the command means unnecessary air consumption and energy use, which will significantly add up over time.

The design of the JSXF has enabled a 45% reduction in 'OFF' response time compared with SMC's previous model - contributing to lower operating costs in the long run.

In total, for this customer, the JSXF Pulse Valve has led to a significant reduction in air consumption, and a consequent cut in running costs of up to 35%. So anyone who has their finger on the pulse of energy costs will be contacting their local ERIKS Service Centre in a heartbeat.







#### Considering more efficient alternative belt materials ??

From heavy concrete to sharp glass, many of the materials being recycled today are a real challenge to operating equipment. The operating environment is an aggressive one for conveyor belts in particular, so the right choice of belting material can make a significant difference to process efficiency, energy efficiency, maintenance requirements, and durability.

#### When rubber's not right

Traditional rubber belts offer two key benefits: mechanical strength and a high level of cut and abrasion resistance. For mixed waste handling, when brick, concrete, glass and steel could all be passing along the belt at some point, strength and resistance are essential.

However, because rubber belts are thick and heavy, and need larger pulleys to drive them, they use more energy, place more wear and tear on the conveyor system as a whole, and increase maintenance costs. So over time, despite the qualities for which it was chosen, a rubber belt becomes less of a benefit and more of a burden.

So operators are increasingly considering more efficient alternative belt materials, such as Polyvinyl Chloride (PVC) and Thermoplastic Polyurethane (TPU).

#### A question of balance

PVC conveyor belts are much lighter than rubber, so consume less energy and require less robust conveyor constructions. These two factors together can help to significantly lower operational costs and reduce the operating facility's carbon footprint. But this has to be balanced against their poor durability compared with rubber.

This makes PVC belts more suited to transporting lighter materials such as plastic and paper. They also perform poorly when exposed to sunlight or very low temperatures, making them the wrong choice for outdoor recycling environments.

TPU belts, on the other hand, take harsh recycling environments in their stride.



#### Take harsh recycling environments in their stride ??

At roughly half the weight of comparable rubber belts, they enable faster and wider recycling lines – which in turn means lower ongoing energy and maintenance costs. They also have high abrasion and cut resistance, making them suitable for handling even heavy and abrasive materials. And despite their higher initial cost, they offer a lower total cost of ownership.

Their weak point is a lower resistance to hot water, making them less suitable for applications such as the hot wash process in PET plastic recycling.

#### A belt and braces solution

By definition, recycling plants are playing their part in sustainability. That can be enhanced even further if the plants themselves operate more energy-efficiently and sustainably.





Choosing the right conveyor belt material can help.

Lightweight materials like TPU and PVC reduce the energy required to operate the recycling lines. They lower the operational costs of the facility. And they reduce its carbon footprint.

However, this can only happen if the correct belt for the conditions is selected.

Facility managers thinking of upgrading their conveyor belts need to thoroughly evaluate their current operations, and identify the key areas where improvements can be made. They should consider the types of materials being handled, their facility's energy consumption, and its maintenance costs.



# Choosing the right conveyor belt material can help 99

Then, with these facts and figures at their fingertips, they should talk to the experts, who can guide them in selecting the most suitable belt material. A free consultation with Habasit is a good place to start making recycling even more sustainable.

#### When the going gets tough...

A Habasit customer was operating in a particularly tough recycling environment, using traditional rubber conveyor belts. After consulting Habasit, they switched to TPU belts and quickly saw positive results.

Energy consumption and maintenance costs were both significantly reduced. The lighter belts helped to speed-up processing, at the same time as reducing mechanical strain on the system.

Along with lower operational costs, the customer saw an increase in overall throughput, meaning their entire recycling process become more efficient and more profitable.

Contact your local ERIKS Service Centre









#### Suitable for buffing-up, cleaning, finishing and smoothing surfaces ??

From optimising operations to enhancing employee wellbeing, non-woven abrasives are an effective alternative to sandpaper, fibre discs and other traditional abrasives. So what makes them different?

#### Made 3D to do more

Non-woven abrasives consist of a web of nylon fibres, bound by resin and infused with abrasive grain, to create a three-dimensional material. This offers cushioning, flexibility, durability - and a longer-lasting abrasive that's particularly suitable for buffing-up, cleaning, finishing and smoothing surfaces.

