Chemicals northwest

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Winter 2024

A spotlight on the vibrant north west chemicals sector

Elements

In this issue:

Plus... news and articles from a wide range of our members.

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RISK & HAZARD MANAGEMENT

Contents Winter 2024

Membership

Would your company benefit from joining an organisation that supports and promotes the chemistry-using sector in the Northwest? Do you want to understand more, and contribute to, the industry issues within the region?
If you are a manufacturer, chemical user or offer products and services to the sector, why not join us today?

https://www.cia.org.uk/chemicalsnorthwest/Membership/Benefits-Costs/

2024 rates. ***(from 1st April 2024)***

Micro corporate membership	(1 - 10 employees)	£486.23
Standard corporate membership	(11-100 employees)	£845.70
Large corporate membership	(100+ employees)	£1076.25

Our membership year runs from 1 April to 31 March. A pro-rata basis usually applies to joining at other times in the year and we'd be happy to discuss on application.

Welcome

Dear Reader,

We are delighted to have launched the Chemicals Northwest 2025 Awards programme.

Excitement for the dinner, which is taking place on the 20th March at the Titanic hotel in Liverpool is already building. We have a full line up of sponsors for the awards and 12 engaging categories to enter into. For 2025 we have also launched a new category. Further details of our awards and sponsors can be found on pages 6-7. Our host for the evening will be Tom Ward, an award winning stand-up comedian. Details of the awards and sponsors can be found here - https://www.cia.org.uk/chemicalsnorthwest/awards-2025

We launched and hosted a very successful Sustainability interest group on the 20th November for members of Chemicals Northwest. The event was facilitated by CNW member **Roger Wareing from Wareing Consulting**. Roger gave a short presentation setting the ESG context within the chemical industry and setting out what elements are required for an effective response. This was followed by discussion/workshop sessions to better understand what individual members need in this area and the role that the interest group overall can plan in helping members successfully navigate sustainability (ESG) challenges. A full write up of the event can be found on page 21 of this edition of Elements.

At the time of going to print, our Regulation and Trade update event was due to take place on the 4th of December. With updates still pending from Government, we took the decision to postpone this event until the New Year to allow for updates. The new date will be confirmed in due course.

Our next breakfast event is planned for the 11th December and we are delighted to be hosting it at the Henry Royce Institute's Hub Building at the University of Manchester.

The Henry Royce Institute is the national institute for advanced materials research. Royce was established to ensure that the UK remains at the forefront of materials research and exploitation through collaborations with industry and academia, and by providing access for the UK materials community to state-of-the-art equipment and facilities.

The Royce Hub Building brings together office, research and collaboration spaces, with capability across the Royce Research Areas. This includes High Pressure Temperature Labs, Additive Manufacturing, Two Dimensional Materials, Biomedical Materials, Chemical Materials Design which includes the Sustainable Materials Innovation Hub.

Our first presenters will be from Royce, giving an overview of the facilities available and research in progress.

Our second presenter, David Jasiewicz, Patent Attorney & Associate from Appleyard Lees will deliver a short overview of the Appleyard Lees annual 'Inside Green Innovation – Progress Report 2024' at the breakfast event.

Our third presenter, Area Sales Manager Jason Lenihan from Corrosion Resistant Products (CRP) will introduce CRP, detailing who they are and what they offer.

We are delighted with the new look Chemicals Northwest website which is continuing to be populated and developed at the time of print. We have created an online version of the member's directory as well as an A-Z list of the Members, we will be in touch in due course for those not yet listed.

As always, please keep your good news stories, case studies and thought leadership articles coming in to be featured in Elements. **Visit our website: https://www.cia.org.uk/chemicalsnorthwest/CNW-Events**

Alex Abraitis - Member Services and Events Manager

About us...

Chemicals Northwest is an established business network wholly owned by the Chemical Industries Association.

With around 130 members we actively promote this important regional sector and our objective is to help membership to grow through;

- **facilitating** networking events, common interest groups and interactive workshops, all aimed at covering topical industry issues.
- **supporting** projects and programmes that identify and enhance business performance and generally support continuous improvement across the sector.
- **promoting** science and engineering based skills, helping to address the region's future needs.
- **improving** the image of the industry overall, including generating a positive reputation, through communicating achievements and success.
- **contributing** to the industry's strategic voice and the national growth agenda aligned to the work of the Chemical Industries Association.
- **connecting** the community of chemistry-using businesses and the vital supply chains here in the Northwest.

Chemicals Northwest really does bring people together! It is an essential feature of successful networking strategies used by many organisations. We coordinate a range of meetings and events to enable 'face to face' networking for the benefit of all members. Every successful business networking organisation also needs effective communications channels.

As a result of gradual development over recent years, getting messages across, promoting member companies and reporting news, Chemicals Northwest has reached new levels of topicality and quality.

Here are the the main features and benefits of membership...

Annual Awards Dinner
During the annual Chemicals Northwest awards programme we are privileged to witness the many achievements made in our sector. Culminating in a great night of celebration each year's awards are a fantastic way your company can support the region's chemicals sector and help raise your own profile. Over 300 guests from across the industry gather on the night in Manchester and everyone can see for themselves the amazing achievements made by our industry, people and organisations.

Breakfast Networking
Chemicals Northwest has gained a good reputation for high quality breakfast networking events. With no specific theme, delegates are encouraged to come along and make a short business pitch about their company, its products and services plus news announcements! The breakfast meetings have proved to be very popular and currently run quarterly with up to 40 in attendance. New contacts can lead to new opportunities and new business. All are welcome and the event is free of charge to attend.

Partner Events
Over the years CNW has focused on a range of highly topical and relevant business issues. We run these focussed events in conjunction with members. Technical, regulatory and operational insights have been delivered by experts in their fields. These events ensure good practices are shared and all attendees gain new knowledge. As businesses get to grips with the changing landscape there will always be new issues for members to analyse.

Common Interest Group
Chemicals Northwest have launched a "Regulation and Trade" update group. This quarterly meeting is a round up of the latest news for the industry on REACH, Regulations, Trade issues and negotiations and any other topics of interest for the industry to keep up with the latest developments. This group is open to members of Chemicals Northwest and is free of charge to attend.

Elements Magazine
This is a great opportunity to establish an association between your organisation and important sector issues, by contributing free editorial and press releases as part of membership. Companies who do business in the chemicals sector may also wish to look at advertising options. The CNW sector directory is integrated into Elements showing our service suppliers to the sector.

Website
The website is regularly updated with industry news and events from CNW and the sector. Companies are increasingly using it for enquiries. Viewers of the directory pages can search the whole of our supply chain providers to find where to buy products and services.

E-bulletin
Chemicals Northwest send out a monthly bulletin with the latest industry news, export opportunities, events from Chemicals Northwest and the sector. Plus ad hoc bulletins with latest/ urgent calls. All members and new members are able to send a "meet the member" bulletin. A paid for advertising service is also available for those wishing to advertise their events or company news.

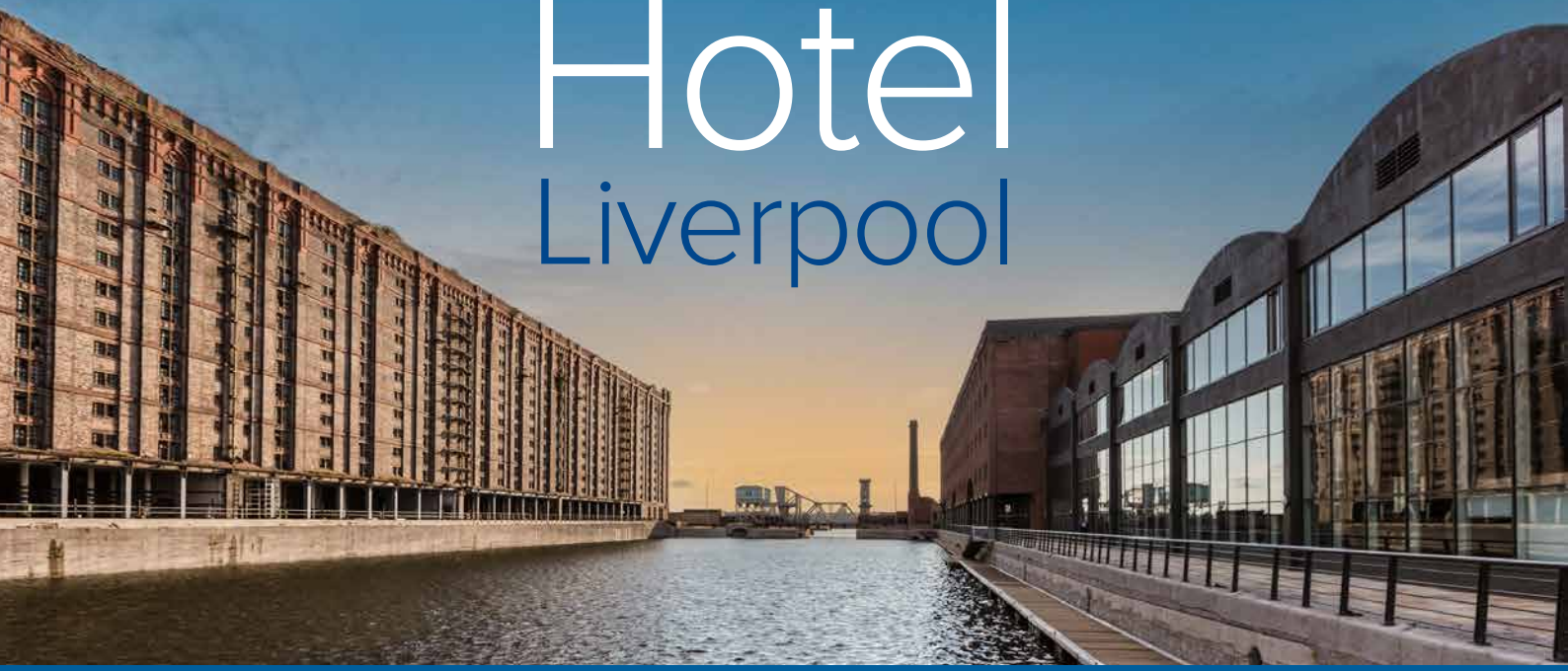
LinkedIn
The Chemicals Northwest LinkedIn group provides the opportunity for chemical industry professionals to share ideas and knowledge. There is also the CNW LinkedIn company page which provides a forum for information sharing between CNW and our members.

Chemicals Northwest 2025 Awards

20th March 2025

at the

Titanic Hotel Liverpool



https://www.cia.org.uk/chemicalsnorthwest/awards-2025

Chemicals Northwest 2025 Awards

We are excited to announce the launch of the Chemicals Northwest 2025 Awards programme. We have a great new venue and a full line up of sponsors for the event and excitement is already building. The awards will culminate with a first-class gala dinner celebration and announcement of winners at the Titanic Hotel in Liverpool on the 20th of March 2025.

The 2025 Awards will incorporate a fantastic pre-dinner drinks reception hosted in the Rum Warehouse bar which will be sponsored by AXIOM. We are also delighted to welcome CHEMUK 2025 as our Headline Partner for the event and Manntek who are sponsoring the awards brochures. Special thanks also go to our award sponsors, more details on them can be found below.

Our host for the evening will be Tom Ward. Tom is an award-winning standup comedian. His stories and observations, combining a sense of the whimsical with the deadpan, have made him a hit on the live circuit, including for his acclaimed Edinburgh show Anthem.

With a laid-back style that occasionally veers towards the quirky, Tom's routines span his appearance, frustrations with the minutiae of life, like being let down by Tupperware, and tales of his evangelical parents and managing a charity shop. Applying his skills as a voice-over artist Tom also throws in the occasional impression (of people and objects).

Described by the Telegraph as 'a very welcome curiosity', he has supported Jack Whitehall, Sindhu Vee, Joe Lycett and Jason Manford on tour, as well as becoming a familiar face on screens - including appearances on Live at the Apollo, QI and Roast Battle. As a host, he recently fronted Funraisers for Channel 4 Digital, where contestants compete in challenges based in and around a charity shop.

Award Nominations close on the 23rd January 2025

Enter the Chemicals Northwest 2025 Awards

2025 Awards Categories & Sponsors

Headline Sponsor	CHEMUK2025 GROUP OF EVENTS
Drinks Reception Sponsor	AXIOM
Brochure Sponsor	ManmTek
Engineering Company of the year Award	INDAVER SOLVENTS
Manufacturing Company of the year Award	PM GROUP
Health & Safety Award	arcadium lithium
Sustainability Award	INEOS Inovyn
Operational Excellence Award	orbia Fluor & Energy Materials
International Trade Award	Arthian
Innovation Award	Bc Business of Science Conference
Young Talent in the Chemical Industry Award	srg
Corporate Social Responsibility Award	SLR
Supplier to the Chemical Industry Award	cia
Partnership Award	STUDLEY
New for 2025 Equality, Diversity & Inclusion Award 2025	Hibiscus Plc

The Awards honour excellence across a wide spectrum of business activity, from Innovation to Sustainability and from Young Talent to Supplier to the Chemical Industry. We also have a brand new category for 2025...

How to enter

There is a limit of 1000 words per entry and you may find the following helpful in structuring your entry.

1. Description of your entry. (400 words)
2. How was it successful? (500 words)
3. Why you think it should win the award (100 words)
4. Please also include a 50 word company summary for the awards brochure in the event that you are shortlisted.

Deadline for entries is the 23rd January and entry is open and welcomed from members and non-members of Chemicals Northwest.

Please email alex.abraitis@chemicalsnorthwest.org.uk if you have any questions.

Further details on the awards and categories can be found here - https://www.cia.org.uk/chemicalsnorthwest/awards-2025

RAS

Safe | Smart | Sustainable

R A S Ltd is an independent company of Process and Technical Safety Consultants. We have been successfully operating for over 30 years, growing in that time from a handful of specialists in the North-West, to a continually evolving team that works with leading companies in the energy, pharmaceuticals and specialist chemical sectors across the world. Our multi-disciplinary team possesses a wide range of skills making us stand out from our competitors as we can approach our clients' problems in a holistic way to find solutions that really work. At R A S Ltd, we support industry to be safer, smarter and more sustainable.

We are proud to be independent as it allows us to tailor bespoke solutions rather than off the shelf packages, working with people, rather than for them.

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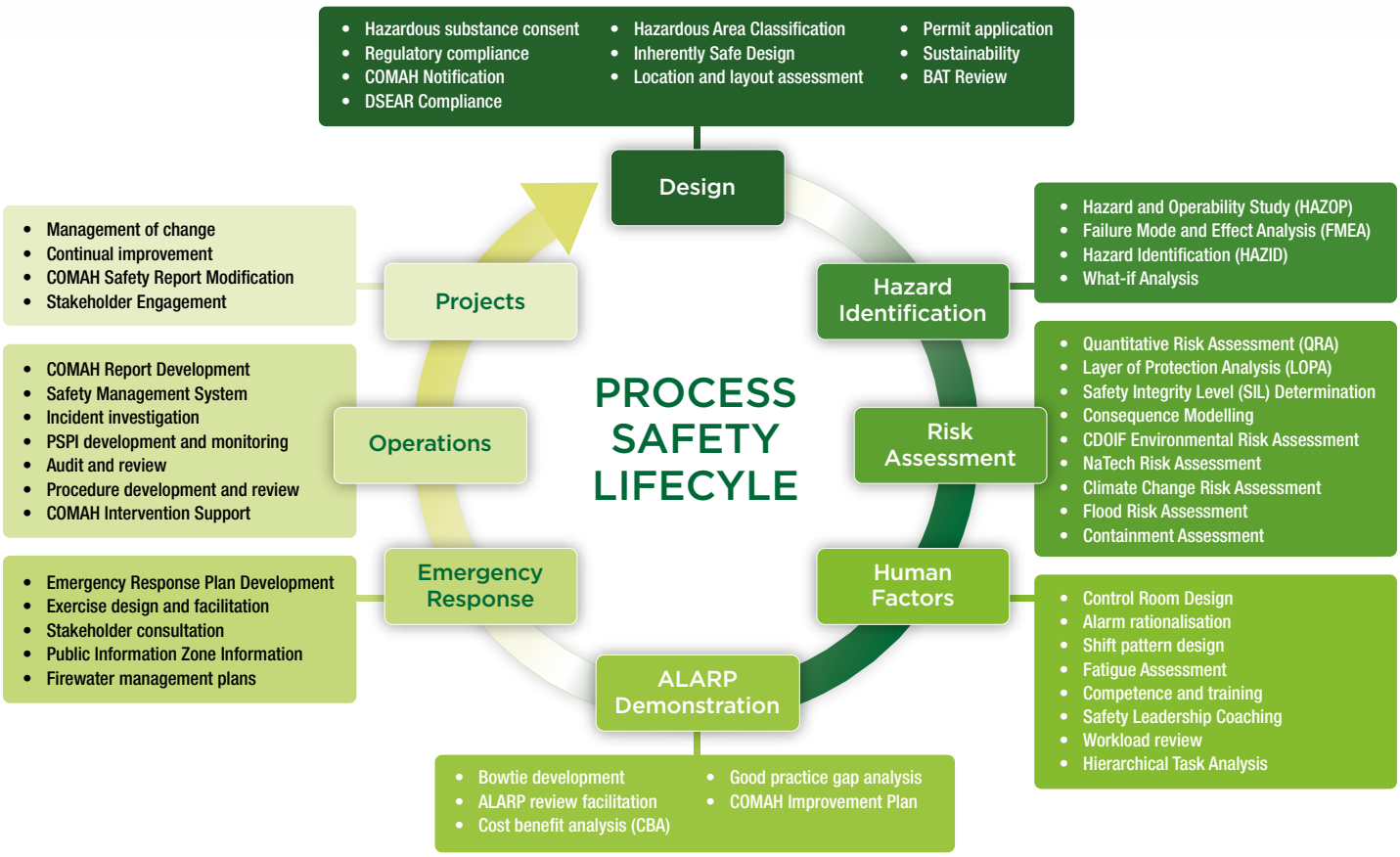

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When did you last review your Hazardous Area Classification?

