

Elements

A spotlight on the vibrant north west chemicals sector

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- Transforming asset integrity in the process industry
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- New member spotlights – Summit Dynamic Solutions and Wareing Consulting

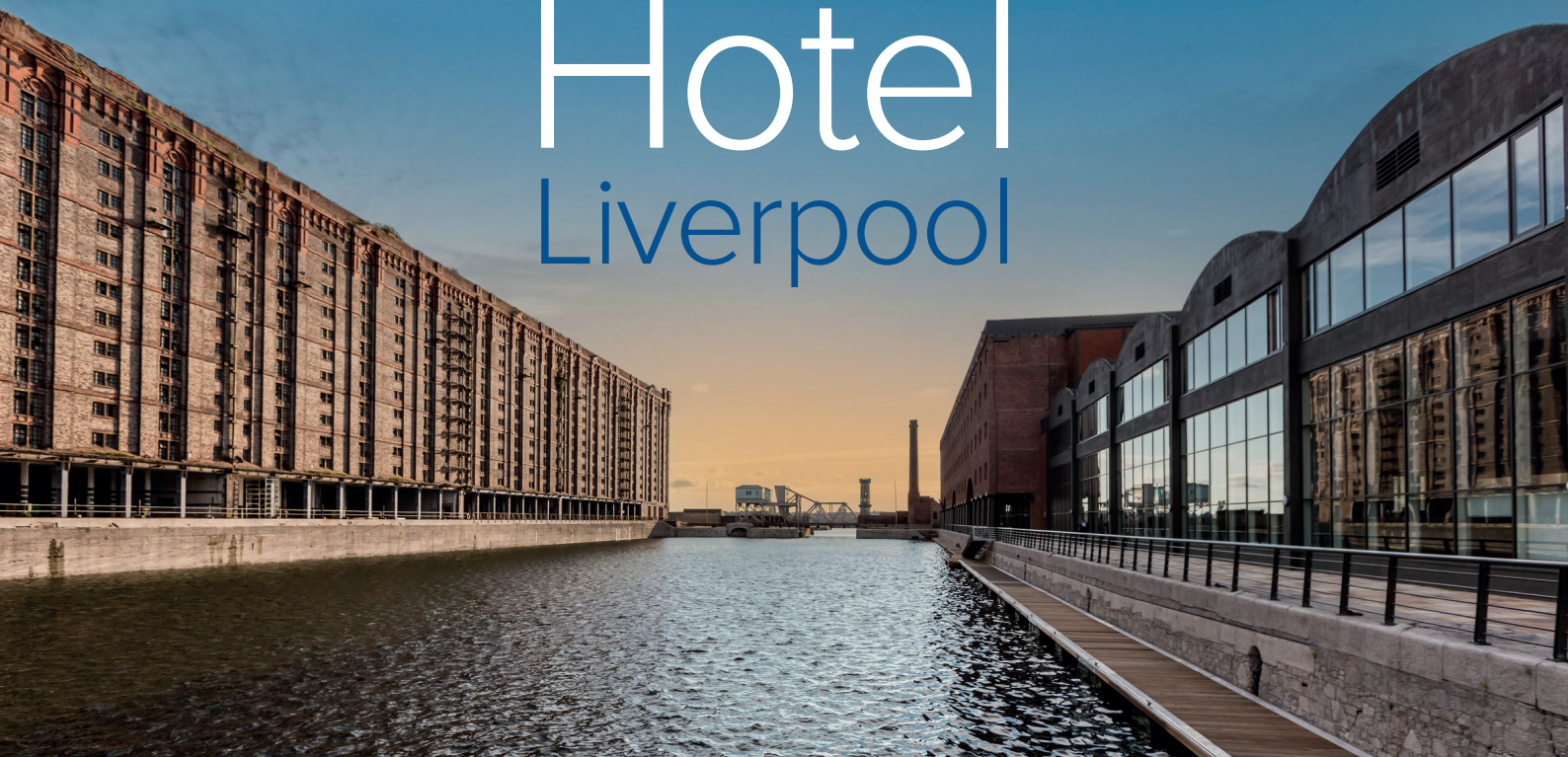
Plus... news and articles from a wide range of our members.



Chemicals Northwest 2025 awards

20th March 2025

at the
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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,

Welcome to the Autumn edition of Elements.

We hope you all had an enjoyable Summer. Since the last edition of Elements, the team at Chemicals Northwest have been working hard on the 2025 Awards and we will be delighted to launch our awards and dinner sponsors in the next few weeks. We are currently in the process of choosing a host for the dinner. We hope you can all join us on the 20th March at the Titanic Hotel in Liverpool for what promises to be another excellent evening of celebration and networking. Please keep a lookout via the bulletins and website for further information.

We are delighted with the new look Chemicals Northwest website which is being populated and developed at the time of print. The website will feature all of the latest events, Elements magazines, sector events and hopefully scope to develop our membership offering further. We are developing the membership page to allow a write up of each of our member companies with a copy of their logo and a link to their website. Watch this space as the website unfolds and develops.

Our Regulation and Trades update event took place on the 4th June hosting a wealth of speakers. We have moved the next Regulation and Trade updates event to the 4th December to hopefully allow for updates relating to the public consultation on UK REACH which closed in late July. Please keep an eye out for the finalised date and further details of our presenters.

We hosted a fantastic and very interesting breakfast networking event on the 20th June which featured a site tour of STFC and the amazing facilities on site to help businesses to develop and grow. A full write up of the support available from STFC can be found on pages 26 and 27 of this edition of Elements.