Many traditional abrasives become clogged, and lose their abrasiveness as a result. But the unique 3D design of non-woven products stops this from happening. As the nonwoven product is used, the nylon fibres and grains which are abrading the metal surface are worn away. This means the product is continually sharpening itself, so it goes on performing consistently throughout its lifespan.

The non-woven construction also means greater versatility. You can achieve different results simply by applying different amounts of pressure, instead of having to use several different products. For typical metal fabrication processes on steel, stainless steel. aluminium and other metals, non-woven products will do the whole job.

And even if there's a less experienced operator wielding the disc, the non-woven product will still be effective. It's easy to use, it's less likely to break - and also more forgiving - than grinding, flap and fibre discs.

#### Preparation, preparation

If you're a welder or fabricator, you know that preparation is critical. It's the only way to be sure you have a chance of achieving the result you're looking for on any metal surface.



#### The non-woven construction also means greater versatility ??

Before you can even start to think about welding or applying new surface coatings, any paint, surface coatings, rust or scale have to be completely removed. That's not only time-consuming but - depending on the severity - you may need to use several abrasive products. It may even demand chemical scale and paint removers.

However, preparation doesn't have to be that slow or that difficult.

Switching to non-woven products can save time, reduce the effort, and minimise the number of steps required for professional metal surface preparation and conditioning.

One example of a non-woven product that does the job fast and effectively is Norton Blaze Rapid Strip. Its high-quality ceramic grains not only give it a distinctive bright orange colour, but also help to make it more effective - and a best-seller in a range of industries

#### Achieve a higher-quality finish \*\*

#### A new angle on abrasion

Commonly used with an angle grinder, and working best at a 10-15° angle, Norton Blaze Rapid Strip discs are designed to remove surface contaminants without causing damage to the metal underneath.

While traditional abrasives can scratch and damage the metal surface, these discs allow for increased pressure for a more aggressive abrasive action, without causing damage or gouging.

Norton Blaze Rapid Strip lets you quickly remove paint, rust, scale, dirt, weld spatter, and other surface contaminants. In fact, it cleans and conditions the surface at the same time, to minimise rework and reduce your use of different abrasive products for different jobs. So you can streamline your fabrication workflow and achieve a higherquality finish.

The cushioned material of the disc conforms to uneven surfaces and contours, while the sharp ceramic grain makes it highly effective for light deburring and refining. Even with added pressure, Blaze Rapid Strip minimises heat generation and prevents thermal damage (bluing) to the workpiece.

Along with improved surface preparation, these discs are comfortable to use. So angle grinder operators can expect easier control and handling, which helps to prevent fatigue and strain when grinding for prolonged periods.

If you want your metal fabrication to keep pace with the fast-evolving industry, why not weave non-woven abrasives into your processes? It could mean greater efficiency, better finishes, and a fully buffed-up business.

#### Where non-woven works wonders

Non-woven abrasives will do the same job as traditional abrasives, but more effectively, for longer, and with less strain on users.

Specifically, they can be used for the following applications:

- Deburring
- Blending
- Decorative finishes
- Cleaning
- Polishing
- Highlighting
- Imparting a satin finish on metal

#### LOCTITE.

# WHATEVER YOUR INDUSTRY PAIN POINT OR CHALLENGE LOCTITE HAS AN ADHESIVE SOLUTION



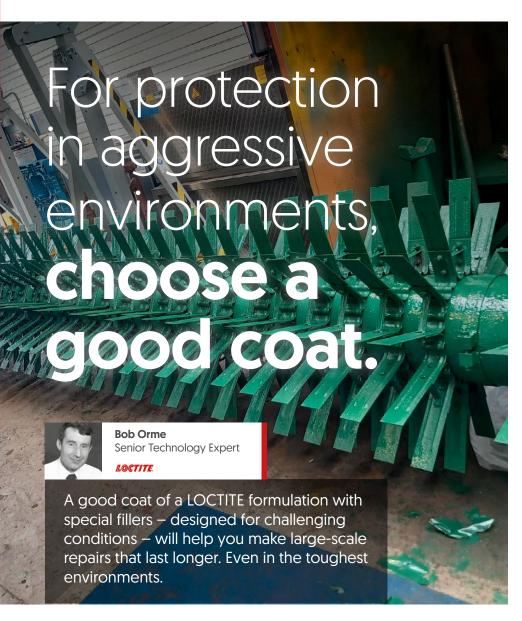
### RELIABILITY & COST SAVINGS START HERE ... ...REQUEST A LINE SURVEY

Email **enquiries@eriks.co.uk** to see how we can support you.