On the 1st of October 2024, the Energy Institute published the 5th edition of their *'Model Code of Safe Practice Part 15: Area Classification for Installations Handling Flammable Liquids' (EI15*). The introduction of this publication is a perfect opportunity to review your current hazardous area classification.

Under Regulation 7 of DSEAR; 'every employer shall classify places at the workplace where an explosive atmosphere may occur into hazardous or non-hazardous places [...] and shall classify those places so classified as hazardous into zones.'

Hazardous area classification is a tool to help you manage your potential ignition sources to ensure that the risk from fires and explosions is suitably understood and appropriately managed.

EI15 was last updated in 2015, and the new 2024 edition includes adjustments and refinements, that could result in changes to your hazardous areas.

EI 15 states:
Hazardous area classification should be reviewed, and if necessary, amended as part of any project or modification to either the equipment or process or,

- *Where there are any significant changes to plant layout, hazardous substances or operating conditions;*
- *Where specific dispersion modelling is carried out for release source(s), and*
- *Following updates to industry guidance and standards.*

Hazardous area classification should be reviewed every 5 years.

Key changes in EI15 5th edition

The Energy Institute highlighted the most pressing changes made to the guidance and an overview of some of the details of these changes are listed below:

- Updated advice on mists to include information from HSE/industry research projects e.g. tests found that diesel could only be ignited in the test rig at pressures above 5 barg, with biodiesel requiring a 20barg release.
- Extensive remodelling of all release cases in Phast v8.4 (affecting direct examples, equipment leaks and releases from vents), with all modelling reviewed by the HSE.
- Inclusion of releases of pure hydrogen in both gaseous and cryogenic liquid forms.
- Update of hazard range look up tables for higher pressure releases of substances A, B, G(i), G(ii), and LNG.
- Update of direct examples to tabular format that gives sources for hazard radii presented in direct examples. The direct examples are now easier to apply and interpret.

There is no universal trend that can be seen throughout the new data, with hazard radii for certain release cases increasing, yet decreasing for others. This variation emphasises the importance of reviewing your hazardous areas. For those substances with a greater hazard radius than previously determined, does your site's Hazardous Area Classification need to be amended? What is the impact of any changes to your zones? Have you now got equipment outside of zones, or in a less onerous zone? This could mean you need to change equipment, improve safeguards, or it could mean that you may potentially reduce your inspection and maintenance activities.

Although EI15 is a widely recognised and accepted code of practice for undertaking HAC, there exists a wide range standards and industry specific guidance for hazardous area classification, all with the same objective of ensuring that fires and explosions are appropriately understood and protected against such that the risk is as low as practicable. Different guidance may be more applicable to different organisations and situations; therefore, we encourage you to take this opportunity to check when your hazardous area classification was last reviewed and ensure that it is up to date with the latest relevant guidance.

For further information, visit the website https://ras.ltd.uk/

Growth in bioplastics innovation: record filings and emerging research trends

Companies worldwide are accelerating investment in green technologies. Patent filing data reveals growing investment in research and development for innovation that addresses environmental and climate challenges.

In November 2024, Appleyard Lees, an intellectual property law firm, published the fourth edition of the *Inside Green Innovation: Progress Report,* which examines patent data, in industry context, as a barometer of green innovation activity. A key area seeing notable growth is bioplastics, which offers a sustainable alternative to conventional plastics that persist in the environment for decades. This article examines the rise in recent patent filings for bioplastics, and the environmental impact of this movement.

Innovation in global bioplastics is on the rise, with patent filings reaching historic highs. South Korea is currently the largest source of filings in bioplastics, and recent trends reveal a growing research focus on polyhydroxyalkanoates (PHAs), above other bioplastic materials like polylactic acid (PLA), butylene-based polymers, and starch blends. In 2022 (the most recent year for which complete data is available), PHAs dominated the portfolios of two of the top three global patent filers. However, despite this surge in innovation, fewer patents are progressing into international patent families, which is likely a result of increasing economic pressures.

Conventional, petrochemically-derived plastics are used in a wide variety of everyday items, such as food and drink packaging. They are typically cheap, strong, and lightweight and may be formed of polyethylene (PE), polypropylene (PP) and polyethylene terephthalate (PET) amongst others. However, plastic pollution is becoming recognised as an increasingly pressing problem. Once single-use plastics find their way into the natural environment, they degrade very slowly and may remain there for decades. The very longevity that makes conventional plastics valuable materials is also one of their greatest downsides.

Plastics produced from renewable biomass sources can offer additional end of life pathways to deal with the problems surrounding plastic pollution. There are various bioplastics in production today, including:

- **Starch blends:** readily available and cheap compared to other natural polymers, with good biodegradability. However, poor water resistance and low strength means that starch is typically blended with other polymers
- **Polylactic acid (PLA):** made from sugar found in crops like corn and sugar cane, PLA is relatively inexpensive and has several attractive mechanical properties compared to other biodegradable polymers, which makes it popular. However, it requires industrial composting to break down.
- **Polyhydroxyalkanoates (PHAs):** made from sugars grown from algae, high production costs are a hurdle to global use.
- **Butylene-based polymers:** include polybutylene succinate (PBS) and polybutylene adipate terephthalate (PBAT), which are petrochemically-derived, biodegradable plastics.

Global patent activity

Following a surge in the 1990s, global bioplastic patent filings peaked in 2003 before declining through the 2010s. Since 2018 they have seen growth year-on-year, and today, the number of patent filings far surpasses the 2003 peak. This global high for bioplastic patent filing reflects the level of innovation aimed at solving the plastics problem. Meanwhile, filing numbers for international patent families (i.e. patent applications subsequently extending into other territories) peaked steadily across 2002, 2006 and 2011 but did not show a major peak in 2003.

Differences between total filing numbers and filing numbers for international patent families could be due to the commercial potential of an invention. Since extending a patent to other countries is costly, entities typically do so only if within the first 12 months they see a likely return on investment. The initial promise of bioplastics may have led to a boom in research, and a wave of total patent filings to protect the innovations. But, when commercial results failed to materialise, investment fell, and organisations did not progress the patents into international filings.

The filing numbers for international patent families relating to bioplastics saw a year-on-year increase between 2018 and 2021, culminating in a historic high.

However, filings for international patent families dropped in 2022. Possibly, the commercial prospects of the filings in 2022 were not sufficient to warrant extending into multiple territories. However, rather than reflecting poorly on the strength of the innovations themselves, a bigger factor may have been the global economic downturn in 2022 as extending a patent application into multiple territories requires higher expenditure. That said, the rise of overall filing numbers in 2022 suggests that research into bioplastics continues to attract investment.

Top filing territories

The 2003 peak was almost entirely due to filings originating in Japan. Since the early 2000s, the filing numbers from Japan have dropped significantly and never reached the same heights, despite rebounding slightly since 2018. In fact, no individual territory has ever matched the filing numbers emerging from Japan in 2003. The fact that overall filing numbers are currently at a historic high is due to the combined contribution from multiple countries.

In 2022, filing numbers were either stable or increased in South Korea, Europe, Japan, India, China, and Brazil compared to the previous year, together forming a general upward trend. A notable exception is the US, where filings

have dropped since 2021. South Korea has led bioplastic filings since 2020, pulling further ahead in 2021, likely due to government targets for the reduction of plastic waste by 2025 and fossil-based plastics by 2050.

Trends in different types of bioplastics

Filings relating to PLA have consistently been much higher than for starch blends, PHAs, and butylene-based polymers for decades. However, from 2021 to 2022 PHA-related filings had the sharpest increase amongst these four types of bioplastics, whereas filings relating to butylene-based polymers fell slightly. This caused PHAs to overtake butylene-based polymers as the bioplastic with the second highest number of patent filings behind PLA. Despite being relatively low, filing numbers for starch blends also experienced a sharp increase and those relating to both PHAs and starch blends are now at historic highs.

When looking at international patent families, filing numbers for starch blends, PLA, PHAs and butylene-based polymers dropped in 2022. For the first time in more than 20 years, PLA is no longer the bioplastic with the largest number of international patent family filings. This distinction now goes (albeit by a thin margin) to PHAs. Therefore, it seems that PHAs are attracting a greater proportion of serious innovation compared to other types of bioplastics.

Companies filing bioplastics patents

The continued increase in overall filing numbers for bioplastics appears to be in part because of new players attracted to this area of innovation. In 2022, the top filer of bioplastics-related patent applications was by far Bioreset Biotecnologia LTDA, a Brazilian startup with no previous history of filing patent applications. Bioreset was responsible for the majority of filings coming from Brazil in 2022. However, none of Bioreset's filings have extended beyond Brazil, suggesting that this company is focused on producing and protecting a high volume of early-stage innovation in Brazil only.

The second and third most prolific filers of 2022, the LG Chemical group and CJ Cheiljedang, reflect the dominance of South Korea in bioplastics innovation, while interesting to note that filings from these two entities have declined slightly despite stable filing numbers from South Korea. It seems that a wider spread of entities in South Korea are taking on more of the research effort in bioplastics.

Bioreset, LG Chemical, and CJ Cheiljedang have each been filing patent applications relating to PHAs. In fact, PHAs appear to be the subject of most of the bioplastic-related filings from Bioreset and CJ Cheiljedang, in keeping with the recent increased focus on this type of bioplastic. Bioreset's filings describe methods of producing PHAs from various sources of industrial and agricultural waste. CJ Cheiljedang, meanwhile, has recently filed applications relating to a variety of aspects of PHAs, including improving their mechanical properties, recovering, and using the byproducts of PHA manufacture and adapting PHA compositions for different processing methods, such as extrusion coating or nonwoven fabric production.

Implications for innovation and future patent filings

The state of the global economy will inevitably be a consideration when filing patent applications, as shown by the decline of international patent families filed in 2022. However, the continued rise of overall filings relating to bioplastics suggests only a temporary decline.

Meanwhile, the search for bioplastics with the ideal combination of biodegradability, sustainability, and mechanical properties is shifting the focus of innovation from PLA and butylene-based polymers to PHAs. However, we expect that all three bioplastic types will continue to attract significant research efforts and, consequently, significant number of patent applications in the future.

The rising global concern on environmental challenges caused by plastic pollution has influenced investment in green innovation beyond bioplastics. Our article on plastic recycling, also featured in the fourth edition of the *Inside Green Innovation: Progress Report,* explores the recent surge in plastic recycling technology, and how recycling petrochemical-derived plastics can partially mitigate their environmental impact.

Access the full Inside Green Innovation: Progress Report via the QR code.

Visit the website
https://www.appleyardlees.com/

David Jasiewicz
Associate & Patent Attorney,
Appleyard Lees IP LLP

Patenting research outputs – Patents vs Designs

As we continue our series on considerations for businesses interested in obtaining protection for their commercial products, WP Thompson looks at scenarios where design protection might be more appropriate than patents.

Whilst some commercial products borne of research and development are functionally different from existing products, others might instead, or also, differ in appearance. Patents can protect new and inventive functional products, but they cannot protect differences in appearance, *per se*. This is where one or more forms of design protection might be more suitable.

Registered Designs

UK Registered Designs (UKRDs), obtained by applying to the UK Intellectual Property Office (UK IPO), can protect all or part of a product's lines, contours, colours, shape, texture, materials and ornamentation. They give their owners exclusive rights to make, offer, put on the market, import, export or use products incorporating or applying the design, or stock such products for those purposes. UKRDs incur lower official application and renewal fees than patents, and benefit from rapid examination (within 2 weeks), and longer maximum lifespans (25 years, relative to 20 years), whilst also entitling owners to display registration numbers on their products to deter would-be copiers. Direct copying of a UKRD is not required for the right to be enforceable against infringers, forcing competitors to independently design their products, thereby increasing market diversity.

UKRDs cannot protect features solely dictated by technical function (i.e., where the designer has no creative or design freedom), features constrained by *"must-fit"* or *"must-match"* relationships with interconnected features (*e.g.,* plugs and sockets), components of complex products not visible during normal use of the product (*e.g.,* spark plugs), or designs contrary to morality. UKRDs must be *"new"*, relative to any kind of goods disclosed in any sector anywhere in the world (with some limited exceptions) such as to produce an *"overall impression"* on the informed user different from that of any previously publicly available design. To encourage marketplace diversity, the less design freedom a designer has, the more any smaller differences can contribute towards an overall impression, meaning design protection for new versions of largely utilitarian products might still be possible.

Unregistered Designs

Two types of unregistered design exist: Supplementary Unregistered Designs (SUD) and UK Unregistered Design Rights (UKUDR). SUDs protect the same features as UKRDs and offer similar rights, but exist for only 3 years from the date the design is first made publicly available, and copying is required for infringement. Conversely, UKUDRs protect shapes or configurations of (part of) articles, but not surface decorations, methods or principles of construction, or *"must-fit"* and *"must-match"* features (preventing manufacturers gaining a monopoly for parts needed to repair their products). UKUDRs only subsist once they have been recorded or once an article has been made to the UKUDR. If articles made to a UKUDR are first exposed for sale/hire within 5 years of the end of the calendar year in which the UKUDR first subsists, the UKUDR lasts for 10 years from the end of that calendar year; otherwise, it lasts 5 years longer. In the last 5 years of protection, licences must be granted if requested by a third party.

Owners of UKUDRs have an exclusive right to make articles to their designs or make documents recording the designs to enable articles to be made. Third parties therefore infringe UKUDRs if they import into the UK or have in their possession for commercial purposes, or sell, let for hire, or offer/expose for sale/hire, in the course of a business, an article they know or have reason to believe is an infringing article. Again, infringement of UKUDRs requires copying. UKUDRs are only available where designers, their employers, or the first marketing of articles made to the design live, operate or occur, respectively, in the UK or another qualifying country. The limitations applied to unregistered designs are of course offset by the lack of payable official fees.

Protecting innovations

The UK rights available mean that researchers and designers can still seek robust protection for their products, even if they differ from existing products only in appearance and not by offering a technical advantage. In the technology product sphere, innovative design of products implementing or delivering new technological functionality may also be protected as well as the functionality itself, which may enhance brand creation and recognition. As such, diversity and consumer choice in markets is encouraged, whilst continuing to promote innovation.

To find out more from WP Thompson, including how to make your IP more profitable, please visit https://www.wpt.co.uk or contact Stuart Forrest at sfo@wpt.co.uk

2M Group of Companies crowned with a King's Award for Enterprise in 2024

The 2M Group of Companies have been crowned with a King's Award for Enterprise in 2024 for their excellence in international trade, marking the second time the organisation has been honoured with this award. The Award programme is the most distinguished business award in the UK.

The 2M Group of Companies supply added value chemistry-based products, services, and applications know-how to the life science and material science sectors. The 2M Group work in partnership with the world's leading chemical and natural ingredients companies.

The 2M Group of Companies is a wholly owned private company, headquartered in Runcorn, Cheshire and with an international presence in Benelux, China, France, Germany, Italy, Spain, Nordics, Poland and USA. The group exports to customers in over 90 countries.