Our next breakfast event is planned for the 25th September and we look forward to welcoming a full line up of presenters to the event. Presenters include Mick Goodwin from WSP in the UK. Mick will present "The UK REACH ATRm – what next for industry?" This is also featured on pages 12 and 13 of this edition of Elements. Our second presenter will be from CDR Pumps presenting on how simple changes bring big energy savings (see page 28 for further details). Gary Whyte from Camida, will be presenting an insightful overview of the company. Michael Blair from Siemens will discuss Decarbonisation Energy as a service & Digital transformation projects delivery across

the UK Process industry, with an overview of how Siemens can help businesses in a whole host of ways. Roger Wareing from Roger Wareing Consulting will present what Sustainability means for the Chemical Industry and how to shape and progress your own response. Please visit the website for a more detailed description of the topic each presenter will be speaking about. The breakfast events are free of charge to attend and members and non-members are welcome. <https://www.cia.org.uk/events/chemicals-northwest-breakfast-networking-25th-september/528.article>

As always, please keep your good news stories, case studies and thought leadership articles coming in to be featured in Elements.

Further details of our events can be found here - <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.



Practical steps for projects that will become COMAH sites

Where projects involve the handling, storage or processing of hazardous substances, the team involved should be aware of the potential to become a facility subject to the Control Of Major Accident Hazards (COMAH) Regulations 2015.

Understanding COMAH

The COMAH regulatory framework in the UK is designed to minimise the risk of major accidents involving dangerous substances, to protect both people and the environment. The criteria for determining whether a site falls within the scope of the COMAH regulations are centred on the quantities of hazardous substances held on the site.

Schedule 1 of the regulations outlines a list of substances to which the regulations apply, either due to the hazardous properties of the substance or as a specifically named substance and defines the qualifying quantities for each substance in tonnes. The substances covered under the regulations are inherently hazardous due to their properties, such as toxic, flammable, and environmentally hazardous substances.

Projects need to ask - Will we fall under COMAH?

As early as possible within the project lifecycle, the maximum foreseeable inventories of hazardous substances to be held on the site at any given time once it becomes operational should be determined. Once this is known, or indicatively estimated, it will be possible to evaluate these inventories against the thresholds outlined in the COMAH regulations.

If the thresholds for any of the specified named substances or hazard categories individually are met or exceeded, then the facility will be subject to the COMAH regulations. Furthermore, if the total combined quantity of substances held on site exceed the specified quantities under the aggregation rule the regulations will also apply, so the total inventory of the site must also be considered.

As part of this calculation, it can also be concluded whether the site would become subject to the Lower Tier or Upper Tier COMAH requirements.

Performing this check against the COMAH thresholds at any early stage will enable the project to integrate COMAH compliance within the workstream from the outset. There may be preference to work towards the site becoming a Lower Tier establishment due to the less onerous requirements, which may influence the project by dictating the maximum hazardous inventories and it will be beneficial to flag this early on in the process.

Lower or Upper Tier?

There are two distinct levels of requirements under the COMAH regulations: those for a Lower Tier and those for an Upper Tier establishment, with a greater level of rigour required for Upper Tier COMAH sites. The distinction between whether a site is designated as Lower or Upper Tier depends upon the quantities of hazardous substances present, with the Lower Tier thresholds for substances being smaller than those for Upper Tier.

COMAH Requirement	Lower Tier	Upper Tier
Notification	✓	✓
Pre-construction Safety Report	X	✓ Submitted 4 months prior to start of construction
Pre-operation Safety Report	X	✓ Submitted 4 months prior to start of operation
MAPP Including SMS	✓ Must be available upon inspection	✓ Included in safety report
Taking all measures necessary to prevent major accidents and limit their consequences	✓	✓
Risk Assessment Including environment	✓ Must be available upon inspection	✓ Included in safety report
Safety Report To be reviewed and revised every 5 years	X	✓ Submitted to and assessed by CA
Internal Emergency Plan	X MAPP and SMS should contain details about arrangements in place to deal with an emergency	✓ Reviewed and tested every 3 years
Supplying information to local authorities For external emergency plan development	X MAPP and SMS should contain details about arrangements in place to deal with an emergency	✓ Reviewed and tested every 3 years
Supplying information to the public	✓ (regulations 17 & 19 only)	✓ Additional requirements for information which must be supplied
Domino effects and domino groups	✓	✓
COMAH Intervention Plan	✓	✓



What are the practical steps to take to become a COMAH facility?

Once the classification of the site under COMAH has been determined, or well understood based on the available best estimates on the inventories of hazardous substances involved, work towards meeting the requirements of the COMAH regulations should be integrated into the project workstream. Integrating COMAH requirements in parallel with the planning and design stage of the project will minimise the burden towards the end of the project to ensure that the site can become an operational COMAH facility.

Concept	<input type="checkbox"/> Monitor COMAH Qualification Calculations
FEED	<input type="checkbox"/> Apply for Hazardous Substance Consent & Environmental Permit
	<input type="checkbox"/> Begin the activities on COMAH Compliance workstream
	<input type="checkbox"/> Engage with the COMAH Competent Authority
	<input type="checkbox"/> COMAH Notification to the Competent Authority
Detailed Design	<input type="checkbox"/> Submit Pre-Construction Safety Report (Upper tier only)
	<input type="checkbox"/> ALARP Demonstration
Construction	<input type="checkbox"/> Submit Pre-Operation Safety Report (Upper tier only)
	<input type="checkbox"/> Demonstrate 'all measures necessary'
	<input type="checkbox"/> Provide information to the public via Competent Authority
	<input type="checkbox"/> Share Domino information as required
Operation	<input type="checkbox"/> Ongoing COMAH Compliance
	<input type="checkbox"/> 5 Yearly COMAH Safety Report (Upper Tier only)

Step 1: Monitor your COMAH qualification calculations as the quantities of hazardous substances involved in the project become better defined.

As the project develops, it is likely that the quantities of hazardous substances involved fluctuate and it is worthwhile to monitor these changes as they happen to determine the potential impact on the COMAH requirements.

Step 2: Prepare your Hazardous Substance Consent application if this is required.

The requirement for Hazardous Substance Consent under The Planning (Hazardous Substances) Regulations 2015, is outside the scope of COMAH but the threshold levels for COMAH Lower Tier are largely the same as those which require Hazardous Substance Consent. Therefore, operators that are subject to the COMAH regulations are typically also require Hazardous Substance Consent.

Step 3: Start the activities required to become a COMAH facility such that you are prepared ahead of time.