Or visit **eriks.co.uk/en/pages/loctite-cost-saving/** for more information



**BEYOND** THE BOND





#### Wear, abrasion, erosion, chemical attacks or corrosion ??

Whether it's wear, abrasion, erosion, chemical attacks or corrosion, LOCTITE protective coatings and compounds are the maintenance solution you need. Filled with ceramic particles tailored to different service conditions, they provide superior adhesion, resist wear, protect against abrasion, and extend equipment service life.

And because they create a sacrificial, renewable working surface, they protect the original substrate too.

#### Making life smoother

LOCTITE's protective coatings can be trowelled, brushed or sprayed on, to create an exceptionally smooth surface.

One that helps key components - air ducts, pumps, heat exchangers, centrifuges, impellers, pipes, tanks and more - to last longer and operate more efficiently.

The coatings are easy to apply even on large surfaces, where traditional hard metal welding or flame spraying can be expensive and difficult. So corrosion protection can be achieved with no heat stress during application.

Their special epoxy matrix enables the coatings and compounds to resist most types of chemical aggression – from fresh water to sea water, and ammonium sulphate to sodium hydroxide. Even stronger chemicals like sulphuric acid and urea are no problem for some LOCTITE products.

#### Repair more, stress less

LOCTITE protective coatings help you repair components for less than the cost of replacement, while still ensuring long-term protection.







#### components for less than the cost of replacement ??

That's what a large water utility company discovered, when LOCTITE and ERIKS worked together to provide surface treatment and a protective coating for a water agitator.

The existing painted assembly was corroding and eroding in its harsh waste water environment. At ERIKS' Cardiff workshop, the parts were cleaned and abraded to remove corrosion down to bare metal, then treated with LOCTITE SF 7515: a liquid surface treatment that gives 48-hour protection against flash rust on large surfaces.

After this pre-treatment, two coats of LOCTITE PC 7255 Green were applied and left to cure for 72 hours.

Thanks to LOCTITE and ERIKS, the surface treatment, coating, and training solution for the application saved the customer money. minimised waste, and maximised the part's life expectancy. The sprayable protective coating also reduced the total repair time compared to the previous paint-on solution, which needed frequent maintenance.

So if you want to lengthen asset life, improve efficiency, and save costs, downtime and environmental impact, a LOCTITE coating is the answer. Just ask your usual ERIKS contact for more information.







**Kenney Harris**Business Development Manager

SKF

Your machinery is at war. It's fighting against wear and tear. It's being ambushed by excessive vibration and high operating temperatures. Perhaps it's even being unintentionally sabotaged by maintenance or lubrication failings. That's why you need reinforcements to help you maintain production, productivity and efficiency. And SKF Axios is your new first line of defence.













For maintaining your machinery at its optimum, defence is the best form of attack. Knowing in advance that your asset is developing a fault means you can take pre-emptive action before that fault becomes a failure. A predictive maintenance solution gives you inside intelligence about your assets, keeps you aware of their condition, and helps you to stay one step ahead of issues and potential problems.

SKF Axios is exactly that solution. It's highly effective – yet it's simple, scalable, and able to improve its performance the longer it's used.

#### All the experience of SKF

As experts in rotating equipment, SKF know how your assets should perform, understand why they can fail, and have the experience to prevent that happening.

Now, with the unparalleled capabilities of Axios, they can help you to be even more aware of performance, to have even greater insight into failure modes, and be able to take action even sooner to prevent problems more effectively.

When Axios detects an anomaly needing action, a notification is sent immediately to users' phones, tablets or PCs. Up to 100 users can be connected, to up to 100 assets per site. When the notification is received, the user either needs to make a visual inspection of the asset, or use a different data collection device to diagnose the issue.

Once the issue has been identified, it can be resolved by selecting the appropriate failure mode and required action in the app.