Under the leadership of CEO, Chair and Founder, Mottie Kessler OBE and Business Export Director and co-owner Dr Maggie Kessler OBE, the 2M Group of Companies have strategically expanded its reach and reputation on the global stage which has helped to boost the UK economy. They currently manufacture and supply industries around the globe including Aerospace, Oil & Gas, Cosmetics, Green Sustainable Chemicals and Manufacturing industries.

The King's Award for Enterprise is a prestigious accolade recognising UK businesses excelling in four areas: Innovation, International Trade, Sustainable Development, and Promoting Opportunity through Social Mobility. The King's Award came in recognition of the significant export growth by the 2M Group of Companies and in appreciation of the group's investment in young people's access to a career in STEM, in the form of the 2M STEM programme, founded in 2016.

This accomplishment follows the 2M Group of Companies' receipt of the Queen's Award for Enterprise in International Trade in 2019.

For both export and UK customers, the King's Award symbol serves as an additional mark of excellence, further enhancing customer confidence in the quality and reliability of the 2M Group's products.

The recognition of these Awards also highlights the importance 2M places on STEM outreach and its commitment to enriching local communities.

The 2M Group of Companies has implemented several innovative solutions to maintain resilience during uncertain times. They have worked closely with the Department of Business and Trade who have helped navigate adapting to new regulations in a changing world. Strengthening local supply chains and establishing more robust partnerships with both suppliers and customers has helped mitigate disruptions. These adaptations have not only addressed immediate challenges but also positioned the company for greater agility and sustainability in the long term.

On Tuesday 9th July, Dr Maggie Kessler OBE attended the King's Award ceremony at Windsor Castle and had the opportunity to meet and speak with His Majesty King Charles III. The 2M Group also hosted an event at their Headquarters in Runcorn, Cheshire on 16th October 2024 to acknowledge to celebrate the award. For Dr Maggie Kessler OBE and Mottie Kessler OBE, celebrating with their teams was crucial – they wanted to recognise each and every staff member's contribution to 2M's award. The Award was presented by Lady Redmond MBE, the Lord-Lieutenant of Cheshire, on behalf of King Charles III.

Dr Maggie Kessler, Co-Owner of the 2M Group of Companies and Export Director says "As we celebrate both the tremendous honour of receiving the King's Award and 20 years of success for the 2M Group, these milestones are a testament to our shared dedication, achievements, and commitment to the future. Together, we look forward to advancing not only our business but also making a lasting impact on the chemical industry and contributing to the growth of the British economy."

For further information visit:
https://www.2m-holdings.com/

Our Contract and Toll Manufacturing Capabilities: Driving Efficiency and Sustainability at Libra Speciality Chemicals

At Libra Speciality Chemicals Ltd, we are a leading name in the UK chemical manufacturing industry, providing high-quality, tailored solutions across sectors. Our contract and toll manufacturing services enable companies to outsource their chemical production to us, allowing them to focus on their core strengths. This approach not only improves operational efficiency but also supports the growing need for sustainability in today's business environment.

Bespoke Manufacturing Solutions

At Libra, we offer flexible and customised manufacturing solutions. Our facilities house 16 reactors and 15 general-purpose mixing vessels, allowing us to perform various chemical reactions such as neutralisation, oxidation, and esterification. These reactors can handle high pressures, elevated temperatures, and nitrogen-blanketed environments for flammable materials. This ensures that we maintain both flexibility and stringent safety and quality standards across all processes.

In addition, our chemical mixing services are designed to meet diverse client needs. With 15 mixing vessels ranging from 2.5m^3 to 60m^3, we carry out processes like emulsification, solubilisation, and neutralisation. We work with acids, bases, and flammable solvents, using high-capacity shearers and advanced equipment such as APV homogenisers, ensuring precision in blending high solids dispersions and emulsions. This level of technological sophistication means we can consistently deliver exacting results for aqueous and solvent blends.

Efficiency Gains for Our Clients

Outsourcing chemical production to Libra gives our clients significant efficiency advantages. By leveraging our state-of-the-art infrastructure and expert workforce, businesses can avoid the costs and risks of in-house manufacturing. Our modern facilities allow for economies of scale, resulting in greater cost efficiencies for our clients.

Additionally, our bulk storage facilities, with over 386m^3 of stainless steel support flexible storage and distribution options. We maintain optimal safety and quality standards with features such as nitrogen blanketing, heat tracing, and agitators. We offer packaging solutions ranging from 200kg drums to full tanker loads, meeting both short- and long-term storage needs for a wide variety of chemicals.

Our Commitment to Sustainability

Sustainability is central to everything we do at Libra Speciality Chemicals. We continuously work to reduce our environmental impact by minimising energy consumption and waste throughout our manufacturing processes. This commitment aligns with our goal of contributing to a more sustainable future for the chemical industry.

We focus on using renewable raw materials wherever possible, reducing our dependence on finite resources. This approach supports the broader movement towards a circular economy, where waste is minimised and efficiency is maximised. Furthermore, by offering environmentally friendly alternatives, we help our clients achieve their own sustainability goals, positively impacting the entire supply chain.

Our energy management policy underscores our dedication to continuous improvement in sustainability. We strive not only to meet but to exceed regulatory standards, investing in technologies that promote greener manufacturing. This ensures that sustainability remains an integral part of our business model.

Tailored Services and Expertise

Alongside our core manufacturing capabilities, we provide a range of customised services. These include blending, filtration, product reprocessing, and contract filling and packing. We accommodate a variety of container sizes, from 20-litre packs to bulk tankers, ensuring flexibility in packaging and distribution. Our solid processing services allow us to restore compacted products to meet required specifications, and we offer bespoke plant installations for unique client needs.

Our technical expertise and flexibility make us a valuable business partner across multiple industries. We work collaboratively with our clients, ensuring that every project aligns with their operational objectives and sustainability targets.

A Trusted Partner

As members of the BCMPA, we adhere to the highest standards of service and professionalism. Our contract and toll manufacturing services help businesses increase efficiency and sustainability, giving them access to our advanced facilities and expert teams. By working closely with clients, we ensure streamlined production processes that support both commercial and environmental goals.

In conclusion, our contract and toll manufacturing services at Libra Speciality Chemicals offer flexible, efficient, and sustainable solutions. With our commitment to quality and environmental responsibility, we remain a trusted partner for businesses looking to optimise their production processes while reducing their environmental impact.

For further information visit https://librachem.co.uk

Bitrez join European Team Developing the supply chains for industrial hemp fibre and Bio-based resins towards high performance circular Bio-based composites.

The SSUCHY-NEXT consortium is an EU funded project* pulling together a variety of research facilities, SME's and larger organisations to build on the foundations of the original SSUCHY project, which developed the hemp fibre supply chain and Bio-based epoxy resin. Recognising the need to advance beyond SSUCHY's achievements, SSUCHY-Next seeks to elevate various aspects of the hemp fibre supply chain towards industrial viability. This includes scaling up the production of hemp fibre products, from field extraction to composite materials.

SSUCHY-Next addresses the challenge of the limited availability of Bio-based polymer matrices, crucial for sustainable composite production, by focusing on three Bio-based polymer systems and aiming for high bio-content and recyclability: Bio-based acrylic polymer ('Elium®') with very high bio-content, fully Bio-based benzoxazine, and fully Bio-based BG-epoxy, building upon the system developed in the first SSUCHY project.

The project runs from the 1st September 2024 until 31st August 2028 and aims to demonstrate the use and environmental benefits of the new Bio-based polymer matrices in wind turbine blades, leather replacement materials, and construction materials, such as façade cladding panels. The project will pay particular attention to recyclability of the new materials and products, ensuring the sustainability of the Bio-based solutions.

The inaugural event kick-off meeting for this project was chaired by Prof. Aart W. Van Vuure, Sustainable Composite Materials Campus Group and held on the 18th and 19th September at the Department of Materials Engineering in the Arenberg campus in Heverlee Leuven, Belgium. Paul H Jones and Wendy Howarth attended, and Paul presented information about Bitrez, biopolymers and scale up concepts and considerations to the group.

Consortium partner Paul H Jones, Bitrez Managing Director said, "I am delighted that we have been invited to participate in this project and can provide support, especially considering the current interest in natural fibre reinforcement and compatibility in our work developing Bio-based matrix systems.

It was a pleasure to meet fellow members and be amongst such distinguished individuals in pursuit of such admirable goals. I am sure that collectively our work will yield valuable results and contribute to a reduction in petrochemical reliance."

For further information visit www.bitrez.com

This project has received funding from the Circular Bio-based Europe Joint Undertaking (CBE JU) under grant agreement No 101157517. The JU receives support from the European Union Horizon Europe research and innovation programme and the Bio Based Industries Consortium.

The future of STEM: Developing today's talent for a stronger workforce tomorrow

The future of STEM relies on developing and empowering the next generation of talent -individuals with the knowledge, skills and motivation to make an impact now, and in years to come. To futureproof STEM sectors, it is imperative that organisations and universities explore the opportunities for emerging talent to learn, grow their skillsets and gain experience, en route to a potential career.

With rising salaries, a skills shortage, and an ageing workforce, apprenticeships are still a largely untapped resource which businesses could use to engage and invest in early talent, as well as advance ED&I. It is vital that we, as a recruitment business, create alternative, non-traditional routes for talent to actively drive inclusion and social mobility in the STEM community.

SRG's Recruit, Train, Deploy – empowering fresh talent, bridging skills gaps
SRG have been passionate about celebrating Young Talent and powering the future of STEM for over 30 years. We have worked with early talent and watched them evolve into experts and leaders who now drive innovation and growth. To go a step further, we have now developed a new solution which we hope will continue that cycle, empower the next generation, and bridge the skills gaps in technology, engineering, and scientific specialisms.

Our **Recruit, Train, Deploy** model is a strategic approach designed to enhance the workforce with a pipeline of diverse, skilled professionals who are trained and ready to innovate. Put simply, we **recruit** promising individuals, provide them with comprehensive **training** through apprenticeship courses and **deploy** them into roles where they can immediately impact.

How is Recruit, Train, Deploy Delivered by SRG?
Our process begins with a rigorous recruitment strategy; identifying your skills shortages and/or ED&I goals before tapping into an extensive STEM talent community to source potential candidates.

We then look to enrol candidates onto tailored training programmes to align with their individual goals and your business team needs, using our apprenticeship levy fund to finance courses with training providers. This is combined with on-the-job learning experiences that are both practical and relevant to your needs. Learners are also supported by our dedicated in-house Apprenticeship Manager, who provides a crucial conduit between training providers, learners, and businesses, ensuring every apprentice thrives personally and professionally.

Finally, we deploy these trained and qualified professionals into your organisation, into permanent positions, with the skills and values which fit your technical and cultural needs.

What's more, we can adapt this framework to suit both the apprentices and the organisation. This solution can be employed to secure and mould young talent or enhance the skills of experienced candidates, with a choice of courses and qualifications, to create a custom, sustainable pipeline of empowered people with the exact skills you need.

The result is a growing workforce of passionate, skilled and dedicated people driven to excel and contribute to your business, whilst contributing to a bolder, brighter future for STEM.

Why SRG's Recruit, Train, Deploy solution works

- **Industry expertise**
  With a deep understanding of the scientific and engineering sectors, we tailor our solutions to meet the unique demands of your industry.
- **Proven track record**
  Our successful engagements with leading firms across the UK speak to our ability to deliver impactful results.
- **Comprehensive support**
  From recruitment to training and deployment, we offer an end-to-end solution that ensures your workforce is skilled, motivated, and ready to drive innovation.
- **Custom-trained teams**
  Our programs are tailored to individual learners and business teams, fostering STEM excellence and custom-built teams to resolve skills shortages.
- **Driving ED&I**
  We provide better access to fulfilling work for underrepresented demographics and opportunities for social mobility, actively contributing to a more dynamic, diverse workforce.
- **Sustainable Growth**
  Going beyond the here and now, Recruit, Train, Deploy enables sustainable growth and the development of future talent, to not only meet the current demands of your business but anticipate future needs too.

Nurturing next generation talent, their skills, ideas, and passion is key to the future of STEM. Together, through initiatives such as Recruit, Train, Deploy, we can build a platform for them to develop and grow, creating a diverse, skilled, and resilient workforce for the challenges of today, tomorrow, and decades to come.

For further details visit - https://www.srgtalent.com/

The next generation

Virtual work experience for chemical and process engineers of the future

What's the problem?
It can be a challenge for young people to find in-person work experience. Especially in manufacturing and other industries where there is a need to balance health and safety requirements with school and college students trying out different job roles. In addition, young people may live quite a distance away from any STEM industry (Science, Technology, Engineering and Mathematics), making it hard to find out about STEM careers. Even for older university students and apprentices, finding work placements and internships can be a daunting prospect so, for young people aged 14 years and up, it can be a challenge to find a work experience placement.

What's the solution?
For those who do not have the opportunity for in-person work experience in chemical and process engineering, and to increase availability and access for more young people, the Institution of Chemical Engineers (IChemE) has partnered with Springpod to create an online virtual work experience programme, called 'Engineering a sustainable world'; the virtual work experience programme allows young people to explore what it's like to be a chemical engineer working in different industries.

Aimed at school and college students 14 to 18 years old, the programme takes around 8 hours to complete and can be completed over several sessions. It involves different types of interactive tasks: including quizzes, watching videos and exploring common misconceptions. IChemE has been able to draw on the experience of over 50 chemical and process engineers who have contributed to the programme. From providing case studies, to sharing their own work experiences and making 'Meet the Engineer' videos; these engineers are able to show young people the breadth of the profession and the diversity of people working in it. As part of the virtual work experience, young people can ask questions and interact with ambassador engineers through the platform. Both the well-established university route and the apprenticeship route into chemical engineering are covered in the virtual programme, so young people can start making decisions about career choices.

The programme launched on 30 September and students are signing up in good numbers already. Around the same time, a recent report from Engineering UK[1] highlighted the challenges in STEM careers provision and the value of "meaningful" virtual work experiences. Whether in chemical engineering, chemical sciences or other STEM industries innovations like virtual work experience help to open up career opportunities and pathways for young people thinking about what they want to study, up to and beyond 18 years of age.

Real-world tasks
One criticism of virtual work experience is that it is not real-world. Alongside the virtual experience is a separate real-world task called a 'sprint'. Shorter in duration, lasting around an hour, the sprint encourages students to think about skills they would need as a working process engineer including; problem-solving, mathematical skills, applying existing knowledge in a new setting and the interpretation of an engineer's process flow diagram. Beyond what they would do in the classroom, the sprint real-world mini-project helps students put themselves through the kind of tasks done by working engineers.

Schools engagement
Many STEM professionals are already involved in supporting young people through outreach and engagement activities and attending careers fairs and similar events at schools and colleges. Being able to offer a virtual work experience programme to young people helps to raise the profile of the work of chemical and process engineers and in turn ensures a future talent pool of skilled engineers.

1. Advancing STEM careers provision in England (2024) **Engineering UK**

Victoria Speed
Schools and College Engagement Officer
Institution of Chemical Engineers (IChemE)

For further details visit - https://www.icheme.org/education-career/discoverchemeng/virtual-work-experience

Is attraction and retention still all about salary & benefits?

Attracting and retaining employees is always a topic of conversation in our office. Whether that's with clients wanting to know what they should be offering. Or from candidates directly who have spent time thinking about what is important to them.

The list has definitely changed over the years and will no doubt change again as our relationship with work continues to evolve.

Today most people see through the cheap (and not so cheerful) perks like free fruit, well-bring packs or 'dry promotions' etc. There is far more focus on culture and opportunity for personal growth.

An ambitious, high calibre candidate/employee will likely always be looking for:

- Opportunity and development.
- Company stability, growth and purpose.
- Team fit, people engagement, inclusion, diversity.
- Leadership style and autonomy to do their job.
- Open and honest communication.
- And... reward and recognition.

Of course, the last one is the big one; people want to feel that if they are moving, they are welcomed as a positive addition to the new company and that they will be compensated fairly for the worth of that new role.

In offer negotiations, it often boils down to discussing fine margins regarding the over-all package which at a senior level would normally include:

- Bonus and long-term incentive plans (LTIPs) including shares and investment potential.
- Enhanced pension contributions by the employer (and the max. total combined)
- Family healthcare, life assurance, and enhanced sick pay
- Fully paid periods (4 months or more) of parental or adoptive leave
- Holidays are becoming increasingly important to people with enhanced leave of more than 30 days per annum, or ability to buy extra holiday days.
- Car allowance or car

When companies get the culture right their reputation goes before them, resulting in positive recruitment and retention. It is only then that extra perks are seen in the context in which they are genuinely meant, as a happy additional token for a hardworking team to enjoy.