This would include at a minimum for a Lower Tier site:

- Develop a Major Accident Prevention Policy (MAPP)
- Identify the major accident hazards
- Draft emergency response plans in line with the major accidents
- Develop the Safety Management System for the facility

Additionally for an Upper Tier site:

- Liaise with stakeholders for the external emergency response plan
- Start the process of developing the structure of the COMAH safety report by reviewing the requirements under the SRAM 2015 guidance

Step 4: Engage with the COMAH Competent Authority (the HSE and the EA in England, the SEPA in Scotland and the NRW in Wales).

Working with the Competent Authority and creating a positive line of communication at an early stage will be beneficial to the project and will help to understand the expectations of the regulator.

Step 5: Submit your official notification under regulation 6 of COMAH to the Competent Authority.

This involves completing the COMAH notification form that is available online and should be undertaken 'within a reasonable period' before the start of construction of the new establishment, typically defined as four months. Once notified, the Competent Authority will become aware of the facility and will develop an assessment and inspection plan for the new COMAH establishment. Note: this is different from Hazardous Substance Consent and must be made separately.

Step 6: If you are an Upper Tier COMAH facility submit Pre-Construction Safety Report 4 months before construction begins.

Step 7: Prepare a demonstration of safe design by justifying how the risks have been managed to level that this As Low As Reasonably Practicable (ALARP), including compliance with industry good practice and consideration of further risk reduction measures.

Step 8: If you are an Upper Tier COMAH facility submit Pre-Operation Safety Report 4 months before first operation of the site.

Step 9: Develop a suitable and sufficient demonstration that all measures necessary to prevent major accidents and to limit their consequences to people and the environment have been taken.

Step 10: Provide information to the public on the nature of the site and the hazards present via the Competent Authority.

Step 11: Share any information with Domino partners if any are identified by the Competent Authority.

Step 12: Ongoing compliance under COMAH included engagement with your designated CIM (COMAH Intervention Manager) on your ongoing COMAH Intervention Plan and for Upper Tier site, 5-yearly submission of COMAH Safety Reports.

Other aspects for a project to consider

In addition to COMAH, there will be a number of other aspects for a project involving hazardous substances to consider under supplementary regulations including:

- Application for Hazardous Substance Consent under The Planning (Hazardous Substances) Regulations 2015

The threshold levels for COMAH Lower Tier and Hazardous Substance Consent largely overlap, so if you are COMAH you will highly likely require this consent too. The Hazardous Substance Consent is submitted by the Local Authority with the COMAH competent authorities acting as statutory consultees. The experienced wait times on consent applications can now be 12 months – so this need to be prioritised in the project workstream.

- Consideration of whether an Environmental Permit will be required for the site under The Environmental Permitting (England and Wales) Regulations 2016

If the site is subject to the COMAH regulations, then it should be evaluated whether the site will require an environmental permit under the regulations, which will depend upon whether the activities performed have the potential to pollute the air, water or land. The lead times on receiving an environmental permit following the application are typically also exceeding a year, therefore again completing this application this should be a priority.