#### Prevent problems more effectively "

#### All the power of Amazon

What makes SKF Axios more effective is the power behind the solution.

By working in collaboration with Amazon Web Services, SKF has been able to make Axios more scalable and more data-driven, with a machine-learning capability which helps it to continually improve its predictive maintenance capability.

Axios uses sensors mounted on your machinery, to continually collect temperature data, and vibration data in three axes. This data is then sent using Bluetooth to gateways, and through them to the AWS cloud via Wi-Fi or wired Ethernet connections.

The more data that's gathered, the more aware Axios becomes of the optimum operating parameters for the asset. Which means it can then better identify anomalies, and alert you to the need for action.

As an SKF spokesperson explained, with Axios you can 'make better decisions faster, improve your operational efficiency, and reduce the costs associated with unplanned equipment downtime.'



#### Simplicity from end to end

The power and capability of SKF Axios may make it sound complicated, or expensive. But the fact is, it's simple to install and set-up, simple to operate, highly scalable and exceptionally cost-effective. Sensors and apps can be installed and operational in minutes, ready to identify anomalies and help to prevent failures and costly unplanned downtime.

Ready to use straight out of the box, Axios needs no technical expertise or vibration experience to install it. Just one sensor per machine – or two for larger equipment – will collect all the data that's required, which is then automatically monitored, 24/7. As long as you have your phone with you, you will always have the latest condition monitoring data at your fingertips, and be alerted as soon as an issue arises.

The scalability of Axios means it can get bigger as and when required. And its machine-learning capability means it goes on getting better, too. Just like a human engineer, Axios learns from the data it gathers, and is able to act more quickly and more effectively, the more 'experience' (data and feedback) it has.

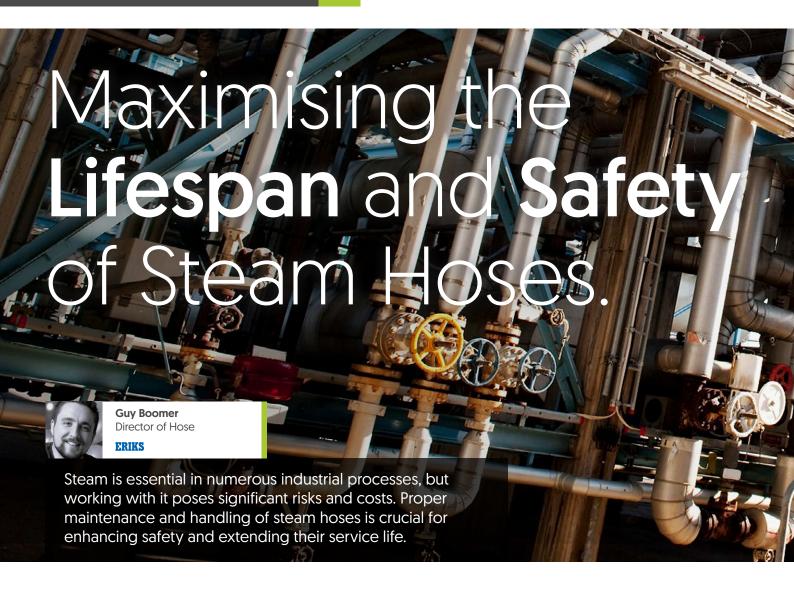


#### Fight to win

When your job is to keep machinery running with optimum efficiency, maximum uptime and ever-increasing productivity, every day is a battle – and you are the General.

But with SKF Axios as your new first line of defence, you're giving yourself more than just a fighting chance.

Find out more from your usual ERIKS representative. And make sure you end up on the winning side.



By following best practices, businesses can prevent common issues such as superheated steam damage, 'popcorning' (a phenomenon where the inner wall of the hose absorbs water or water vapour), and leaks, thereby safeguarding both equipment and personnel.

#### **Understanding Steam and Its Impact** on Hoses

Understanding the different states of steam and their impact on hoses is fundamental to effective management. Steam exists in three states: wet saturated, dry saturated, and superheated. Wet saturated steam can have a lubricating effect on hose inner walls but may lead to wear over time.

Dry saturated steam, without liquid water particles, can be harsh on hose materials if not managed properly, potentially causing brittleness and cracks. The most critical form is superheated steam, heated beyond its boiling point without increased pressure.