So, coming back to my original question is attraction and retention still all about salary and benefits? For me, the answer is yes and no. You have to tick some of the hygiene boxes to get people through the door. But the differentiator comes from your culture. If you get the culture right then you're on the right road to empowering people to add value, and that's when real growth is possible.

For further details contact Anita Caldwell
anita.caldwell@rmg-uk.com
or visit the website
https://www.rmg-uk.com/

Why UK Chemical Companies Keep Getting DE&I Leadership Wrong - and How to Fix It

The DE&I (Diversity, Equity, and Inclusion) sector is projected to hit $25 billion by 2030. However, a lack of a universal approach to DE&I leadership leaves companies hamstrung by unclear strategies and poorly structured initiatives. This challenge is particularly evident in the UK chemical industry, where DE&I has the potential to address skills shortages and drive innovation. Yet, many companies in this technical industry continue to fall short in achieving sustainable DE&I results due to common leadership and hiring mistakes.

The chemical industry, one of the UK's largest sectors, is facing a critical skills shortage. According to the **Chemical Industries Association (CIA)**, women make up only **28%** of the workforce, and ethnic minorities hold less than **9%** of leadership positions. At the same time, **43%** of employers in the sector report difficulties filling technical roles, particularly in engineering and process development. Companies that fail to develop a strong DE&I strategy risk missing out on crucial talent and innovative solutions that diverse teams bring.

At Page Executive, I've witnessed firsthand the transformative power of competent DE&I leadership. Drawing on my experience and insights from speakers at a recent Page Executive webinar, I'm going to outline what DE&I leadership roles entail, some of the common hiring mistakes and what companies can do to make their DE&I initiatives meaningful, impactful and sustainable.

Understanding the role of a DE&I leader
A DE&I leader is responsible for implementing strategies that foster diversity, equity and inclusion in a company. These strategies can come in the form of policies and programmes, such as shaking up hiring methods and setting up employee resource groups (ERGs). However, it is equally important to run training and development to change the day-to-day culture of the company.

The Benefits of Competent DE&I Leadership
When done right, DE&I leadership can have profound impacts on the chemical industry, including:

- **Innovative problem-solving:** Diverse teams generate more creative solutions, which is crucial in a field that thrives on innovation.
- **Talent retention:** Creating an inclusive environment reduces turnover and helps companies retain skilled workers, which is critical given the industry's skill shortages.
- **Operational efficiency:** Inclusive leadership enhances collaboration between departments such as R&D, safety, and production, breaking down silos that often hinder efficiency.
- **Enhanced reputation:** A commitment to DE&I improves a company's image, making it more attractive to top talent and partners.

Common Mistakes in DE&I Hiring
Many chemical companies make several key mistakes when hiring DE&I leaders, often confusing passion for skill. A recent article by my colleague Catherine Osaigbovo, (www.pageexecutive.com/advice/insights/championing-dei-leadership) and from a recent event, she discussed the matter with a leading mind in the CCWE who outlined some pitfalls.

1. **Hiring passion over expertise:** Companies often value lived experience and activism over technical skills. While ethical considerations are important, they don't always translate into effective business strategies. DE&I leaders must have concrete competencies to navigate the specific needs of a technical industry like chemicals, where regulatory compliance and innovation are paramount.
2. **Lack of structure and goals:** Chemical companies often fail to define the objectives of their DE&I roles, leading to underperformance. A DE&I leader needs clear goals aligned with the company's broader business strategy. Whether it's improving recruitment diversity or fostering inclusion in research teams, measurable success indicators are essential.
3. **Prioritising personality over experience:** Charisma alone doesn't make a great leader. Chemical firms need DE&I leaders with a proven track record of driving change in technically complex environments. The ability to implement long-term strategies that integrate into the technical, operational fabric of the business is critical.
4. **Hiring speakers, not strategists:** In a technical field like the chemical industry, it's easy to hire someone with the ability to raise awareness or educate. But DE&I leaders must go beyond this, driving structural changes that make inclusion a business imperative. They should be able to contribute to leadership discussions and help solve challenges related to talent shortages and operational innovation.

Establishing a Competency-Based Approach
A competency-based approach to DE&I is essential for the chemical industry, where technical expertise and inclusion must go hand-in-hand. Some considerations:

- **Neutrality:** Separating personal and political views from business needs.
- **Evidence-based decision-making:** Basing strategies on data, not narratives.
- **Intersectionality:** Ensuring DE&I efforts consider multiple demographics without alienating others.
- **Restoring trust:** Building trust through consistent action and addressing broken promises.

Four Steps to Hiring the Right DE&I Leader

1. **Get leadership buy-in:** DE&I needs to be embraced by senior leadership to be effective. Engaging employees and executives alike helps ensure the strategy is aligned with the company's goals.
2. **Define success:** Before hiring a DE&I leader, companies must establish clear objectives that align with their business needs—whether that's improving technical recruitment or increasing innovation through diverse teams.
3. **Take time:** Avoid rushing hires. Thoughtful, deliberate recruitment will ensure companies find candidates with the right balance of DE&I expertise and industry knowledge.
4. **Consult with experts:** Given the technical nature of the chemical industry, consulting DE&I experts familiar with the field can guide hiring and strategy development.

If you want to develop a clear and effective strategy for a more equitable workplace, please contact benappleton@pageexecutive.com or visit https://www.pageexecutive.com

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The Chemicals Northwest Sustainability Interest Group

Business sustainability/ESG consultant and former industrial chemist Dr Roger Wareing PIEMA, introduces the new Chemicals Northwest Sustainability Interest Group, reports on its first event, and invites more members to join.

Addressing net-zero and other sustainability challenges is critical to our industry's future and now firmly on our radar. Alongside, the multiple economic and other headwinds we face, we must also grapple with a unique cocktail of sustainability-related challenges including the inherent fossil fuel component of the majority of our products, the relatively energy-intensive nature of their production and sustainable resource and waste management more generally. Alongside this we are further charged with fundamentally improving the lifetime stewardship of the products we place on the market.

Without individual approaches to address the "value at risk" from this new differentiator/disruptor, we will erode our hard-won competitiveness and potentially even risk both our fundamental relevance and "license to operate". The stakes are clearly high. On the plus side, our industry can already boast an enviable tradition of risk management, innovation and improvement, capabilities which will continue to serve us well. But we must also recognise that a traditional continuous improvement approach will not solve the sustainability puzzle on its own. We will need to innovate and collaborate more effectively than ever before to achieve and prosper from the business model transformations which are necessary.

To help our members successfully navigate this emotive, complex, and often confusing space, we have recently launched the Chemicals Northwest Sustainability Interest Group to bring together and better harness the skills and passion which we know already exists within our membership. Not just another talking shop, our focus will be our individual and collective ability to deliver through three objectives which resonate with member needs (see BOX 1). Through this, we will feed into Chemical Northwest's mission to improve the sustainability, competitiveness, and image of our industry.

Box 1 – Core Objectives of the CNW Sustainability Interest Group

KNOWLEDGE	Highlighting and sharing guidance, insight and case studies from our own industry and beyond to build and support capability development
ENGAGEMENT	Raising engagement on sustainability topics and challenges both within and outside the group to encourage and support organisational journeys
COLLABORATION	Forging new collaborations and supporting existing ones to accelerate progress in solving both common and unique problems leading to more sustainable outcomes

I was delighted to host and facilitate the first event at Daresbury in November. Despite weather and traffic challenges, we convened a room full of members across a variety of backgrounds and with a shared passion to help solve sustainability challenges – along with a shared frustration that we are not (yet!) making the progress we desperately need. We started by framing the sustainability context for our sector before learning where individual organisations see themselves on their own journeys using a quick but informative poll. The first breakout group discussions focussed on our three objectives and started to flesh out how we can together reduce and remove barriers to progress. During the second half, we drilled down into what best-practice sustainability looks like and how its elements combine into a holistic and strategic organisational response. Using this starting point, we conducted a second poll to pinpoint areas where members both want help and can offer help to each other from which it is clear from this that there is a lot to do but also the appetite to do it. We ended by focussing on three highlighted elements – harnessing internal engagement, building business cases and engaging/communicating with wider stakeholders – with our groups considering both the critical success factors and how we might help each other overcome the inevitable barriers. I want again to thank the attendees for their positive engagement and thoughtful contributions including working through and beyond the supplied lunch. Indeed, we were so engaged that we forgot to take the event photograph! The event was well received and more than demonstrated the potential for the Chemicals Northwest Sustainability Interest Group to be genuinely additive in helping members progress their individual organisational sustainability journeys. We are currently digesting the output and plan to have our next event in the New Year. We hope that other members will read this and join us.

Contact Alex Abraitis to register your interest in the group's output and future events.

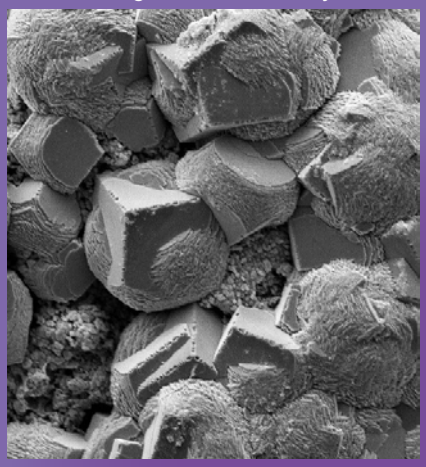
CO_2 Stress Corrosion Cracking

From fire extinguishers to beverage manufacture, CO_2 gas cylinders have numerous industrial and commercial applications, and with banks of the larger vessels being used for fire prevention within electrical substations; where they may stand unattended for many years until removed for inspection and pressure testing.

50-year-old CO_2 cylinder bank (Leak circled)

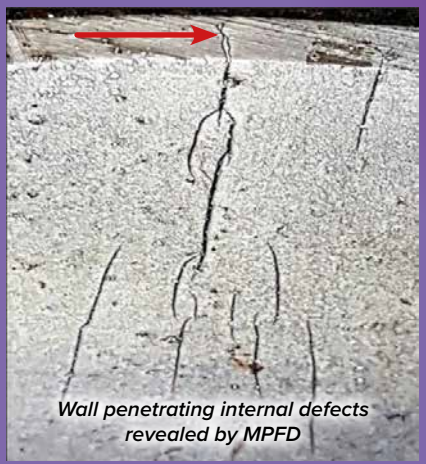
Failures are rare, even though many of the cylinders currently in circulation are 1970's vintage. The 45 kg cylinder shown in the foreground of this image was pressure tested 15 years prior to it developing a pin hole leak. AXIOM carried out a 'post mortem' metallurgical examination, fully expecting to find the perforation was associated with internal corrosion; but this wasn't the case.

Black magnetite iron oxide crystals



Preliminary cutting revealed the internal surface was literally festooned with sub-millimetre sized magnetite iron oxide crystals which reflected our torchlight-like miniature black diamonds.

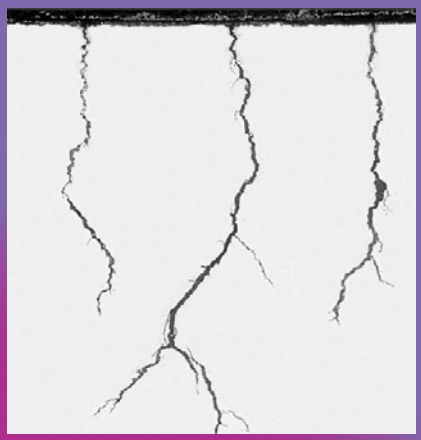
No significant metal loss had occurred and it was not possible with the naked eye even to locate the internal source of the leak. Only when magnetic particle flaw detection (MPFD) was employed did the true nature of the problem emerge; manifesting itself as the series linear surface breaking defects. The image below shows one of the cracks on the cut-line is almost wall penetrating (red arrow).



Wall penetrating internal defects revealed by MPFD

There are very few substances that might cause multi-branched cracking of carbon steel, and although at this point the evidence could be considered anecdotal, in the absence of any other plausible mechanism(s) it was concluded that the most probable cause of failure was CO_2 stress corrosion cracking (SCC). CO_2 SCC requires aqueous conditions and, in this case, the potential for cracking was exacerbated by virtue of the cylinder's high tensile strength (1,000 MPa).

It was further concluded that cracking most probably initiated soon after it was re-charged with CO_2, and (given the location of the cracks) whilst the cylinder was near-horizontal and where a pool of water was able to form. Water can be acidified by atmospheric CO_2 so under high pressure, the absorption of CO_2 and subsequent carbonic acidification would have intensified. NB. In an acidic (corrosive) environment, a high strength steel might also be vulnerable to hydrogen cracking, however in this case the morphology of the defects was considered to more closely resemble CO_2 SCC (or maybe the two mechanisms are related???).



5mm deep CO_2 SCC defects

Under steady state / dry operating conditions, there are no known internal degradation mechanisms that might detrimentally affect the internal surface of a CO_2 cylinder; however, the accidental introduction of water actually creates one.

There is a known 'black market' where beverage CO_2 gas cylinders change hands without undergoing any form of inspection or testing. It is not unknown for CO_2 cylinders to be stolen from public houses (the CO_2 costs about ~£10 but the cylinders are worth >£60). Most CO_2 cylinder traders would refuse to recharge a 'hooky' cylinder on safety grounds, but ironically, the stolen cylinders might well be safer (less likely to suffer SCC) than those which have undergone inspection and pressure testing.

For more information about AXIOM's Materials Services, please contact AXIOM Materials Engineering Lead, Adam Lawther at: adam.lawther@axiom-ltd.com or visit: www.axiom-ltd.com

Cybersecurity in Operational Technology: Safeguarding Critical Infrastructure

Cyber-attacks are a growing risk to society, business, and industry. Especially the chemical industry. A 2021 UK government study estimated that cyberattacks cost the industry in general £1.3 billion a year.

Hiscox (2022) reported a fifth of businesses said a serious cyber-attack nearly bankrupted them, with 87% viewing the threat as bigger than an economic downturn.

In the UK, 74% of organisations employing Operational Technology (OT) reported experiencing data breaches (Cyber Security Breaches Survey 2024, GOV.UK). Unlike attacks on IT, where the aim is usually financial gain through threat of data loss or denial of service, the impact of successful attacks on OT may be more severe, with a physical impact on plant and equipment in real-time. The consequences may be far reaching, especially in the hazardous process industries, resulting in:

- Fires and explosions, leading to harm to employees and the public (even loss of life), long-term environmental damage and regulatory breaches.
- Damage to manufacturing plant and to products manufactured which may harm end users, e.g. pharmaceuticals
- Business failure from costs arising from attack.
- Impact on local or national security.

Historically, OT was not connected to the internet, systems were 'isolated' or 'air-gapped', but the move to Industry 4.0, with increased connectivity to provide real-time data analysis and integration with business systems generally, has increased the digital attack surface.

McKinsey noted that around 35% of declared OT cyber-attacks in 2021 had physical consequences, including shutdowns, outages, leakages, and explosions, with damages estimated at $140m per incident.

Fortinet's The 2024 State of Operational Technology and Cybersecurity Report revealed that 37% of organisations reported six or more intrusions in the past year, a significant increase from 11% the previous year.

Notable OT malware events

There have been many well documented malware attacks on OT systems, which include:

- **Stuxnet (2010):** A cyberattack that targeted and damaged Iran's nuclear program by compromising SCADA systems.
- **BlackEnergy 3 (2015):** Malware that disrupted the power grid in Ukraine, affecting the electricity supply to customers.
- **Triton (2017):** Dubbed the 'world's most murderous software,' this malware can disable safety systems designed to prevent major accidents, first detected in a Saudi petrochemical plant.
- **DarkSide (2021):** A hacker group that used ransomware to infect Colonial Pipeline's network, leading to a pipeline shutdown. The company paid a ransom for the decryption key.

And according to the 2024 Threat Report from Waterfall, in 2023 there were 68 deliberate OT attacks which impaired operations at over 500 sites. The number is projected to rise to 100 during 2024.

Globally, the focus is sharpening on cyber-threat

Moody's 2023 survey highlights increasing cybersecurity awareness in the chemical industry, revealing a significant increase in cybersecurity budgets in response to rising incidents and anticipated regulations, with small and medium sized firms allocating around 10% of their IT budgets to cyber defences. The proximity of the Chief Information Security Officer (CISO) to the executive team is also seen as crucial for effective cyber risk management.