For further details please visit www.ras.ltd.uk

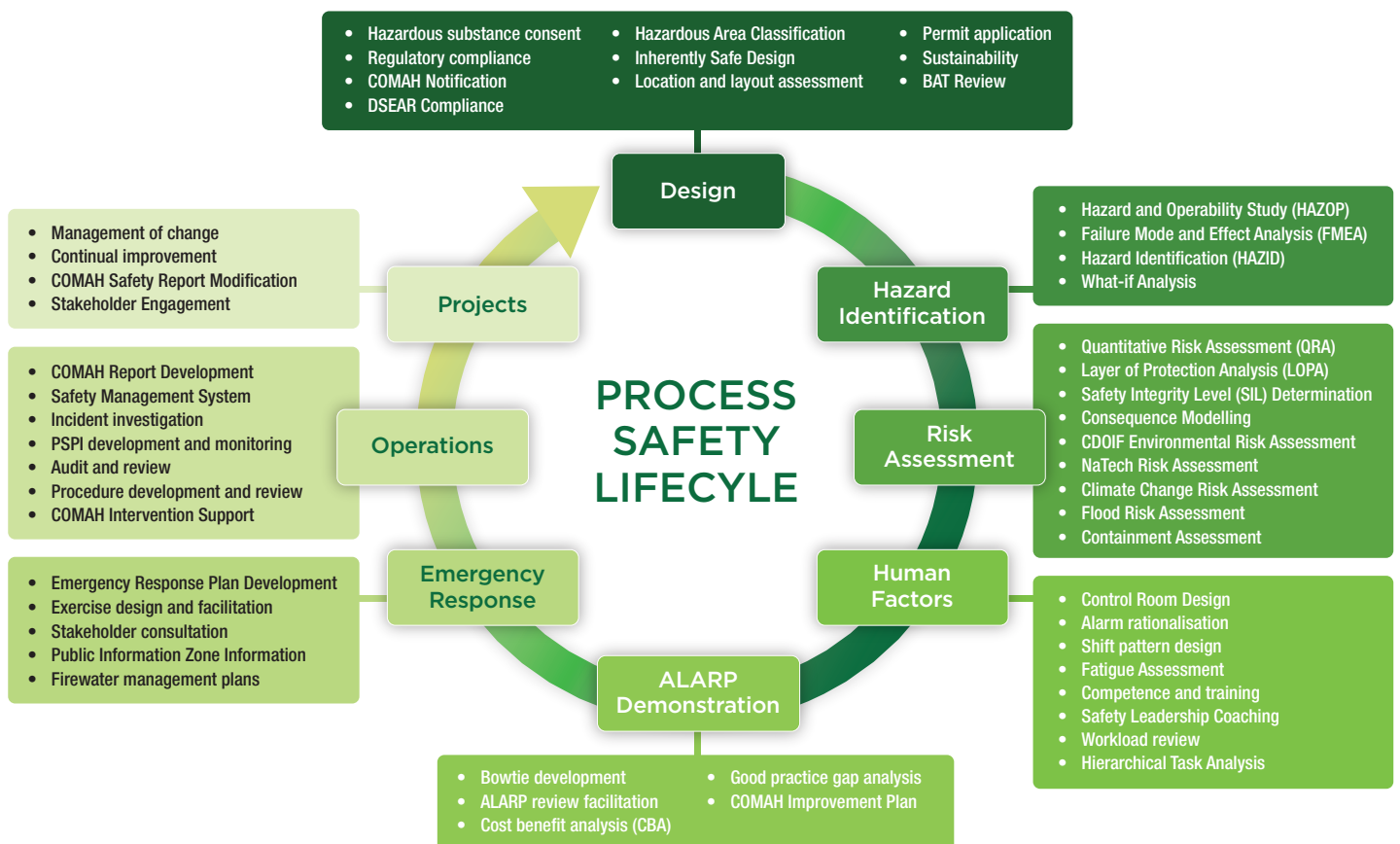


Safe | Smart | Sustainable

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.

PRODUCTS AND SERVICES



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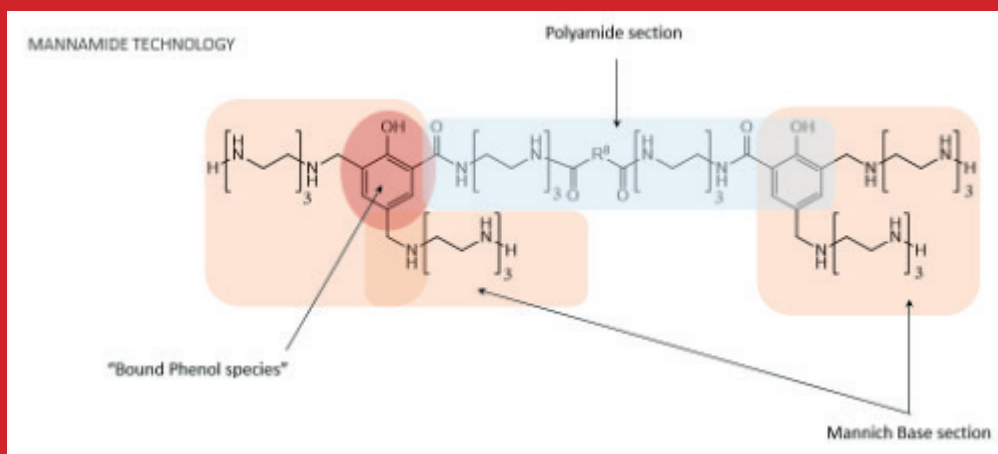
Mannamide Technology



to avoid Xenoestrogens

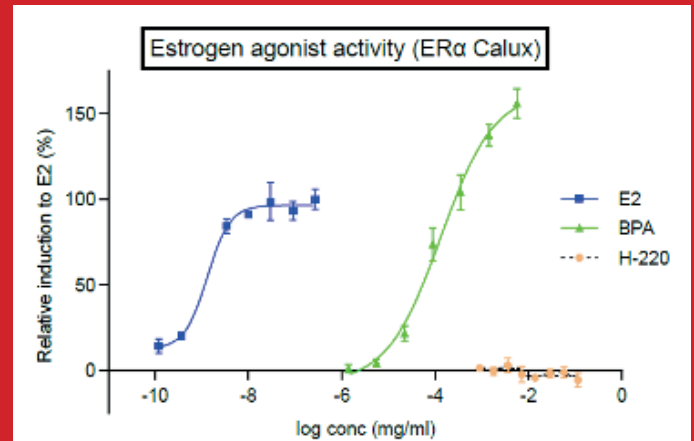
Chemical Processing Services Ltd (CPS) is a global market leader in the field of innovative epoxy curative technology. The company's success is based on innovation along with partnership-based cooperation with clients. A variety of new safer or bio-based high performing disruptive technologies have Intellectual Property that has been Patent protected. The Company continuously develops new technology and with several Patents granted and numerous published or pending, CPS continually advances their position supporting their aim to help customers satisfy evolving regulatory and societal requirements.

One of the latest Patents to grant is for the new MANNAMIDE¹ epoxy curing agent technology² that has been introduced to the market as an alternative to low temperature cure polyamides, that have been modified with endocrine disrupting additives such as Bisphenol "A", Salicylic Acid, and other substituted Phenols. The chemical structure of the Mannamide mannich base-amidoamine and poly-amidoamine epoxy curing agents [depicted below], conveys enhanced cure rate whilst maintaining the favourable bonding properties associated with conventional amido-amines and polyamides.



The current state of the art enhancement techniques utilises modifiers to enhance the amido-amine and polyamide performance when applied in applications below 15°C. These modifiers are of concern as they can introduce potential chronic health hazards and be classified as carcinogenic, mutagenic, or toxic for reproduction (CMR substances). CMR substances are sub-categorised with some of the traditional accelerating additives being Cat 1, substances known to be CMR mainly according to human evidence. These materials adversely impact health as in some cases they can be misinterpreted by human cell receptors as an endogenous hormone such as Oestrogen due to their similar structure. This steroid hormone is associated with the female reproductive organs and responsible for developing female sexual characteristics. Substituted phenols are considered as exogenous hormone mimics, and there is growing interest in the possible health threat posed by such endocrine-disrupting materials.

To support the benefits of the Mannamide technology, in vitro experiments³ were performed using the of ER α CALUX assay to screen for oestrogen activity in comparison to the reference chemical 17 β -oestradiol, and the industrial benchmark, bisphenol A. This cellular assay was performed according to the OECD test guideline n^o 455, to detect oestrogen receptor agonists and it highlighted that the Mannamide products tested, offered a negative response for agonist activity.



Paul H Jones, Managing Director and innovator of this technology stated, "We are delighted with the results received so far, and we believe that we have a fundamental understanding of some of the polymer design requirements that can help prevent classification as a carcinogen. This specialist business was set up to develop new disruptive technology in any field that can help address anthropogenic damage and/or avoid CMR concerns. We continue to horizon scan for legislative changes, and we offer our services when needed."