This extremely dry state can continue the vulcanisation process of the hose's rubber inner wall, leading to hardening and reduced flexibility.

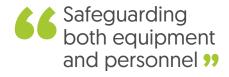
#### **Best Practices to Avoid Hose Damage**

To mitigate these risks, it's essential to monitor operating pressure and temperature carefully, ensuring they don't exceed the hose's recommended limits. Proper management and maintenance are crucial for extending steam hose service life.

This includes preventing superheated steam damage and prevent popcorning, for which it's crucial to blow the hose dry after each use and ensure complete dryness before storage. Using hoses with extruded inner walls can further mitigate this risk.

#### **Ensuring Structural Integrity** and Safety

Maintaining hose integrity is paramount for a secure industrial environment. The use of galvanised steel inlays is recommended to prevent internal rusting and weakening. Steam hoses should be clearly marked as outlined in the EN ISO 6134-2A standard, including producer name, compliance standard, maximum operating pressure, and maximum permissible temperature.



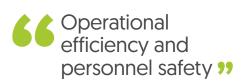
A red stripe along the hose length aids in easy identification, while a spiral colour stripe with clear, printed text improves recognition in hard-to-reach areas.

#### **Preventing Steam Leaks**

Preventing steam leaks is crucial for operational efficiency and personnel safety. Steel boss clamping plates or high-pressure brass gripper clamps are typically used to secure hose connections. However, for superior permanent connections, press sleeves are recommended.







High-quality steam hoses, such as the Goodall Inferno Steam Hose with DuraCrimp ferrules, provide secure, leakfree connections. These galvanised steel DuraCrimp fittings and ferrules are Cr6free, ensuring environmental safety while maintaining structural integrity.



#### Pressure tests every six months \*\*

#### Proper Hose Installation and Regular Inspections

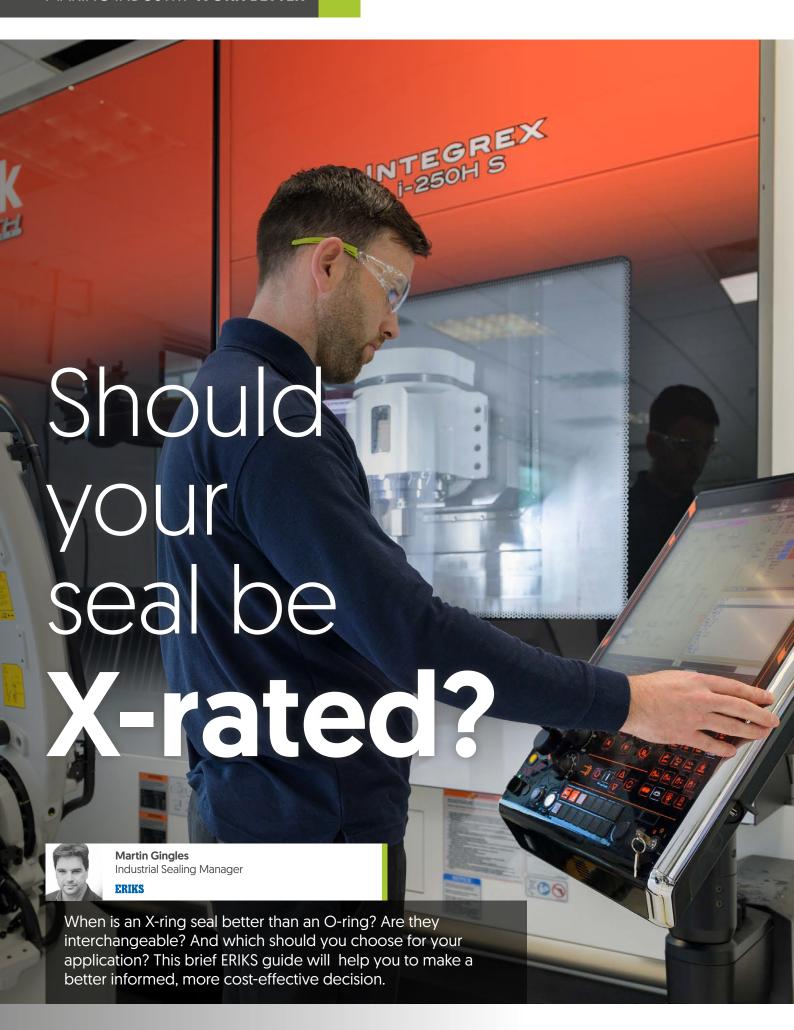
Correct installation and routine checks are vital for hose longevity and safety. Proper installation should ensure no sharp kinks, tension, or torsional stress. Fittings and connections should be checked at operating pressure, gradually increasing to detect any leaks.