Building resilience in the sector against cyber-attacks

The National Cyber Security Centre (NCSC) 2023 Report identifies state-aligned actors as a major cyber threat to critical national infrastructure (CNI):

- **China:** Poses a significant challenge with state-affiliated cyber actors targeting critical infrastructure.
- **Russia:** Continues cyber-attacks on Ukraine, including DDoS and data wiper attacks.
- **Iran:** Engages in spear-phishing and targeting individuals perceived as regime enemies.
- **North Korea (DPRK):** Uses cyber activities for illicit revenue and regime consolidation.

The NCSC emphasises the need for collaboration with allies and industry to mitigate these threats.

Resilience in the UK chemical sector is not mandated but operators must comply with relevant safety and environmental legislation. Currently, 872 sites fall under the Control of Major Accident Hazards (COMAH) Regulations 2015, which require duty holders to take all measures necessary to prevent major accidents and to limit their consequences for human health and the environment. This means all COMAH Operators must implement effective Cyber Security Management Systems (CSMS) to mitigate the effects of cyber-attacks, as foreseeable events.

The threat of OT attacks may not have been considered fully, given that responsibility for cyber security is often the domain of IT, who may not fully understand OT vulnerabilities and potential consequences. Engaging both engineering and IT functions is an essential step in understanding the significant issues operators face.

Assessing CSMS maturity

Cyber security management for OT should be incorporated into broader process safety management programmes. OpenPSM provides a state-of-the-art cloud-based application to allow operating companies to assess PSM system design and implementation to provide assurance that essential systems and procedures are fit for purpose and remain effective over time.

Soon to be added to this offering is a tool for self-assessment of Cyber Security Management Systems (CSMS), against established and evolving good practice guidance.

For more information contact fhought@openpsm.uk
(Fiona Hought, Director, openpsm.uk)

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GB - EU Divergence: Prior Informed Consent (PIC) Regulations for EU & GB

Prior Informed Consent (PIC) Regulations cover the import and export of certain hazardous chemical substances to/from applicable countries.

Companies exporting or importing chemicals subject to PIC can have various obligations depending on the substance and its intended use.

Chemicals impacted by PIC regulations can be categorised into one or more of three categories:

• Substances requiring an export notification to be submitted to the authority in the exporting country prior to export.

• Substances requiring explicit consent from the authority in the importing country prior to export.

• Substances which are banned for export entirely or for specific uses.

Note: The requirements apply also to mixtures and articles which contain the listed substances.

Inventories of chemicals subject to PIC and the corresponding categories are maintained by the various Designated National Authorities (DNAs). These include substances listed in the Rotterdam convention but also other chemicals that are banned or restricted in the relevant country.

The European Commission acts as the common DNA for the EU countries and the European Chemicals Agency (ECHA) facilitates the notification process via tools (notably ePIC) and guidance and also maintains the database of export/import of PIC chemicals. For EU-based companies, obligations apply when a company wishes to import/export to/from the EU. While the UK was a member state of EU we benefitted significantly from this harmonisation.

After Brexit, it was necessary for the UK to implement its own PIC procedure with the Health and Safety Executive as the DNA. The UK regulation is known as GB PIC. For GB-based companies, obligations apply when importing/exporting to/from GB (England, Wales, Scotland). It's important to note that, due to complexities from the Northern Ireland Protocol, Northern Ireland (NI) remains under the EU PIC regime.

Divergence in this aspect of trade creates significant extra work for companies doing business between the UK and EU and in fact also for companies trading within the UK (between GB and NI). The main problem is the need for new notifications where previously none were needed, for chemicals requiring explicit consent this can mean significantly more work and lead time required prior to export. There is the possibility of obtaining waivers but these still have to be applied for and justification as to why explicit content is not necessary must be provided to UK HSE.

With the GB PIC regulation now separated from EU PIC, there is scope for further divergence. Both EU and GB PIC lists include substances which are restricted in EU/GB and these are starting to differ as the UK and EU REACH regimes diverge. It is likely that in future, the PIC requirements for certain substances may be quite different in EU, NI and GB. This would place an additional burden of complexity on product compliance and logistics specialists but it could also disproportionately effect product desirability or feasibility in the two jurisdictions.

While these difficulties are not insurmountable, they still contribute to the ever-growing list of considerations for companies operating in the UK and in wider Europe. It is more important than ever to have detailed oversight of supply chains, substance portfolios and rapidly changing regulatory requirements in different markets. Staying on top of all this can be a challenge.

If your company needs support with complying with PIC or other regulations affecting chemicals or articles - knoell is here to help. We can offer expert advice, portfolio analysis and regulatory screening as well as full or part time support to help your company handle specific challenges or just keep up with daily compliance and data management.

See our website for more information - www.knoell.com/en

Navigating Global Regulatory Challenges: An Inside Look at Yordas Group's Auditing Expertise

Yordas Group's auditing team helps clients navigate a range of regulatory challenges across various industries as Globally Harmonised System (GHS) has a wide breadth of impacts, a major challenge for our clients is harmonisation of their chemical labelling and communication requirements with varying rules across the world.

Yasemin Ertugrul sat down with Nathan Town-Field of Yordas Group to discuss their commitment to providing clients with the essential tools for regulatory compliance and optimising operational efficiency.

What are the key regulatory challenges your team helps clients navigate in various industries Yordas provides services for?
To ensure our clients are equipped we assist them with:
• Classification of substances/mixtures in accordance with GHS and global regulatory implementations

• Safety Data Sheets (SDS), eSDS and labelling authoring and maintenance that comply with regulatory standards in global regions

• Auditing of Hazard Communication practices, ensuring our clients implement chemical management systems to remain compliant with needs

• Helping our clients keep up to date with regulatory changes that happen to their portfolio using our expertise and software package Helix to avoid surprises and maintain compliance

How does your auditing process ensure clients meet regulatory requirements while optimising operational efficiency?
Our auditing process is designed to ensure that clients not only meet regulatory requirements but also optimise their operational efficiency. We place the client at the centre of our evaluation, collaborating closely with them to gain a deep understanding of their processes allowing us to deliver an audit tailored to the specific regulatory and operational needs of each client. We know that each audit is unique, therefore we follow a structured approach to maximise efficiency and compliance. Our 5 key steps include:

1. Scoping and Assessment – We begin by opening a relationship with the client to thoroughly understand their portfolio and their specific regulatory obligations.

2. Detailed Questionnaire – A comprehensive questionnaire helps us gather critical information on existing practices and compliance gaps.

3. On-site or Virtual Interviews – These in-depth interviews allow us to further assess compliance and identify areas for improvement and allow us to deep dive further into answers provided in the questionnaire.

4. Report Drafting and Finalisation – Summarising our findings into non-compliances and recommendations and providing clear and actionable steps moving forward.

5. Termination Meeting – In this final step, we review the audit results, discuss next steps, and set a roadmap for continuous improvement.

At Yordas, our role extends beyond the audit itself. We care and are committed to supporting clients through the entire process, offering solutions and assistance to address any actions identified during the audit.

Can you share a success story where your audit services significantly benefited a client's compliance posture or operational effectiveness?
Our client, managing a portfolio of 20 products, lacked a chemical management system and had outdated Safety Data Sheets (SDS). They were also looking to expand their products into the complex regulatory US market. Through our audit, we identified several critical gaps in their regulatory documentation and internal processes, especially in preparation for US compliance. We provided clear, step-by-step recommendations to address these issues, including updating their SDS and implementing a robust chemical management system with proper tracking/reporting capabilities to help modernise their regulatory approach from reactive to proactive. As a result of the audit, the client successfully implemented the necessary actions, which enabled them to enter the U.S. market with confidence, knowing they were fully compliant. This also demonstrated their commitment to due diligence, strengthening both their regulatory standing and market readiness.

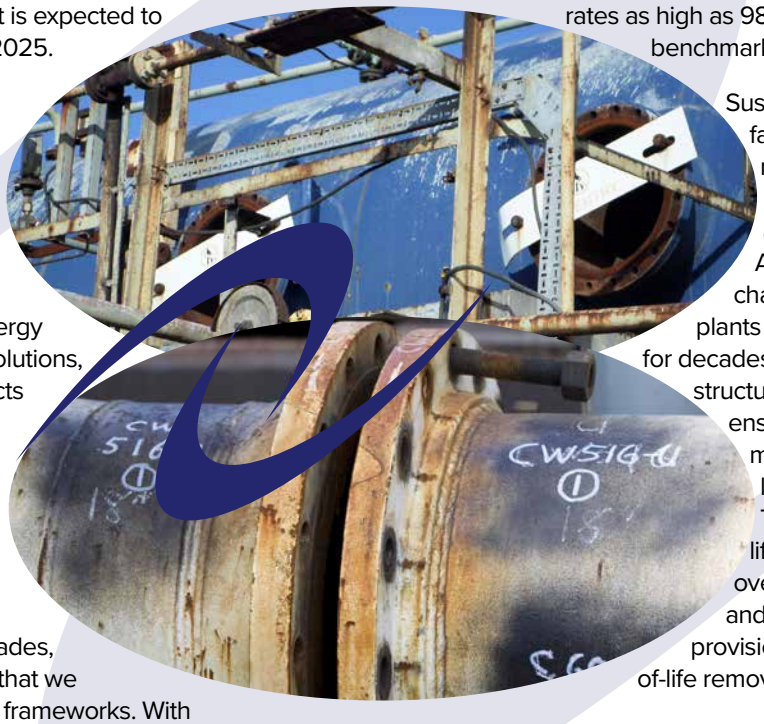
Book a Consultation with YORDAS

Want to ensure your business remains compliant and operates efficiently? Our team of regulatory experts is here to help. ***To schedule a consultation about our auditing services, contact Jodie Kershaw today via email at j.kershaw@yordasgroup.com***

RVA Group progresses with DDDD projects in Cheshire

RVA Group – a specialist project management and engineering consultancy providing decommissioning, dismantling, decontamination, and demolition (DDDD) support to industrial industries – continues to make significant strides in the northwest's chemicals sector. With 33 years of experience in managing high-hazard and complex regulatory environments worldwide, and approximately 18 years of continuous work in the region, the company's proven expertise has secured a leading role in two projects currently underway in Cheshire.

Following a rigorous tendering process, RVA has recently been selected by one of the UK's leading organisations seeking to develop a new facility in the county. RVA's involvement includes providing support throughout the decommissioning and preparation phases for in dismantling and removal of redundant assets. The project is expected to be completed by the end of 2025.



"No strangers to managing complex decommissioning projects in challenging environments, RVA's expertise is now providing valuable support to companies looking to develop alternative green energy generation and technology solutions, helping set high-profile projects off on the right footing," says Steve Andrew, business development and technical director at RVA. "We understand the regulatory landscape of these types of projects having delivered them over the past three decades, giving clients the confidence that we can operate within strict legal frameworks. With our proactive approach to risk management, we also ensure ambitious sustainability goals are met while maintaining the highest HSE standards and optimum economic outcome for the project."

RVA has also been engaged in the decommissioning of several major global pharmaceutical, chemical, oil and gas, and power plants in the northwest area and is currently actively supporting clients in the region. RVA ensures full compliance with stringent safety and regulatory standards, while facilitating effective remediation of sites for subsequent further development.

Matthew Waller, operations director at RVA, said: "RVA has long been recognised for its ability to handle the needs of complex chemical sites. This reputation is evident in its longstanding relationships with global organisations in the northwest, including managing the demolition of several large residential estates many years ago. RVA's commitment to safety and regulatory compliance is always integral to success in these high-hazard environments, and the company looks forward to expanding its footprint in the area."

Clients select RVA for its unequalled, proven track record in executing projects in full compliance with legal frameworks and safety regulations. Acting as the CDM principal designer, RVA manages every aspect of de-risking these initiatives – from conducting structural assessments to developing decommissioning strategies – to streamline processes while prioritising safety, efficiency, and cost control at every stage.

RVA's expertise extends far beyond demolition. A cornerstone of the company's approach is its dedication to sustainability, particularly in the benefits of the circular economy, managing and minimising waste whilst maximising recycling rates. By applying the principles of the waste hierarchy to every project, RVA ensures as much material as possible is efficiently recycled and hazardous substances are disposed of in the appropriate waste stream. This dedication is exemplified by the company's work with major clients, which has seen recycling rates as high as 98%, setting an industry benchmark.

Sustainability is also a critical factor in RVA's project management practices, particularly when addressing asset retirement obligations. As companies face the challenge of decommissioning plants that have been operational for decades, RVA provides clear, structured methodologies that ensure these projects are managed responsibly and in line with industry regulations. This involves ongoing asset lifecycle reviews, preventing overinflation of company assets and ensuring accurate financial provisioning when planning for end-of-life removal.

Despite challenges posed by ageing infrastructure and declining plant standards – common issues in the chemicals sector – RVA successfully navigates these obstacles through a combination of technical expertise, robust procedures, and an unwavering commitment to safety. With over 1000 projects completed across the global chemicals, petrochemical, pharmaceutical, power, and heavy manufacturing industries, RVA continues to bring invaluable knowledge to the table, helping clients navigate even the most complex DDDD needs.

With a growing portfolio of high-profile projects and a reputation for delivering sustainable, compliant, and cost-effective decommissioning solutions, RVA's footprint is set to expand in the northwest.

For further details please visit https://www.rvagroup.org/

Beneath the surface of Powder Coating Processing

Invented in the 1940s, powder coatings were originally popular for electrical insulation and to provide corrosion resistance to materials, but advances in the processes and technology supporting the coatings – along with developments in the powder coating mixtures to meet product trends and the growing demands of manufacturers and consumers – have resulted in powder coating becoming the preferred method of protective surface finishing amongst a diverse global mix of manufacturing industries as an alternative to its problematic predecessor – solvent-based paint finishes.

Prior to the invention of powder coatings, solvent-based paint was the solution for coating a host of household and industrial products, but the liquid paint didn't perform particularly well in this application scenario, producing a lot of unusable waste material and releasing harmful chemicals into the atmosphere, including volatile organic compounds. With increasing pressure to develop products that were kinder to the environment and more efficient, an alternative to wet paint was required ¬– powder coatings.

In the early days, inconsistent coating thickness inspired two European scientists to improve the application method of the new powder-based coatings: Dr Erwin Gemmer (who in the 1950s proposed and patented the use of air to fluidise powder so that it behaved like a liquid on application) and Pieter g de Lange (who in the 1960s developed positively charge thermoset powder coatings and the game-changing electrostatic powder sprayer, which is still the most popular method of application).

Today, solvent-free powder coatings manufacture is driven by advances in production technology, processes and refined coatings formulations, as well as the requirement to meet stringent international safety standards and be as environmentally friendly, efficient and economical as possible. This has permitted high-performance priming and coating of an increasingly wide range of metals, glass, wood, ceramics and carbon fibre, enabling the manufacture of an ever-increasing breadth of products that require technically superior, protective, durable, quick-drying and aesthetic finishes – everything from carbon fibre sports equipment, household appliances, agricultural machinery and high-wear public outdoor furniture, to equipment for the military, aerospace and maritime industries.

Excellent powder coating formulation quality is imperative to the standard of precision coating finishes applied to end products to prevent chipping, fading, corrosion and damage caused by the sun, water, dirt and chemicals. Niche coatings technologies now offer solutions for anti-vandalism coatings, electrostatic dissipation and abrasion-resistance, with coatings cured at a lower temperature, more quickly and economically.

The latest powder processing equipment for the solvent-free surface coatings market copes admirably with the production of very high-quality organic polymer powder coatings, formulated to include materials such as colour pigments, titanium oxide, fillers, curing agents, waxes, epoxy resin, acrylics, polyurethane, polyester, hybrids, polyester TGIC, PVC and even ultra-thin film.

Process systems for today's competitive powder coatings market need to be compact, quiet in operation and low maintenance, with excellent wear protection, monitoring, productivity and energy-saving attributes, whilst also being easy to clean – important for efficient, frequent product changes, especially those involving different colour pigments. Powders must be stable, dust-free, temperature-controlled and comply with the required target particle size distribution to ensure consistent powder characteristics for the coatings.

Powder processing equipment for performance powder coating manufacturing includes the ACM and ACM NEX classifier ranges, Cyclone classifier, Compactor series roller press and AFG Fluidised Bed Opposed Jet Mill from Hosokawa Micron Group.