These Mannamide products were presented at the Thermoset Resin Formulators Association Annual Meeting in Philadelphia and will feature in an upcoming issue of the European Coatings Journal. Further grades are being tested to extend the portfolio and add information to the range. The Mannamide product portfolio also combines this new expertise with some of the favourable features, beneficial performance, and regulatory elements that have been established with some of the other CPS patented technology.

Mannamide products have been designed to operate at low temperatures providing enhanced cure and subsequent film performance, whilst being free from the conventional problematic materials. They are SVHC (Substances of Very High Concern) free products that can provide the desired technical benefits, without the necessity for STOT "Specific Target Organ Toxicity" labelling.

For further details please visit the website
- <https://www.cps-consultancy.com/>

1 Mannamide: CPS Registered trademark

2 Patent Ref: GB221052.2 Inventor(s): Paul Jones [GB]

3 Report: Screening of the Estrogenic activity of chemical compounds – Vito Belgium

Sustainability Impact of Low Salt Betaine Shower Gel Manufactured by Expac, Containing Libra Speciality Chemicals' Low Salt Cocamidopropyl Betaine

As a leading innovator in the UK's chemical industry, Libra Speciality Chemicals, in collaboration with our sister company Expac, is proud to introduce our Low Salt Betaine shower gel formula. This analysis will examine the carefully selected ingredients and the environmentally responsible production methods of this shower gel, underscoring its significant contributions to environmental stewardship and sustainability within the chemical sector.

Ingredient Breakdown and Sustainability Impacts (%W/W)

The primary ingredient in our shower gel, making up 69.8% of the formulation, is Purified Water. Utilising water as the base ingredient is a sustainable choice, as it minimises reliance on synthetic compounds typically derived from non-renewable resources. Additionally, the inclusion of Low Salt Cocamidopropyl Betaine (15%) an ingredient innovatively created by Libra Speciality Chemicals and Sodium Lauroyl Sarcosinate (10%) as the main surfactants represents a significant shift towards milder, skin-friendly, and biodegradable alternatives compared to traditional harsh chemicals.

We use Guar Hydroxypropyltrimonium Chloride, derived from the guar bean, as a conditioning agent. This natural ingredient is preferable to synthetic polymers, enhancing the biodegradability of the product. The formula also includes 2% Glycerine, sourced from vegetable oils, serving as a humectant and aligning with renewable resources, thereby reducing the product's overall ecological footprint.

Sodium Gluconate, a chelating agent derived from glucose, is used innovatively to replace more hazardous substances that are typically employed to stabilise cosmetic formulations. The preservative blend of Sodium Benzoate and Potassium Sorbate, used in a combined concentration of 1.5%, offers an effective yet less toxic alternative to parabens and formaldehyde donors, which are known for their adverse environmental and health impacts.

The fragrance, constituting 0.75% of the formula, is eco-friendly, catering to the growing consumer demand for products free from synthetic and potentially harmful fragrance compounds. Citric Acid, at 0.8%, is used as a pH adjuster and is naturally derived from citrus fruits, further enhancing the product's green credentials.

Method of Manufacture and Environmental Considerations

The manufacturing process of the shower gel, developed by our sister company Expac, is designed with product quality in mind. The stepwise addition of ingredients ensures optimal mixing efficiency to maintain high product quality, thereby reducing waste and minimising energy consumption during production.

Premixing components such as Glycerine and Guar HP ensures high quality, lump-free integration into the water base, minimising the need for excessive stirring and reducing energy consumption during manufacturing. Each phase of the production process is meticulously planned to maximise product quality, stability and efficacy while minimising the environmental impact.

Corporate Responsibility and Sustainability

Our joint commitment to sustainability is evident in both our product formulation and corporate practices. By choosing ingredients that are responsibly sourced, readily biodegradable, and with low human and eco-toxicity, we align with global sustainability goals and cater to consumer trends favouring

environmentally responsible products. This approach reduces the ecological footprint of our production processes but also enhances the appeal of our products in an industry increasingly driven by eco-conscious consumers.

Conclusion

The Low Salt Betaine shower gel, a joint effort by Libra Speciality Chemicals and our sister company Expac, represents an impressive blend of eco-friendly materials and sustainable manufacturing practices. This initiative not only meets our environmental obligations but also establishes a new standard in the chemical industry for creating products that are both effective and environmentally considerate. By pursuing such projects, we are contributing significantly to the broader goal of sustainability and environmental stewardship, setting the stage for a greener future in industrial chemical manufacturing.

In summary, this collaboration between Libra Speciality Chemicals and Expac in developing the Low Salt Betaine shower gel highlights a noteworthy integration of eco-conscious materials and sustainable production methods. This partnership not only addresses our environmental duties but also raises the bar in the chemical industry for producing effective and eco-friendly products. Through such efforts, we are making a meaningful impact on the global sustainability agenda and environmental protection, leading the way towards an environmentally sustainable future in chemical industrial manufacturing.

For further details visit - <https://librachem.co.uk/>



John Hogg Expands into new R&D Laboratory

John Hogg, a leader in fuel marking technology and solvent dye manufacturing, is proud to announce the opening of a new Research & Development lab at the state-of-the-art Hexagon Tower. This move marks a significant milestone in John Hogg's company growth and highlights their commitment to technical excellence.

Hexagon tower is a prominent, modern facility known for its distinctive hexagonal design. It houses advanced laboratories, office spaces, and serves as a hub for scientific research and development, fostering innovation across various industries.

The opening is particularly meaningful for John Hogg, as it represents their first expansion since moving to Mellors Road in the early 1980's. The new site at Hexagon Tower features advanced facilities, including a cutting-edge laboratory and modern office space.

The new laboratory will specifically cater to John Hogg's speciality dye team, with a large emphasis on R&D for new products in the lubricant, aerobatic smoke, and NDT markets. This new workspace plans to boost work efficiency and development progress, enabling them to undertake more complex projects and deliver exceptional results to customers.

In addition to the new laboratory, Hexagon Tower provides John Hogg with office areas to support the growing team. These new spaces will accommodate to the increase in employees over the last couple of years and provide a conducive environment for daily operations and collaboration. The additional room will help the team manage projects more effectively and comfortably.