Regular inspections are essential, and any issues should be addressed immediately. Professional inspections are advisable to detect internal damage that may be difficult to spot visually. ISO 6134 guidelines recommend performing pressure tests every six months.

For additional support, businesses can consider utilising professional services such as ERIKS' service exchange program. This comprehensive program offers maintenance and testing for steam hoses, including external visual inspections and endoscopic inspections for superheated steam or other aggressive media.

By implementing these best practices and leveraging expert support, businesses can maximise the lifespan of their steam hoses while maintaining a safe and efficient industrial environment.

Regular maintenance, proper installation, and adherence to safety standards are key to preventing common issues and ensuring the longevity of steam hoses.





As the name suggests, the most obvious difference between X-rings and O-rings is their shape. An O-ring has a round cross-section, while an X-ring has an X-shaped cross-section. O-rings came first, with X-rings developed later to serve as enhancements to O-rings under certain conditions.

Both types are double-acting seals, meaning they can seal in both directions. But choosing an X-ring in preference to an O-ring can have real advantages in some static, dynamic, slow rotary and oscillatory applications.

#### X-ring advantages

#### Preventing premature leakage in dynamic, sliding applications

One of the biggest issues with O-rings in dynamic, sliding applications (such as piston or rod sealing) is their tendency to twist. This can potentially create a leakage path, leading to premature failure. The X-shaped cross-section of X-rings makes them less likely to twist, providing enhanced stability which leads to better sealing performance.

#### Extended seal life

X-rings have a lower potential than O-rings for running and break-out friction. This is especially important in dynamic applications where the seal is constantly in motion. X-rings will wear less quickly and have a longer service life as a result.

#### Greater sealing efficiency

While O-rings have only two points of contact, X-rings have four. This means that X-rings have twice the sealing surface in contact with the part – making them more efficient at preventing leaks.

#### Resistance to spiral failure

Because X-rings have a larger surface area in contact with the hardware, they are more resistant to spiral failure. This can be an advantage in high-pressure applications.

#### Higher lubricant retention

The cross-sectional shape of X-rings allows them to retain pockets of lubricant, which helps to reduce friction and increase service life.



#### developed later **\*\*? X-ring materials**

X-rings can be manufactured from the same compounds as O-rings. However the standard X-ring range focuses mainly on compounds used in dynamic applications in contact with oil, where the X-ring's shape already gives it an advantage.

The ERIKS range of X-rings, including their materials and applications, is outlined below.

#### **ERIKS NBR 36624**

This is the most common material for applications with hydraulic and lubricating oils. NBR is not resistant to ozone or UV, so exposure to these can accelerate ageing. ERIKS' standard NBR Compound 36624 has a range of -30°C to +°120C, though in oil a maximum of 100°C is recommended.

#### **ERIKS FKM 51414**

FKM (Fluorine Kautschuk Material ) is commonly called 'Viton', after Chemours' Viton™ —one of the best-known FKM brand names. FKM is the ISO standard 1629 designator. There are many different types of X-ring within the FKM family. The basic copolymer types are unsuitable for use in steam or hot water applications.



#### Better sealing performance \*\*\*

ERIKS 51414 is a high-quality black FKM, which is highly resistant to many chemicals, oil, grease and fuels. Due to its high density, it can also be used in vacuum applications.

#### **ERIKS EPDM 55914**

This black EPDM 70 seals acids, bases, hot water and low-pressure steam. In addition, it is ozone- and UV-resistant. Performing within a temperature range of -55°C to +130°C, the material is not suitable for applications with fats, or mineral and animal oils. If the temperature in your application is higher than +130°C, choose Compound 55915.