World-leading pioneers in powder processing equipment for more than a century, the expert organisation continues to lead the way in manufacturing truly innovative milling, dedusting, dry agglomerating, extruding, containment and conveying technology for chemical and powder coatings clients worldwide, including bespoke, pressure-less systems designed to meet ATEX compliance and for explosion protection. For greater production efficiencies, cost savings and to address environmental considerations, the systems may be integrated with compaction equipment that promotes sustainability through inline recycling and minimal wastage of the processed material.

For further information, please contact:
John Buck at Hosokawa Micron Ltd
jbuck@hmluk.hosokawa.com
+44 (0)1928 755164
+44 (0)7734 098904

DRLiquid Ring Vacuum Pumps Boost Efficiency and Sustainability in Chemical Processing

The UK chemical manufacturing industry is experiencing a significant transformation with the widespread adoption of Liquid Ring Vacuum Pumps. These pumps are proving to be indispensable in a wide variety of industrial applications and offer numerous benefits that can improve productivity, safety, and environmental sustainability.

In the chemical industry, liquid ring vacuum pumps often enhance process efficiency and safety. They're particularly valuable in distillation processes, where they efficiently separate components based on their boiling points. By creating a vacuum environment, these pumps lower the boiling points of liquids, allowing for more effective separation.

How do liquid ring vacuum pumps work?
Liquid ring vacuum pumps have a simple design and purpose. They contain an off-centre impeller with blades that spin inside a casing. A liquid ring forms around this impeller sealing it and helping to compress and move gases or vapours. The spinning impeller pushes the liquid ring outward creating spaces between the blades. These spaces fill up with gas or vapour. As the impeller keeps turning, these pockets move to the pump's outlet squeezing any trapped gas or vapor. The liquid ring then seals the pump's suction side again starting the process over.

The liquid used in these pumps can vary depending on the specific use and chemicals involved. You might use water, oil, or other suitable liquids. The choice of liquid depends on things like how well it works with the chemicals, what temperatures you need, and how strong a vacuum you're trying to create. These factors have an impact on which liquid is best for the job.

Liquid ring vacuum pumps offer several distinct advantages:

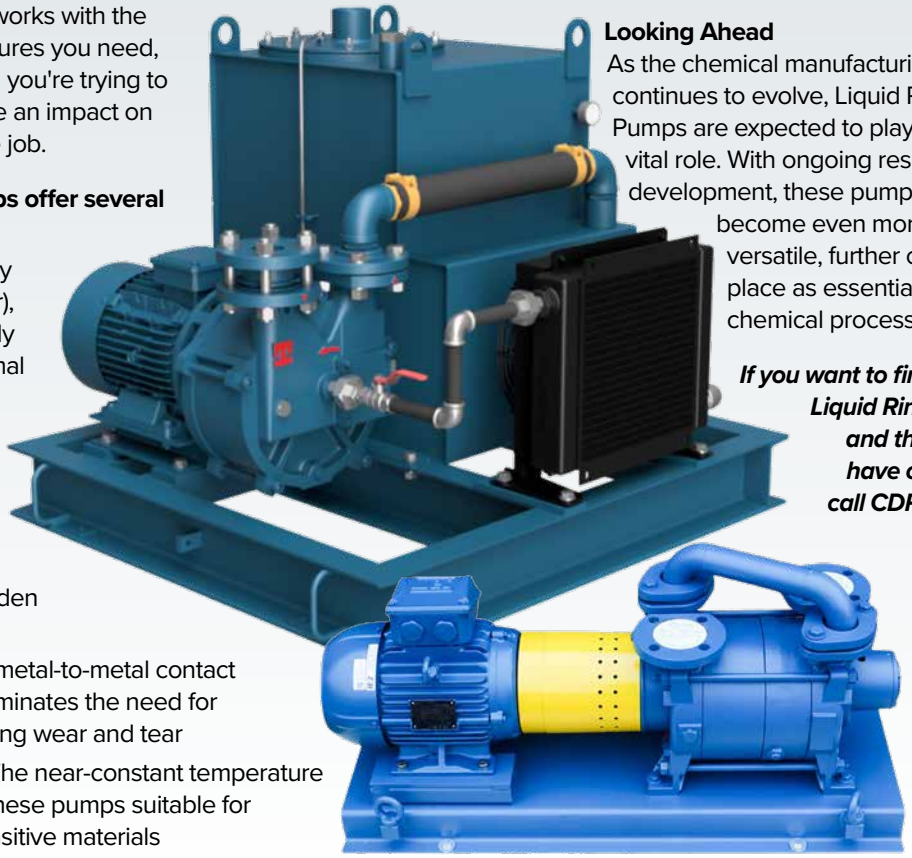
- **Robust Design:** With only one moving part (the rotor), these pumps are incredibly durable and require minimal maintenance
- **Versatility:** They can handle wet or saturated gases and even cope with small amounts of liquid carryover, making them ideal for moisture-laden processes
- **Safety:** The absence of metal-to-metal contact within the pump cavity eliminates the need for internal lubrication, reducing wear and tear
- **Isothermal Operation:** The near-constant temperature during operation makes these pumps suitable for handling temperature-sensitive materials
- **Adaptability:** Both the operating fluid and component materials can be tailored to suit specific process requirements, allowing for the safe handling of corrosive or explosive gases

These pumps combine simplicity with versatility, making them a go-to choice for a wide range of industrial applications. Their unique operating principle and robust design makes them indispensable across a wide range of industries and applications.

Enhanced Safety Measures
We all know safety is paramount in chemical manufacturing, so it's reassuring to know that liquid ring vacuum pumps set a high standard. The pumps' ability to handle explosive and corrosive gases without contamination risk has led to a marked decrease in workplace incidents.

Environmental Impact
As the UK pushes towards its net-zero goals, liquid ring vacuum pumps play an important role in reducing the carbon footprint of chemical manufacturing processes. The pumps' ability to recycle the service liquid plus the fact they have a high tolerance for fluctuations in process conditions, allows them to operate at lower power consumption. This not only reduces energy costs but also contributes to sustainability efforts in the chemical industry.

Economic Benefits
The adoption of liquid ring vacuum pumps is not just an environmental win but an economic one as well. The sheer simplicity of these pumps sees a reduction in operational costs and increased productivity, UK chemical manufacturers are seeing a boost in their bottom line.



Looking Ahead
As the chemical manufacturing industry continues to evolve, Liquid Ring Vacuum Pumps are expected to play an increasingly vital role. With ongoing research and development, these pumps are set to become even more efficient and versatile, further cementing their place as essential tools in modern chemical processing.

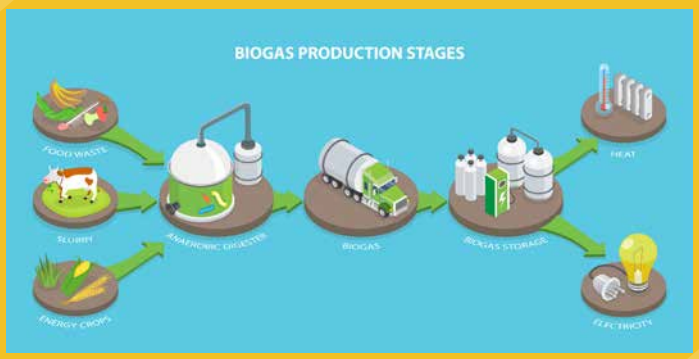
If you want to find out more about Liquid Ring Vacuum Pumps and the impact they can have on your processes, call CDR Pumps on 01933 674777 or visit www.cdrpumps.co.uk/liquid-ring-vacuum-pumps/

Sustainable solutions for Biogas Plants

As the world moves toward sustainable energy solutions, Biogas plants are playing a decisive role in the shift towards renewable energy sources and reducing our dependence on fossil fuels, but the production of biogas comes with its own challenges. For plant operators the main challenge is the efficient and cost-effective operation of their plant despite the aggressive nature of biogas.

Biogas is produced by breaking down organic matter, typically from agricultural waste, sewage, municipal waste, and even food waste, and is primarily composed of methane (CH_4) and carbon dioxide (CO_2), with trace amounts of hydrogen sulfide (H_2S), ammonia (NH_3), and other gases.

With conventional lubricants, ageing sets in faster and their resistance to the tougher conditions of biogas production is not sufficient. These oils decompose more rapidly, leading to short maintenance intervals and frequent malfunction, which may even cause a standstill of the plant. Correct lubrication of the machines in these plants is therefore essential for efficient operation.



Lubrication serves several vital functions in biogas production, especially in compressors used for biogas systems, and this article delves into the importance of compressor lubrication and its crucial role in keeping the entire process running smoothly.

Why Lubrication is Crucial for Compressor Performance
Compressors are essential in biogas systems for a variety of reasons including the production and distribution of the gas. Different types of compressors—reciprocating, screw, and centrifugal—are used in biogas plants depending on the required pressure, flow rate, and the purity of the gas, but all need to function properly to ensure the reliability, safety, and efficiency of biogas operations. Our lubricants have been especially designed to deal with the challenges posed by working with biogases and do not contain any sulfur or other components that might react with chlorinated components or acidic gases in applications such as screw compressors. Unlike competitor products which may lose their performative capacity, decompose, or age rapidly, our products withstand the high stresses caused by the aggressive raw biogases for which they were developed. Thanks to their specific additives, our compressor oils offer reliable protection against wear and corrosion and can optimise system performance by extending maintenance intervals by up to 8,000 hours, or more.

Reducing Friction and Wear
Compressors, like all machines with moving parts, generate friction and heat during operation, therefore effective lubrication of these machines is required to reduce the risk of breakdowns and downtime, and ensure increased longevity and performance.

1. Cooling: Lubricants help dissipate heat, preventing components from overheating and expanding, which can lead to equipment damage or failure.

2. Sealing: Lubricants can prevent the escape of compressed gas and block the entry of contaminants like dust and moisture, which could degrade the quality of the biogas and damage the compressor.

3. Corrosion Protection: Lubricants, especially those designed for biogas applications, form a protective barrier that prevents corrosive substances such as of hydrogen sulfide and water, from making direct contact with metal surfaces.

4. Extending Equipment Lifespan: Lubrication significantly extends the lifespan of compressors and enhances the reliability and reduces the frequency and cost of maintenance.

Conclusion
Biogas represents a significant step toward sustainable energy, offering a renewable way to meet global energy needs while reducing waste and greenhouse gas emissions. However, the efficiency and reliability of biogas systems depend heavily on the proper functioning of compressors, which play a crucial role in transporting and storing biogas. The importance of lubrication in these compressors cannot be overstated. Lubrication reduces friction, manages heat, seals gas, and protects components from corrosion. By ensuring that compressors are well-lubricated with appropriate biogas-specific lubricants, operators can extend the life of their equipment, enhance efficiency, and reduce operational costs—ultimately supporting the broader adoption of biogas as a clean energy solution.

Let's collaborate to elevate the performance of your biogas plant, ensuring it runs smoothly and cost-effectively.

To find out more about visit Less maintenance and lower costs for biogas plants // Klüber Lubrication (klueber.com)

Flow checks made easy with portable ultrasonic flow meter rental

In the ever-evolving landscape of industrial operations, the need for accurate, reliable, and cost-effective flow measurement is paramount. One innovative solution gaining traction is the use of portable clamp-on ultrasonic flow meters, either as rental devices or as part of a comprehensive flow check service provided by skilled engineers.

Advantages of portable clamp-on ultrasonic flow meters
Portable clamp-on ultrasonic flow meters represent a breakthrough in flow measurement technology. Attached to the outside of the pipe, these devices do not require any process interruption, making them ideal for temporary measurements or troubleshooting. By using ultrasonic waves to measure the flow of liquids through pipes, these meters offer a non-intrusive method that is both precise and versatile.

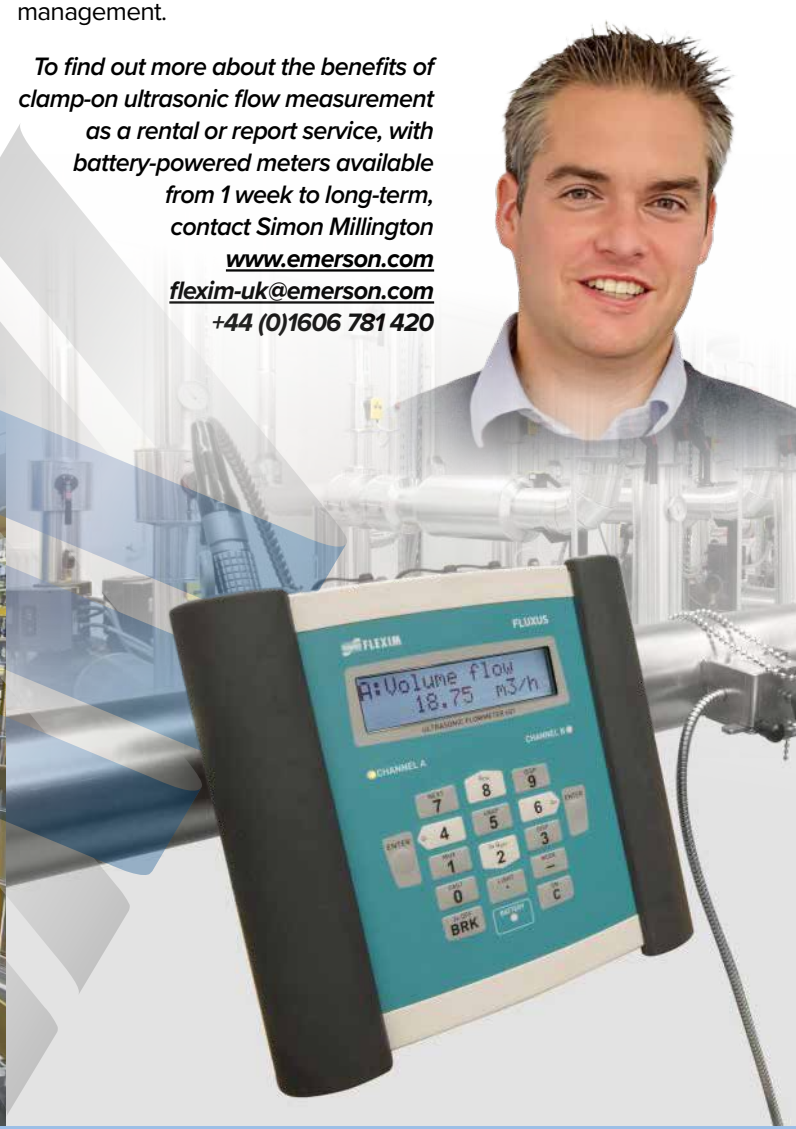
The rental model – cost-effective and flexible
The rental model for clamp-on ultrasonic flow meters presents a compelling proposition for industries that need periodic flow measurement, but cannot justify the expense of permanent installations. Renting allows companies to access advanced technology without significant financial investment, enabling them to conduct short-term projects or emergency diagnostics with minimal disruption and cost. This flexibility is particularly beneficial for sectors such as chemical processing and HVAC systems, where flow dynamics can vary significantly over time.

Flow check services. Expertise on demand
Many service providers now offer a flow check service, where trained engineers bring portable clamp-on ultrasonic flow meters to the site. This service model combines the technological advantages of ultrasonic flow meters with the expertise of seasoned professionals. Engineers can not only perform accurate flow measurements, but also provide comprehensive analyses and actionable insights based on their findings. This integrated approach ensures that potential issues are identified early, and performance optimisation recommendations are grounded in real-world data.

Emerson manufactures and supplies the world's only ATEX certified portable flow meter for use on sites with hazardous areas and flammable gases, e.g. Oil & Gas production sites, refineries, chemical plants, distilleries and wastewater sites with methane in confined spaces.

Future smart flow management
The adoption of portable clamp-on ultrasonic flow meters, either through rental or as part of a professional service, is transforming how industries approach flow measurement. It offers a cost-effective, flexible, and precise solution that aligns with the increasing demand for operational efficiency and reliability. And as technology continues to advance, the role of these innovative devices is set to expand, heralding a new era of smart, data-driven flow management.

To find out more about the benefits of clamp-on ultrasonic flow measurement as a rental or report service, with battery-powered meters available from 1 week to long-term, contact Simon Millington
www.emerson.com
flexim-uk@emerson.com
+44 (0)1606 781 420



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HOW DOES PAUL MAKE A DIFFERENCE?

I work as a senior science manager for British Sugar, which manufactures sustainable sugar from UK-grown sugar beet. The low-waste manufacturing process also produces the renewable fuel bioethanol.

WHAT'S INVOLVED?