"John Hogg has had a presence in Speciality Dyes for many years, so having dedicated resources will expand our product range and level of service that we are able to offer to our customers. We are excited to see our team grow in capacity, capability, and look forward to working in Hexagon Tower on new challenges and opportunities."

Guy Powell, Technical Manager

The new lab is expected to play a crucial role in advancing John Hogg's research capabilities. The enhanced R&D environment is set to inspire the team to push the boundaries of what is possible in dye technology. As the company embarks on this new chapter, the expanded R&D capabilities are expected to yield significant advancements and set new standards in the field.

For more information about John Hogg and the move to Hexagon Tower, please contact hello@johnhogg.co.uk or call us at +44 (0) 161 872 5611



The UK REACH ATRm – what’s next for industry?

In May, the Government launched its long-awaited consultation on the proposed amendments to the current transitional provisions under UK REACH. The intention is to reduce the financial burden for industry, without compromising the existing human health and environmental protections.

The proposed amendments would mean a more risk-based approach is taken to protect human health and the environment - a ‘smaller’ data package would be required for substances already registered under EU REACH, supported by enhanced use and exposure information.

This Alternative Transitional Registration model (ATRm) may reduce the initial tangible costs (i.e. data generation) but will almost certainly increase the indirect cost & administrative burden of obtaining the required use and exposure information. The ATRm also indirectly removes power from the UK regulator as UK registrants will have to follow the outcomes of any ECHA decisions. Classifications will also be determined by EU Registrants, leaving a potential conflict with GB CLP. Additionally, there is notable concern from industry that the ATRm may force the disclosure of Intellectual Property and confidential information from the value chain.



Data

The ATRm will require UK registrants to provide a substance’s classification, DNELs, PNECs and PBT assessment in their submission, rather than the full dataset from which these values are derived. If the (limited) data submitted for a UK registration differs from that in the EU, a transitional evaluation will be triggered. This will require the UK registrant(s) to present data to support the values they are presenting, within a short period of time.

Without this supporting data in the UK, (i.e. the Robust Study Summaries), there is limited scope to validate the accuracy of the values presented. There is also the issue of existing EU registrations with incorrect DNELs, PNECs & PBT assessments. As such, a UK registrant would be expected to present a “technically” compliant dossier that contains incorrect data or, would need to purchase access to the data so they can present a correct dossier and justify the variation

from the EU values. In such cases, the failures of these EU registrants would be paid for by UK industry or by the ineffective protection of human health and environment.

If the information required for a UK registration changes in the EU dossier, the UK registrants would be expected to update their dossiers and chemical safety assessments, accordingly. Currently, as there is no mechanism to alert an interested party to a change, the UK lead registrant would have to periodically check the EU registration for updates and update the UK lead dossier, if required. The lead registrant would also need to inform their joint registrant community and of course, distribute any costs associated with these updates. All the above points must be considered within the scope of any Joint Submission Agreement.

Within DEFRA’s consultation document, there is the assumption that any UK registrations will be completed at an equal, or lower, tonnage than in the EU. However, it is not exactly clear how this will be confirmed.

The data presented on ECHAchem does not explicitly state the highest tonnage band, although from the disseminated data, it may be possible to make a judgement on what the highest tonnage band has been. However, there is no way to confirm if this data comes from an active registration: only that the data for an endpoint has been submitted to ECHA in a valid dossier.

In the event of a proposed dossier evaluation in the EU, registrants may choose to downgrade their registrations tonnage band to avoid the cost of additional testing, but the UK registrant community would remain unaware of this. Consequently, the EU dossier may have significant shortcomings and will no longer be maintained, whilst the UK registrants would still be reliant on information derived from this EU data.

With the classification data for a substance registration being copied directly from the EU registration, there is a potential for conflict with GB CLP. There are already several cases where data within an EU REACH registration results in a different classification than is specified in the UK Mandatory Classification List (MCL).

If the data supports a higher classification than in the MCL, it would be prudent to use that classification as it would ensure greater protection of human health and/or the environment. However, if the data indicates a lower classification, it is unclear if the UK authorities would accept this, or if they would insist on the use of the MCL, even though the evidence may suggest the MCL is incorrect.

Use and Exposure

EU REACH requires registrants to present information on the uses of their substance. At Annex VIII and above, this also includes potential routes of exposure in the form of a chemical safety assessment (CSA), as part of their registration dossier. This information is typically based on assumptions, generalisations and simplifications of the registrant’s understanding of their customers use of a substance - the

ATRM would require more accurate and specific information. Whilst it's not yet specified exactly how that information will need to be presented, there is already concern from industry that the cost and effort required to gather meaningful data will outweigh any benefits to human health or environmental protection.

Under the ATRM, registrants would be required to gather data from the downstream users of their substances, throughout the supply chain. This would include all uses, potential exposure and releases throughout the value chain, which many customers may not be willing to share. For complex supply chains, or where material is exported and re-imported, it could prove particularly problematic to obtain any meaningful information. Any new opportunities within new markets will have to be reflected in registration updates.

For some single use specialities, this may be a straightforward exercise, but for large volume commodity substances, this will be an almost impossible task. Much of the industry falls between these two extremes and will need to dedicate significant resources to collate the relevant information. It is likely that those who are most valuable to the supply would be unwilling to disclose this information, for fear of compromising their intellectual property and the value they provide. This could result in parts of industry moving away from the UK.

It is clear there will be a considerable increased burden upon registrants, and their customers, if the desired outcomes of the ATRM are to be achieved. DEFRA's Impact Assessment to the ATRM has stated that 98% of chemical companies in the UK are SMEs, contributing one third of turnover in the sector. The impact on these businesses will be greatest, and they will end up carrying the largest burden whilst having the least resources.