#### Choosing the correct X-ring size

A seal will only function properly if the right size X-ring is fitted. For dynamic use, the thickest possible X-ring is recommended. A thicker X-ring also compensates better for wear, has a more favourable compression set, a better dynamic sealing ability, and can better accommodate larger movement gaps. For static seals, an X-ring with a smaller cross-section will perform equally well.

More advice on choosing the correct X-ring size, the most effective rubber type for your application, and other technical information, is available from ERIKS online. Or talk to your usual ERIKS contact. Their advice won't be X-rated, but is always highly rated.

# Eyewear PPE legislation is changing. Let's take a Closer look.



**Paul Skade** Category Manager - Industrial MRO & Safety

It's more than 20 years since eyewear protection standards last changed. But that's all about to alter. A new standard EN ISO 16321:2022 will soon be designated (meaning you can be sure that products which meet its requirements comply with UK law). So you will start to see new standards applied and new markings on products. If you use or buy eyewear PPE, here's what you need to know.

The new comprehensive series of international standards replaces a collection of different national and regional standards – making it easier to choose the right protection and keep employees safer.

The old standard will still be valid for existing safety eyewear until the product's designated expiry date (usually within 5 years). But no new safety eyewear can be manufactured to the old standard after November 2024.

#### What's new to look for?

The first change is that the new series doesn't apply to sports eyewear, or to protectors:

- Which protect against short circuit electric arcs or lasers
- For use during medical applications
- For medically prescribed applications
- Specifically intended for protection against solar radiation
- Intended to protect against ionising radiation.

These types of protection now have their own separate standards.

Protectors used during welding and related techniques, and mesh protectors, have some



additional requirements, described in parts 2 and 3 of the new standard. Part 4, covering eye and face protection against biological hazards, is still to be published.

Although many areas covered by the new standard are the same as the old, some parameters are different. For example, there are now six headforms for manufacturers to design from, which should mean a better fit for wearers.

Some optical and physical requirements of the standard have also changed.

#### **Optical requirements**

#### Field of view

Unobstructed vision is important in avoiding safety risks. The new standard requires more measurements from more points of reference – ensuring there's no restriction of the wearer's natural field of vision.

#### Luminous transmittance

If a lens isn't designed specifically to filter light, the new standard requires it to allow more than 80% transmitted light. For certain face shields, and multiple glazed eye protectors, the level is not less than 75%. Previously, all lenses had to allow more than 74.4% transmittance.

#### Scattered light

All eye protectors should be as free as practically possible of diffusely transmitted light. The new standard uses a new measurement method to ensure quality of vision.

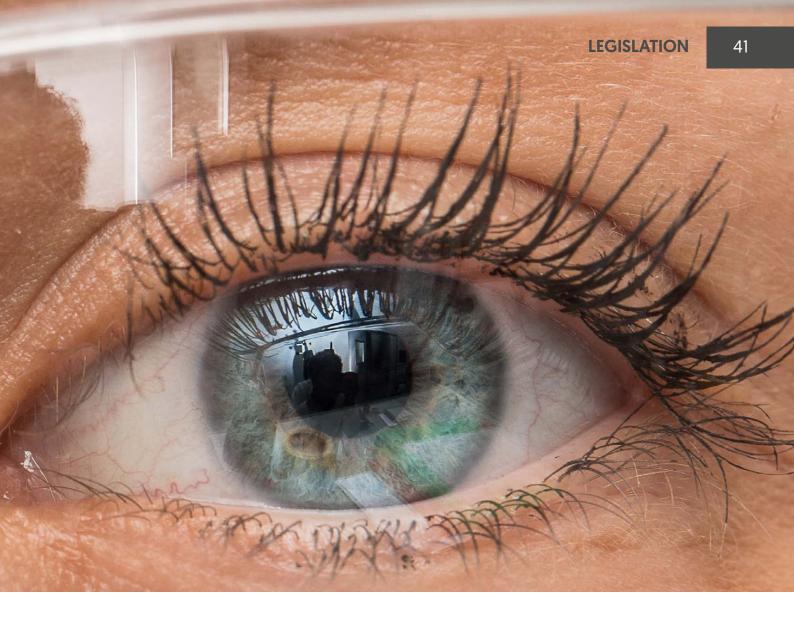
#### **Physical requirements**

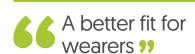
#### Headbands and harnesses

If the eye protector has a headband or harness, it must fit comfortably and securely when the wearer is turning or tilting their head, or jumping on the spot.