- Overseeing the recovery and reuse of waste products o
- Working on projects both in and out of the la
- Collaborating with technology part

Skills

☑ Organisation
☑ Communication
☑ Working in a team

Minimum qualifications

- BSc in the chemical sciences

Salary range

- £30,000–£75,000

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Light Coatings Ltd unveils breakthrough in 3D printed polymer technology

Light Coatings Ltd, a leading advanced manufacturing business based at Sci-Tech Daresbury, has unveiled a breakthrough in 3D printed polymer technology thanks to a project delivered as part of the Liverpool City Region Launchpad programme.

Sci-Tech Daresbury, a joint venture between Langtree, Halton Borough Council, and the Science and Technology Facilities Council (STFC), hosts over 150 high-tech businesses and is also the location of the UK's most powerful supercomputer dedicated to industrial R&D. This national science and innovation campus has ambitious plans to grow the site to around 10,000 people working in science, technology and engineering. The next stage of growth is delivery of two additional buildings on the campus comprising of V5 - a 60,000 square foot Class 2 laboratory building with lab units of 5000 – 20,000 square feet and V4 - a 23,000sq ft Grade A office building.

Light Coatings Ltd specialise in manufacturing, research, and support services within the thin film and vacuum deposition industry. Over the last 12 months, the team at Light Coatings has tirelessly developed a range of cutting-edge coating technologies. These innovations showcase the viability of Physical Vapour Deposition (PVD) coatings on a diverse array of commercially viable 3D printed polymers.

The culmination of this project yields a diverse range of coatings and materials suitable for various 3D printed substrates. Supported by robust wear and tensile test data, these innovations emphasise durability, conductivity, and optical properties.

Light Coatings is proud to bring these groundbreaking solutions to market, alongside its established coating capabilities, in its new, expanded premises in STFC's Campus Technology Hub at Sci-Tech Daresbury. As part of the exciting tech community in the Liverpool City Region and working from Sci-Tech Daresbury's base in Halton surrounded by innovative companies, this strategic expansion is set to propel Light Coatings into the forefront of technological advancement, bolstering the tech industry's position as a global leader in pioneering new technologies.

This innovative work has catalysed additional opportunities, as Light Coatings embarks on a further funded project to explore the application of this technology in space-related endeavours.

Dr Steven Stanley and George Titley, Directors at Light Coatings Ltd, eagerly await the launch of this ground-breaking product to the market.

George Titley said: "There have been many benefits throughout the twelve-month PVD PALM project, R&D, improved in-house testing capabilities, an increase in coating material choices on offer, an increase in staff to name but a few. The increase in knowledge and data captured regarding polymers and what can be offered has been a huge leap forward for Light Coatings and this was made possible due to the Innovate UK funding."

Dr Steven Stanley added: "The story does not end here now that our project is finished. Light Coatings will continue to develop and bring new and innovative coating solutions to the 3D Printing Community."

For further information, please visit www.lightcoatings.co.uk

For further information please contact:
Tom Carlin - Carlin@thisisinfluential.com

Sci-Tech DARESBURY

spotlight *on new members*

CAMIDA

Camida, founded in 1988, is a customer service-driven supplier of specialised products to the Industrial, Life Sciences and Ingredients sectors. We believe in "Perfect Chemistry," a philosophy that underscores our commitment to building and maintaining strong, long-lasting relationships with customers and suppliers worldwide.

Your sourcing superpower
Currently it is a time of many challenges for procurement professionals. Reliably sourcing and securing supply of vital chemicals. It seems there's ever greater pressure, fewer certainties, more hurdles.

But some of the world's best-known companies have a hidden advantage. They don't spend too much time problem solving. If they need something, it's sourced and supplied. Quietly and efficiently. They don't need the headaches of multiple vendors and different standards, it's streamlined. Compliance, paperwork, it's taken care of. **They have an advantage. They have Camida.**

Your vibrant partner
Camida will shape a team around your specific needs, made up of experts in sourcing, quality, and logistics.

Our clients come to think of us not simply as suppliers, but partners, people they can trust to come at every challenge with fresh thinking and new ideas.

Perfect Chemistry
The basis of our part in the fine chemical supply chain is understanding and complying with customer needs.

So, the creation and maintaining of a customer relationship is a priority. Then, rather than selling a range of chemicals (Camida don't have a product list as such) we listen to customer needs.

One point of contact
We streamline and uncomplicate supply chain management by providing you with one point of contact.

This radically reduces the amount of time and energy you need to spend interacting with multiple vendors to solve problems, freeing you up to focus on higher priorities. Camida is your trusted sourcing partner, dedicated to making your working life easier through expert procurement and exceptional customer service.

CAMIDA
Source · Supply · Solution

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Corrosion Resistant Products Ltd (CRP)

Corrosion Resistant Products Ltd leading manufacturer and stockist of Fluoropolymer PTFE/PFA lined piping and associated equipment based in North Manchester. We specialise in industries such as chemical and pharmaceutical, where the handling of highly corrosive and toxic chemicals is routine, suppling everything necessary to construct fully integrated piping systems (including PTFE bellow, PFA lined valves, pumps, hoses etc.). Whilst also offering ongoing support and education from industry experts. Our products withstand the most challenging environments, ensuring safety and reliability in even the most hazardous applications.

Quality
CRP's commitment to quality allows us to produce piping solutions that not only provide superior performance but also offer the longest service life and significantly reduce maintenance costs. Due to our products longevity, we offer the lowest total cost of ownership. Our production methods set us apart, manufacturing with modified PTFE thick wall paste extruded and PFA moulding.

Innovation
As innovative manufacturers, CRP is driven by a problem-solving ethos, working closely with clients to develop customized solutions that meet specific needs, no matter how complex. Integrating product know-how to maximise the benefits of your piping systems.

Support & Expertise
CRP provides unparalleled technical expertise, offering webinars, in-person training, and a wealth of online resources to help clients properly maintain their systems. Our goal is to enhance on-site safety and ensure customers have the knowledge to manage their piping systems effectively.

Safety & Sustainability
We understand our customers want sustainable, long-lasting solutions and that is why we are continuously improving sustainability within our production processes, currently ranking at an Ecovadis Bronze level. Alongside this as manufacturers we can assure traceability of product but also quality testing that pushes beyond industry standard.

crp
the corrosion expert

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The Henry Royce Institute

The Henry Royce Institute is the UK's national institute for advanced materials research and innovation. With its Hub at The University of Manchester, Royce is a Partnership of nine leading institutions – the Universities of Cambridge, Imperial College London, Liverpool, Leeds, Oxford, Sheffield, the National Nuclear Laboratory, and UKAEA, and two Associates, Cranfield University and the University of Strathclyde.

Chemical Materials Design (CMD) is one of 10 Royce Research Areas, aiming to:

- Pioneer methods in computer aided design, machine learning, and robotics for materials design and characterisation.
- Accelerate innovation in the discovery and development of materials with desired properties and minimal environmental impact.
- Deliver faster and more sustainable synthetic methods to chemical, catalytic and biological materials.

The CMD Research Area is supported by a series of Technology Platforms that provide the expertise, capability and facilities to support innovative research around the UK in making, validating and interrogating materials and accelerating their transition through the early stages of discovery.

Royce Technology Platforms hosted in the Materials Innovation Factory (MIF) at the University of Liverpool focus on high-throughput discovery via a combination of in silico modelling, computational design, and machine learning techniques supported by autonomous make and measure platforms.

Research at the University of Manchester focusses on developing solutions for polymer synthesis, characterisation and end of life fates of materials.

Royce Technology Platforms can assist academia or industry in the speed and specificity of their research programs, and can give industry the confidence to "short-circuit" traditional TRL levels, leading to shorter times to market.

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Total Lab Supplies (TLS)

Total Lab Supplies (TLS) is a leading provider of laboratory equipment, chemicals, and supplies, dedicated to supporting researchers, scientists, and professionals across a wide range of industries. With a commitment to quality, reliability, and customer satisfaction, we've earned a trusted reputation within the scientific community and beyond.

Our extensive product range includes laboratory equipment, consumables, and reagents tailored for diverse research and testing applications. From cutting-edge instruments to everyday essentials, we deliver high-performance solutions that meet the highest standards of accuracy and reliability. Our knowledgeable team is always ready to provide expert guidance, ensuring customers receive the right products and support to meet their specific needs.

We produce a competitively priced range of laboratory chemicals and reagents, alongside distributing products from leading European brands such as Fisher Scientific, Thermo, Honeywell, Spex, and Alfa Aesar. Our consumables selection features trusted names like Sterilin, Kartell, Nalgene, Fisherbrand, Simax, and Cytiva. In addition, we offer a wide selection of laboratory equipment, from autoclaves and balances to ovens and washing machines, all at competitive prices.

At TLS, we are dedicated to providing exceptional value and service. Our focus is on offering competitive pricing, prompt delivery, and personalised customer care. With a customer-first approach, we ensure that every client receives the tailored support they need to succeed, whether they operate in education, healthcare, industry, or research.

Whether you're an experienced professional or just beginning your journey, TLS is your trusted partner for all your laboratory and technical needs. With our extensive product range, expert support, and unwavering commitment to excellence, we're here to help you succeed and make a real impact in your field.

TOTAL LAB SUPPLIES

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Supplying to the Chemical Industry

Knowing your local supply chains is important, and suppliers of expertise, solutions and great products are right here in the northwest. CNW members have a strong association with and many years of experience supplying to the chemical industry. The companies listed in this directory cover a wide range of products and services. They have established customers in the sector, with proven track records. Many will be well known, long-standing firms and there will also be new and innovative businesses that you may not have heard about. Effective supply partnerships, delivering success for all! For more details, the websites for the listed companies and organisations can be found at:
https://www.cia.org.uk/chemicalsnorthwest/Membership/Our-Members/

Chemicals Distribution, logistics & chemical handling

2M Holdings Ltd
Chemical distribution and related services of sample management, storage and blending. Provision of AdBlue, Samsol products, packed chlorine and TRIKLONE & PERKLONE chlorinated solvents. Markets served include: automotive, precision cleaning, coating, oilfield & refineries, flavours, fragrances, surfactants for personal care, household and industrial cleaning and pharmaceuticals.

Actikem Ltd
An ISO9001 certified business, specialising in a range of chemical processes and manufacturing services, including mixing, storage and re-packaging. We provide toll and custom manufacturing services for SMEs as well as blue-chip organisations, and supply customers with on-tap production facilities, offering them potential cost-savings and greater flexibility.

Camida
Established in 1988, is a customer-focused supplier of specialised chemical products. We provide global sourcing solutions across industries, meeting strict international standards. Our expert sourcing team handles over 3,000 annual enquiries, ensuring seamless procurement. Camida simplifies your supply chain, acting as your trusted partner in sourcing and supply.

F2 Chemicals Ltd
As a specialist in the handling of fluorine gas, F2 Chemicals Ltd offers a variety of organofluorine products all manufactured at our Preston plant. Our primary product is a range of high specification perfluorocarbons, such as octafluoropropane and perfluorodecalin, under the Flutec tradename, used in applications including medical, tracers, plasma-cleaning, cooling and cosmetics.

Hibiscus
Hibiscus is one of the UK's leading manufacturers of chemical labels and hazard communication compliance software. For over 40 years they have specialised in providing high-quality labelling solutions for the chemical and hazardous goods industries and are renowned for their knowledge of industry legislation and for the durability and excellent performance of their products.

Hosokawa Micron Ltd
Integrated powder processing technologies including: size reduction, air classification, mixing, drying, containment equipment such as gloveboxes and downflow booths. Contract processing services for 1kg to multi-tonne lots. Remote monitoring solutions that include: condition monitoring, analytics for improving product quality and energy efficiency and on-line diagnostics for predictive maintenance and improved plant availability.

Indaver Solvents Ltd
Part of the international environmental group Indaver. Indaver Solvents offers comprehensive in-house and end-to-end solutions for industrial (non) hazardous solvent waste and recycling requirements. They support with lab analysis, pilot scale trials, and recycling at commercial scale. With their Cheshire-based solvent recovery installations, combined with bespoke fine chemicals manufacturing, they provide continuous, sustainable and high-quality recovery solutions to the Chemical and Pharmaceutical industry . Find out more here - Solvent recycling - Indaver

Kanon Liquid Handling Ltd
Design and manufacture of drum, IBC and container filling systems ranging from fully automated robotic systems to simple manual machines. Full range of marine, road and rail tanker loading/unloading and safe access equipment. Distributor for Mann-Tek couplings, with repair facility and 'return to base' option.

Keyser & Mackay
Keyser & Mackay is a market oriented agent and distributor of chemical raw materials and industrial equipment, acting as an intermediary between customers and suppliers. Keyser and Mackay NV has their headquarters in Amsterdam, Holland and has been active since 1894. With over 125 years' experience, the company's success today is down to reaping the benefits of all those generations of staff that have been or still are working for it. Today, the group has offices in the Netherlands, Belgium, France, Switzerland, Germany, Poland and Spain, and has started another chapter with the recent entry into the UK market.

Klüber
Global manufacturer of over 2500 specialty lubricants for virtually every industry, Klüber Lubrication high-performance speciality lubricants and effective lubrication management programs enable customers to achieve their operational efficiency goals, increase reliability, and lower the total cost of ownership across assets.

Education, training & skills

Catalyst Science Discovery Centre
An independent charitable trust playing a pivotal role in promoting science across the Northwest. Catalyst works in conjunction with industry partners to excite young people about all STEM subjects and careers available within the science sector. Companies can also sponsor a local school to visit and attend industry days.

Centre for Industry Education Collaboration
CIEC supports companies in making credible and sustainable links with primary schools, in order to inspire the next generation of scientists and engineers. We train STEM professionals to improve their communication skills, and develop industry-focused activities for use directly by teachers or by ambassadors visiting schools.

Chemistry with Cabbage
We work with students of all ages, demonstrating through practical experiments, the relevance of chemistry in solving problems. Research shows that children make career choices very early on, so capturing their imagination early is important. Chemical companies are welcome to support our hands-on work in primary schools.

IChemE
The leading professional qualifying body for chemical, biochemical and process engineers.

National STEM Learning Centre
We aim to improve lives through STEM education. We do this by delivering teacher CPD (continuing professional development) in STEM subjects, bring STEM role models into schools as part of the STEM Ambassadors Programme, provide careers support and opportunities for young people through Destination STEM and deliver bespoke, long-term support for groups of schools in collaboration with companies. Find out more.

Engineering products & services

AM Technology
AM Technology are experts in continuous manufacturing solutions for the chemical and pharmaceutical industries with their patented Coflore flow reactor technology suitable for a wide range of chemical processes, including multiphasic reactions with slurries, from grams to kilotons.

Addison Project
Addison Project is a Multi-Disciplined Engineering Project Management & Design organisation, established in 1997, with offices located in Cheshire, Lancashire and Teesside. We have an in-house team of engineers and designers circa 130 people, catering for mechanical, civil, structural, EC&I, process engineering and a full range of CDM services.

Beamex
Beamex helps its customers to find a better way to calibrate, according to the most demanding requirements of process instrumentation. Beamex offers a comprehensive range of products and services – from portable calibrators to workstations, calibration accessories, calibration software, industry-specific solutions and professional services.

CDR Pumps UK
A leading independent Pump manufacturer. Since opening our doors 60 years ago, we have gone from strength to strength bringing you a company that has the product, service and knowledge to support the chemical, nuclear and pharmaceutical industries on a global scale. And small enough to give you the individual care and attention you need yet big enough to support multi-site,multi-national blue-chip chemical companies. Our global manufacturing facility in Milan is strategically located to support our customers across the world.

CRP
A leading provider of Fluoropolymer PTFE/PFA lined piping and associated equipment. Suppling everything necessary to construct fully integrated piping systems, whilst also offering ongoing support and education from there experts. Their products withstand the most challenging environments, ensuring safety and reliability in even the most demanding applications.

Dron & Dickson
Dron & Dickson are recognised market leaders in the supply and maintenance of hazardous area electrical equipment. Our Engineering Services and Wholesale divisions offer bespoke solutions incorporating the very latest industry standard and safety legislation.

Know your supply chains

Engineering products & services

Flexim Instruments UK Ltd
We support UK clients with their measurement, commissioning, verification & maintenance needs. Offering clamp-on flow metering of liquids & gases; SIL 2 for safety critical duties; mass flow or concentration measurement options from outside the pipe; virtually zero maintenance; no cost escalation with exotic pipe, pressure or temperature; no outages for commissioning or maintenance; zero leak paths

Laker Vent Engineering Ltd
Supply, fabrication and installation of process and utility piping systems. Project management, detailing, procurement, on and off-site fabrication and installation of pipework and coded welding. Associated steelwork supporting and mechanical installation of plant and equipment. Testing and Handover. Pipework and steelwork is fabricated to specific customer-needs and conforms to all appropriate ISO, BS EN and ASME standards and specifications.