Industry needs to start acting now and asking questions of their customers. With multiple layers in the downstream supply chain, it will take a significant length of time to gather and collate

meaningful information. For higher volumes substances, co-registrants should begin discussions now, in preparation for the 2026 deadline. A lead registrant needs to be agreed and appointed for any substance registered under UK REACH, and once the ATRM is in force and the mechanisms fully understood, legal agreements will need to be signed between the registrants.



DEFRA's desire to maintain, as a minimum, the current protections to human health and the environment, whilst reducing the financial impact on industry of implementing UK REACH, is an admirable aspiration, but one which may ultimately backfire. The model presented relies on data generated from EU registrations and will ultimately force the UK regulator to follow decisions from ECHA. Whilst the initial data costs of a registration may well be significantly reduced, this is likely to be offset by the time and effort needed to collate meaningful use and exposure information.

Article written by Mick Goodwin, Technical Director at WSP
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Exploring the World of Chemical Engineering: Join the Institution of Chemical Engineers

In an era defined by rapid technological advancements and an ever-growing need for sustainable practices, the role of chemical, biochemical and process engineers has never been more critical. These professionals are the unsung heroes behind innovations in pharmaceuticals, energy, food production, environmental protection, and many other fields. At the forefront of supporting and advancing this vital profession is the Institution of Chemical Engineers (IChemE), a global organisation dedicated to fostering excellence and professional development in chemical engineering.

The importance of chemical engineering cannot be overstated. As the world grapples with challenges such as climate change, resource scarcity, and public health crises, chemical engineers are at the forefront of developing sustainable solutions. They work on creating cleaner energy sources, designing processes that minimise waste, and developing new materials and products that improve quality of life while being environmentally friendly.

The Institution of Chemical Engineers: Engineering a Sustainable World

Founded in 1922, the Institution of Chemical Engineers is a global professional engineering institution and is the professional home for over 30,000 chemical, biochemical and process engineers in more than 100 countries. IChemE's vision is to Engineer a sustainable world. It will do this by putting chemical and process engineering at the heart of a sustainable future – benefitting members, society and the environment.

Membership Benefits and Opportunities

IChemE membership opens doors to a wealth of resources and opportunities which mean members are able to:

- Develop their technical and professional credibility, capability and confidence
- Connect with a globally diverse community of chemical, biochemical and process engineers
- Be supported to be at the heart of a sustainable future developing them, society and the environment
- Have their talents and contributions recognised and their voices and professional represented on a local, national and global stage.

Promoting Sustainability and Innovation

In order to engineer a sustainable world, IChemE is spearheading a number of campaigns and initiatives. The new DiscoverChemEng initiative has been set up to develop and share a cohesive package of education outreach activities which demonstrate to young people and their

influencers what chemical engineering is, how it impacts daily life, where to study chemical engineering and how to pursue a career in chemical engineering. This campaign will deliver information for educators, students and parents, as well as those undertaking education outreach.

Through initiatives such as the Sustainability Hub, IChemE provides guidance and tools to help engineers develop sustainable solutions and contribute to the global agenda on climate change and sustainable development.

IChemE also plays a pivotal role in fostering innovation. By facilitating collaboration between academia, industry, and government, the institution helps to accelerate the development and implementation of new technologies. This collaborative approach ensures that chemical engineers are equipped to tackle the pressing challenges of today and tomorrow.

Engineering A Sustainable World – the Chemical Engineering Challenge Report was created by IChemE to help show where and how members can use their skills to make a difference. IChemE is also using the report to underpin policy and outreach work, and prioritise development of resources and training materials, while calling on policymakers to recognise the role of chemical engineers in achieving a sustainable world.

Join the Movement

Becoming a member of the Institution of Chemical Engineers means joining a global community dedicated to making a difference. Whether you are a student aspiring to enter the field, a professional seeking to advance your career, or an academic contributing to the body of knowledge, IChemE offers a platform for growth, learning, and making a meaningful impact.

The future of chemical engineering is bright, with endless possibilities for innovation and progress. By joining IChemE, you become part of a legacy of excellence and a force for positive change. Embrace the opportunity to shape the world and contribute to a sustainable future with the Institution of Chemical Engineers.

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Is Patent and Trade Secret Strategy for Chemical Inventions set for a Sea-change across Europe?

Patent practice at the European Patent Office (EPO) may be in line for a sea-change in the way that disclosures of certain commercial products – particularly those common to the chemical industry – are assessed as prior art. The EPO's Enlarged Board of Appeal (EBA) will be grappling with a new referral, G1/23, which will focus on disclosures relating to products having compositions and internal structures which are difficult to analyse and reproduce.

Background

In order for a commercial product (and its internal structure/composition) to be considered “state of the art” or “available to the public” (so as to be capable of prejudicing a later-filed patent application) the EPO has historically worked on the basis that it must be possible for the skilled person to discover the composition or the internal structure of the product and to **reproduce it without undue burden**. However, it has been counter argued that this “reproducibility requirement” goes too far and that it was only ever intended for availability to the public to be determined by the **accessibility** of the prior art product to the public, rather than depending on whether the accessible product could also be reproduced without undue burden.

G1/23 – The referral

The referral comes from a case (T 0438/19) in which a critical question for the patentability of the invention is whether a commercial product – an ethylene/alpha-olefin copolymer (“ENGAGE® 8400”) and technical information relating to it – can be considered “state of the art” when the polymer cannot be identically reproduced by the skilled person without undue burden. In essence, the referral seeks to establish the extent to which the reproducibility criterion is critical, which is particularly relevant to chemical inventions.

Potential consequences of G1/23

If the EBA decides that the reproducibility criterion is not an essential requirement in order for a commercial product (or technical information pertaining to it) to be considered state of the art, more disclosures may be considered prejudicial to patent applications. For example, commercial products covered by trade secrets, or even marketing brochures, could be given a much higher status as prior art relevant to the patentability of an invention.

Another potential impact is on strategy for protecting innovation as a trade secret versus a patent – or both. Historically, it has been possible for an innovator who has sold a product covered by a trade secret – where the composition and internal structure of the product are not specifically disclosed by the sale and cannot be identically reverse engineered – to later apply for a patent at the EPO for the same product, disclosing publicly for the first time the method for the product's reproduction. However, there is the potential to disrupt this notion if the product originally made accessible to the public as a trade secret could be considered relevant prior art prejudicial to a later filed patent application.