#### Basic, High speed and high mass impacts

 Requirements for the basic level of protection from impact have increased, from a 22mm diameter steel ball to 25mm, and from 43g to 66g.





- Velocity speeds and impact levels for the optional high speed impact resistance have changed, together with the addition of a requirement for protection zones. The higher the impact speed, the larger the protection zone required.
- The high mass impact test is now incorporated in the standard as an option, having previously been lifted from American standard ANSI Z87.1.

#### Resistance to thermal exposure

Equivalent to the previous 'Stability at elevated temperature' test, this requirement almost doubles the duration of exposure, to 120 minutes.

#### Penetration of vents and gaps

This brand-new test requirement requires ventilation or gaps between component parts to have openings no larger than 1.5mm diameter.





#### **Optional requirements**

The new standard includes several new optional requirements. These will only be assessed if they apply to the type of protector, or if the manufacturer claims the characteristic for their product. The requirements range from resistance against

fogging to protection against large dust particles, and from protection against streams of liquids to use in explosive atmospheres.

#### Look no further

With so many changes to consider, choosing the correct eyewear PPE for the employees and the application is an even more critical challenge. One way to be sure you make the right choice every time is to rely on the knowhow of a trusted advisor, and to purchase only from a reputable supplier.

Which means look no further than ERIKS.



As the dust settles following the recent general election, a pressing question arises: Will this new government deliver the support the manufacturing and engineering sectors need, or will it fall into the same pattern of unmet promises?

The Labour Party's landslide victory offers a glimmer of hope. Their manifesto promises to revitalise the manufacturing sector, aiming to create a stable and prosperous economy. Pledges include developing a robust industrial strategy, investing in skills development, and positioning the UK as a global leader in green energy. These goals are commendable, but can they follow through?

One standout promise is the creation of Great British Energy, a publicly-owned energy company aimed at accelerating the UK's transition to renewable energy. The vision is ambitious, with plans to invest in technologies like floating offshore wind, hydrogen, and tidal energy. This initiative could play a pivotal role in boosting the UK's green manufacturing sector by creating new opportunities for innovation and investment.

#### Can they follow through?

However, questions remain about how this entity will function alongside private developers. There is a risk it could crowd out private investment or struggle to attract sufficient funding, leading to delays or compromised outcomes. Without adequate capitalisation, Great British Energy risks becoming another underfunded government project, potentially doomed to mediocrity like HS2 and the Millennium Dome. If Great British Energy falters, will the government's entire green agenda crumble with it?

Labour's commitment to a National Wealth Fund, a multi-billion pound initiative aimed at driving investment in critical industries, suggests a government willing to take bold steps. The fund, which has already allocated £7.3 billion to invest in sectors such as manufacturing, ports, and renewable energy, aims to catalyse growth by partnering with private investors to develop the "industries of the future."

#### A pivotal moment for industry

However, concerns about its execution loom large. Like previous government ventures, it could become mired in political grandstanding, with investments swayed by fashionable but unproven technologies. The risk of the fund backing "lame ducks"—

unprofitable or unsustainable projects—also looms. If the National Wealth Fund prioritises political optics over economic analysis, could it end up wasting taxpayers' money while failing to generate robust returns?

#### Higher taxes could undermine stability

The early signs are mixed. Hints from the Chancellor's office about potential tax increases to address a significant £22bn shortfall in public finances have raised alarm bells. While fiscal responsibility is important, higher taxes—particularly on businesses—could undermine the stability manufacturers need to plan. The industry, particularly SMEs, relies on predictable financial conditions to make long-term investments. Uncertainty around taxation, coupled with challenges such as rising energy costs and supply chain disruptions, could dampen the sector's growth prospects.

The new government is at a crossroads. They have an opportunity to implement a strategy that stabilises the manufacturing and engineering sectors and propels them into a new era of growth. However, this will require more than just high-profile announcements. It will demand a genuine partnership with industry leaders, a willingness to listen to businesses' needs, and a healthy dose of economic good luck.

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