Langfields
Langfields are specialist fabricators of process plant equipment for the Hydrogen, Waste to Energy, Pharmaceutical, Petrochemical, Chemical, Nuclear and other process industries.

Lokring UK
Lokring UK offer technical engineering support and sales for Lokring technology across the UK. The Lokring “Cold Weld” pipe and tube joint reduces the need for hot work, NDT inspection and reduces on site resources. Code compliant with ASME B31. Lokring is a Safer, Faster, Lower Cost replacement for site welding and flanged fabrication.

Manntek AB
Supply of safety dry disconnect and safety breakaway couplings. Comprehensive range of specialist dry quick release couplings to suit 99% of known chemical applications. Bespoke solutions with a size range of ¾” to 8” nb. Dry disconnect couplings are made to NATO standard Stanag 3756.

METTLER TOLEDO
Mettler Toledo manufacture & service weighing, analytical and inspection equipment used throughout the product cycle from Research & Development, through Scale-Up & Production to Quality Control, Storage & Despatch. We work with our customers to understand and achieve their business goals, including key areas of safety, quality, productivity and sustainability.

O’Hare Engineering Design Ltd
Innovative, Detailed, Working Solutions. O'Hare Engineering Design Ltd. are providers of 3D laser scanning, mechanical and pipe design solutions. With over 18 years' experience, we know that accuracy is fundamentally the most important element in every engineering design project, so our client focused approach uses the latest technology to provide an effective solution that is sure to hit the brief, every time.

Perry Process Equipment Ltd
Buying and selling of high quality used processing plant and equipment. Savings of up to 70% on the cost of process equipment, full mechanical and electrical refurbishment and equipment immediately available form stock. Centrifuges, dryers, evaporators, filters, heat exchangers, mills, mixers, reactors, separators, tanks.

ProDecon®
Providing industrial service solutions to the Oil&Gas, Chemical, Power, Pharmaceutical and Industrial sectors. Specialising in hazardous hydrocarbon and chemical environments. ProDecon® has a unique range of technical expertise, that enables us to support customers with restoring process performance and providing maintenance risk management through bespoke industrial cleaning solutions.

Studley Engineering Ltd
A multi-disciplined mechanical and electrical engineering contractor, providing a comprehensive service to the process industries in disciplines including: steelwork, welding, maintenance, site services, pipework, tanks and vessels. Over time we have gained an enviable reputation as a reliable, responsive, motivated contractor that delivers safe, high quality, cost effective work.

Summit Dynamic Solutions
Specializes in creating optimised custom material handling and processing systems tailored to meet the unique needs of various industries. Our innovative solutions enhance efficiency and productivity, ensuring seamless operations for diverse materials. We are committed to delivering excellence through advanced technology and expert engineering, driving success for our clients.

Swagelok Manchester
Fluid system solutions, products, training and services. Supply of over 7000 fluid system components including; fittings, hoses, tubing, regulators, equipment servicing and custom fabricated solutions. Provision of practical information, know-how, tools and speciality services needed to purchase, manage and apply them successfully.

Valvworx Ltd
Valve breakdowns are commonplace, and high on the list of painful problems for Chemical Plant Operators. At Valvworx Ltd, we can support you with valve maintenance & repair solutions, and offer advice, specification and supply of new valves, ensuring suitability for the process they are intended for, and lasting longer in service.

Yokogawa
Yokogawa is a leading provider of field instrumentation, safety systems, industrial automation and digital transformation solutions. IIOT, OT Cybersecurity and Alarm Management are specific areas of focus for Yokogawa’s Advanced Solutions team with a number of major projects currently being delivered across Europe.

Engineering project management & energy

Arthian
Combining three decades of high-hazard industry expertise with technical excellence to support every project phase, from feasibility and planning to design and construction. Our planning, environmental, engineering, and safety consultants deliver insights and innovative, sustainable solutions, empowering clients to make strategic, long-term decisions.

Atlas Copco Rental UK
Provides temporary cost and energy efficient solutions for long- or short-term demands, planned maintenance or unexpected emergencies. Our engineers design the most suitable temporary installation, utilising our fleet of state-of-the-art equipment which includes 100% oil-free Class 0 and oil-injected compressed air at medium or high pressure, generators for power, and nitrogen. Quality of service, environmental care and personnel safety are guaranteed by our triple ISO certification.

AXIOM
A multi-award-winning, asset management solutions provider, supporting the chemical, pharmaceutical, oil & gas, bulk storage, power, renewables and related industries. With integration of their Materials, Mechanical, Inspection, Process Engineering and Process Safety Services, Axiom are uniquely positioned to identify and mitigate key through-life risks across the entire asset life cycle.

Graham Hart (Process Technology) Ltd
Graham Hart Process Technology Ltd is a global leader in the design and manufacture of high integrity heat transfer and specialist pressure equipment. Their knowledge, reputation and expertise makes them the first choice for many companies desiring guaranteed mechanical and process design solutions, for their individual heat exchanger and pressure vessel needs.Providing innovative, bespoke solutions to a variety of sectors for over 50 years, they have a skilled, agile and talented team that has achieved a 100% On Time In Full delivery record for their clients since 2016.

John F Hunt Regeneration Ltd
John F Hunt Regeneration are a trusted partner for brownfield demolition, remediation, water treatment and enabling services. As part of the John F Hunt Group, we have the scale and financial stability to provide a complete works package no matter the size of the scheme.

PM Group
PM Group is an employee owned, international project delivery company operating across Europe, the USA and Asia. We have a 50+ year track record in project management, process design, process safety, facility design and construction management for leading multinational companies.

Engineering, IT & process consultants

Gexcon UK Ltd
Safety and risk management and advanced dispersion, explosion and fire modelling. Unique expertise and shared knowledge on how to prevent explosion accidents. Carrying out accident investigations and dedicated facilities for physical testing. Ventilation and dispersion modelling also available. Hazardous area classification and quantitative and qualitative risk analysis and assessment.

OpenPSM
OpenPSM® is a cloud-based software solution, developed to help businesses manufacturing or handling hazardous chemicals meet the requirements of modern risk-based process safety legislation. Providing a unique framework allowing you to log and assess every aspect of your company’s process safety management programme, OpenPSM® necessarily supports engagement from shopfloor to boardroom, allowing everyone with an active part to play in process safety to have relevant information to hand.

Siemens Digital Factory & Process Industries and Drives
Siemens Digital Industries (DI) is a global leader in automation and digitalisation, dedicated to driving the digital transformation of the manufacturing and process industries. Their comprehensive Digital Enterprise portfolio offers an end-to-end suite of products, solutions, and services designed to integrate and digitalise the entire value chain. This portfolio is tailored to meet the specific needs of the Chemical Industry, enhancing productivity, flexibility and efficiency. By leveraging cutting-edge technologies and close collaboration with customers, Siemens DI helps businesses achieve greater innovation and competitiveness.

Environment, health & safety risk management

BakerRisk Europe Ltd
Dedicated to help predict, prevent and mitigate hazards and explosions, fires and toxic releases. Specialising in process safety and risk management, we help clients understand their risks and offer cost-effective risk management solutions. Success id delivered through proven knowledge and experience, innovative research and unique engineering capabilities.

Chemical and Industrial Consultants Association
An association of independent consultants with extensive experience, many having worked in the chemical industry, across various fields. Provision of technical and business advice on almost every aspect of chemical manufacture, development, marketing and management.

RAS Ltd
Expertise that covers the full range of risk assessment and management services across; safety risk, business risk and environmental risk. Carry out Quantitative risk Assessments and Predictive & consequence modelling, through 'softer' risks affecting an organisation's reputation.

SLR Consulting
A unique blend of leadership, management, consulting, engineering and training services is offered to the chemicals industry. A forerunner in sustainable process safety management combined with proven business improvement capabilities enables delivery of practical solutions to promote safety and efficiency in design, operation and maintenance of complex hazardous facilities.

Wareing Consulting
Roger Wareing is a business sustainability/ ESG consultant and former industrial chemist. Roger helps you navigate what ESG challenges mean for your company's future, shaping your response to growing regulatory obligations and rising expectations, and supporting delivery and reporting to drive value creation and resilience alongside wider positive outcomes.

Facilities, finance and other business services

Department for Business & Trade
Operational support for British exports as well as facilitating inward and outward investment activity. Support is given to first-time exporters or established exporters requiring more help with accessing more difficult markets or putting strategic alliances in place. Access to expert advice, trade services, training and events.

Pen Underwriting incorporating OAMPS
Specialist Insurance services to high hazard manufacturing and haulage industries. Motor fleets, property, liability and transit policies. We help clients minimise risk through proactive risk management and a range of training and response services to assist companies in planning for and dealing with incidents and emergencies.

Sci-Tech Daresbury
We are a national science and innovation campus, and enterprise zone providing a range of office, laboratory and workshop accommodation for technology companies (from a desk to large laboratory and office units). Companies have access to a range of facilities covering material analysis, virtual design & simulation, and rapid prototyping.

STFC Innovations Technology Access Centre
A unique, fully equipped space for innovation, research and development. Providing flexible access to laboratory space, "hot labs" and scientific equipment. Ideally suited to start-up companies, smaller and medium size enterprises and R&D team from established companies.

The Henry Royce Institute
The national institute for advanced materials research. Royce was established to ensure that the UK remains at the forefront of materials research and exploitation through collaborations with industry and academia, and by providing access for the UK materials community to state-of-the-art equipment and facilities. Royce's mission is to support and grow world-recognised excellence in UK materials research, accelerating commercial exploitation and delivering positive economic and societal impact for the UK.

The Procurement Team
Helping clients save money and become more profitable, focusing on their indirect spend such as IT, MRO, Consumables, Transport, Utilities etc. We work with organisations in the Chemical, Pharmaceutical and Life Sciences industries and leverage their combined indirect supplier spend to drive extra savings for all our clients by creating economies of scale.Our team realise that increased buying power translates into savings across the board and inherent value beyond cost, such as improved service levels and vendor reduction.

Laboratory products, testing and services

Scymaris Ltd
We offer high quality and cost-effective ecotoxicology, environmental fate, and chemistry services to the global agrochemical, pharmaceutical, industrial chemicals & animal health industries. Our state-of-the-art laboratory is equipped with controlled temperature rooms, freshwater and seawater testing facilities and is accredited to work according to GLP and most Global regulatory requirements.

Total Lab Supplies (TLS)
Your trusted partner for laboratory equipment, chemicals, and supplies. With years of industry expertise, we offer a diverse range of high-quality products and expert support tailored to the needs of researchers, scientists, and professionals across various industries.

Legal & patents

Appleyard Lees LLP
Patent and trademark attorneys. Aim to obtain the best possible patent protection for clients. Experience of product clearance against competitor patents and in due diligence for mergers and acquisitions. Advice on licensing issues and collaboration agreements relating to IP.

Bawden and Associates
A legal firm providing professional services across all IP matters. Drafting and prosecution of patent applications, handling opposition and appeals in the EPO and in litigation in UK and international courts. Business led and strategic approach to generate assets of real commercial value.

Mathys & Squire LLP
Mathys & Squire LLP is a full-service intellectual property law firm with industry-leading expertise in patents, trade marks, design protection and IP litigation and including a dedicated chemistry team of highly experienced attorneys holding higher degrees and research or industrial experience who are passionate about innovation in the chemical field.

Squire Patton Boggs (UK) LLP
Global legal company providing legal, regulatory and advocacy assistance to the chemical and performance material industries. Expertise that emphasises areas that mean the most to industry such as environmental, mergers and acquisitions, commercial finance, construction, litigation, Ip, public policy and international expansion.

WP Thompson
Intellectual property attorneys providing high quality advice to start-ups, SMEs or FTSE 100 companies. Team of experienced IP attorneys specializing in chemistry and life sciences, with first degrees and PhDs in these fields. Securing the most appropriate, cost effective and commercially valuable protection for your intellectual investment and innovation.

REACH and chemicals services

CIRS
CIRS Group was established in 2007 and is a leading product safety and regulatory consulting firm. It utilizes its technical expertise, resources, and international network to provide comprehensive compliance services including chemical notifications and registrations, global GHS compliance, laboratory testing, R&D, and data services across multiple industries globally.

Dr Knoell Consult Ltd
An independent service provider for the chemical and related industries. Globally the Knoell group has over 450 employees covering all aspects of regulatory compliance for industrial chemicals, agrochemicals and biocides: e.g., strategic planning, dossier preparation, exposure assessment, SDS preparation, and from REACH to K-REACH!

GlobalMSDS
A complete safety data sheet/literature and regulatory service for your entire product communications in any language, style and format required. Hazmix is a new 'pay as you go' web-browser product that is setting a new standard in SDS authoring. A Solutions service that also provides technical advice.

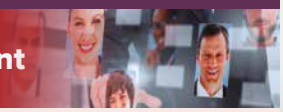
Intertek Regulatory Services
Health, environmental and regulatory services for implementation of chemicals management. Worldwide registration of chemicals, food contact compliance and notification, global chemicals compliance, design/optimisation of toxicological and eco-toxicological studies, hazardous substance management, EU cosmetic and biocidal products compliance, classification & labelling, SDS consulting.

WSP in the UK
Recognising that chemical companies face a wide range of regulatory challenges, WSP's centre of excellence can assist companies with chemical compliance and safety obligations. The team's role is to facilitate a company's route to compliance in areas such chemical registration (including EU and UK-REACH), supply chain management, GHS/CLP and DGSA, amongst other safety related services.

Yordas Group
Yordas Group is a leading provider of scientific, environmental, human health and global regulatory consulting services. They offer chemical regulatory support, expert scientific services and support on chemicals management and product stewardship, global hazard communication, hazard and risk assessment, analytical and (eco)tox testing.

Know your supply chains

Recruitment



Adepto Technical Recruitment
A specialist engineering, manufacturing and scientific recruitment consultancy that focuses upon the provision of permanent staff and contract resource to the Chemicals industry. Established in 2015, Adepto has quickly become the partner of choice for many blue-chip and SME manufacturers, engineering companies and consultancies due to our deep knowledge of the industry, credibility and professionalism.

Handley James Chemical
Handley James Chemical specialises in mid to senior level appointments within the Chemical space. With over 30 years combined search experience, we focus on providing the best talent in the chemical industry. We work closely with you, our clients to understand your business, your culture and exactly what you are looking for from a recruitment partner. Our time mapped and data driven process allows us to find the best talent available rather than whomever happens to be on the market right now, because of this we are the partner of choice for some of the largest chemical businesses in the world."

Page Executive
The executive recruitment division of PageGroup – provides a range of search, selection and talent management solutions. We focus on Board- and Director-level assignments, both on a permanent and interim basis, and have a strong track record of successfully partnering with the Chemicals sector.

RMG
RMG is an award-winning headhunting consultancy with a difference - we make it our business to search and understand who's who in the Chemicals and STEM sectors and have the know-how to find talented people who will deliver lasting impact and add financial value to your organisation.

SRG
SRG are industry leaders in Science, Engineering and Clinical Recruitment. We empower individuals and businesses to power the future of STEM. With true specialist knowledge, we support a full spectrum of technical roles and talent solutions across the whole product life cycle, from R&D, through analysis, manufacturing, and engineering to market access.

Science Solutions Recruitment
Is a specialist science & technical recruiter with specific expert teams to service niche fields, including speciality chemicals, drug discovery, polymers, materials, cosmetics, personal care, household products, pharmaceuticals, biotechnology & medical devices.

Embarking on ESG?

More and more companies are setting out on their ESG (Environmental / Social / Governance) journey.

Whether you are setting an ESG strategy, dealing with customer requests for data, or investor demands for reporting, SLR's team can support and advise you on this journey. Our style is practical, flexible and adaptable, and our global team has the breadth of experience to tackle any challenge you might be experiencing.

PLEASE GET IN TOUCH TO DISCUSS:

- Complying with the new CSRD reporting requirements.
- Setting a clear ESG strategy.
- Dealing with customer or investor sustainability data requests.
- Or just to understand how this whole topic might affect your business.

"A global leader in full spectrum sustainability solutions, providing clients with strategic advice and on the ground support."

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Making Sustainability Happen

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