A potential consequence would then be to shift closer to the “on-sale bar” enforced by the US Patent and Trademark Office (USPTO) with the intention of maintaining a separation between the use of trade secrets and patents for protecting innovation.

Impact on IP strategy

A Decision in G1/23 brings with it the possibility of a significant change in the way the EPO assesses disclosures of products having compositions and internal structures of varying degrees of analysability and reproducibility.

If there is movement toward an on-sale bar type exclusion, there may be incentive for applicants to consider filing European patent applications earlier, or at least before commercialising the products of their innovations. Alternatively, it may encourage innovators to take additional steps to preserve their trade secrets in preference to pursuing patent protection altogether, albeit at the risk that third parties could independently develop the same technology in the future.

Another potential consequence is how innovators approach their product marketing, in particular the content of technical brochures. The potential higher status of a technical brochure as prior art could, instead, be used tactically to try and prevent others from later patenting products covered by trade secrets.

It remains to be seen just how far reaching a decision on G1/23 will be to IP strategy in the chemical industry.

Contact Michael Stott (Chemistry Partner) for further details or questions: mjstott@mathys-squire.com

For further details visit - [European Intellectual Property Law Firm | Mathys & Squire LLP \(mathys-squire.com\)](https://www.mathys-squire.com)



Patenting research outputs – patents and trade secrets

As we continue our series on considerations for researchers interested in patenting their research outputs, WP Thompson looks at the risks and rewards associated with trade secrets, and the dangers of AI.

When many inventors consider using intellectual property (IP) to protect their inventions, they often think first of patents. However, whilst there are some circumstances in which a patent is the best option for protecting one's IP, in others trade secrets might be preferable and more commercially advisable. A hybrid strategy utilising both patents and trade secret can be employed. Yet, as we will see, trade secrets do not come without risks.

Patents

A patent grants its owner exclusive rights to work their invention for up to twenty years in exchange for publicising the details of the invention so that others can work the invention at the end of that period of exclusivity, or else develop innovations that build upon it. That is, a patent rewards its owner in exchange for their contributions to the relevant technical field. The ability to promote the fact that a product is patented or to label it as "Patent pending" can also act to deter would-be infringers.

Patents are therefore desirable forms of IP in fast-moving sectors wherein new products might have a finite period of profitability before the sector moves onto the next incremental innovation. In such situations, a patent owner might be able to work their invention exclusively until after its profitability has peaked and before it becomes available for wider use.

Trade secrets

Trade secrets do not grant exclusivity to their owner, but nor are they time-limited. According to the UK's "Trade Secrets (Enforcement, etc.) Regulations 2018", a trade secret is a secret not generally known or readily accessible to those who normally deal with the kind of information in question; has commercial value because it is secret; and has been subject to reasonable steps by its owner to keep it secret. Some famous examples of trade secrets are the recipes for Coca Cola and KFC's "11 herbs and spices" mix, and the method by which the New York Times Best Seller list is compiled.

A well-kept trade secret can last in perpetuity, unlike a patent. However, a trade secret cannot be used to deter would-be infringers and the rights in it are only enforceable where the information has been unlawfully acquired, used or disclosed by a breach of confidence. If a third party arrives at the secret independently, the existence of the trade secret cannot be used to prosecute

them, and it becomes public knowledge and worthless as confidential information. Indeed, even if a trade secret is published by virtue of an unlawful act, it is in the public domain and no longer has the quality of confidence expected. It is therefore extremely important that anything to be relied upon as a trade secret is properly kept secret. As such, whilst trade secrets can provide longer periods of protection than patents, they also offer less robust protection.

Risks of artificial intelligence

The recent rise of artificial intelligence presents new considerations for those reliant on trade secrets. Generative AI programs, such as that underpinning ChatGPT, are trained using input data to allow them to interact with users. However, it is not always easy to know if a program uses its users' information to further train itself, and if there is a risk that it could repeat that information to third parties. Indeed, the UK's "Generative AI Framework for HM Government" warns civil servants that they need to ensure that sensitive data is not used for this purpose without the data owner's knowledge and consent.

If a trade secret was entered into a generative AI program without sufficient restrictions in place on the use of the trade secret, and the program relayed that information to other users, it would no longer be secret, and one could also question whether reasonable steps were taken to keep that information confidential. As such, although trade secrets offer viable alternatives to patents in some situations, the protection they afford is more fragile than ever before in a world where human error can have critical consequences and perfect copies of documents can be widely distributed in an instant.

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



Waste-based medicines are taking shape

Industrial waste is an increasing focus within the pharmaceutical industry as innovators look to decrease costs and reduce the environmental impacts of transforming potentially hazardous chemical waste into something useful, such as new medicines.

The waste compounds receiving most attention include lignin, cellulose and other organic polymers and bio-based compounds – many of which are by-products of industrial processes involved in the production of foods and textiles.

AI-based systems have a key role to play in the development of medicines from chemical waste. With large databases of chemical structures, reaction pathways, and known reactions, trained algorithms can be used to predict how waste materials might be repurposed as reactants or catalysts in new chemical processes, or as new drug molecules.

Although many pharma and biochemical companies are involved in such AI-led drug discovery programmes, relatively little is known about their activities. They often choose to keep software-based innovations a ‘trade secret’, which means there is no need to publish details about them in the form of a patent. Registered intellectual property rights, such as patents, tend to be used to protect the programme’s outputs only.

The harmful pollutants left behind by chemical industry processes include arsenic, lead, mercury, vinyl chloride, polychlorinated biphenyls (PCBs), benzene, cadmium and benzo(a)pyrene. Some of these by-products are known carcinogens and/or neurotoxins, which represent a serious risk to human health.

There is also growing interest in the harm caused to the environment by so-called ‘forever chemicals’ such as per- and polyfluoroalkyl substances (PFAS). If ingested, these pollutants can build up in the body and have been linked to several medical conditions. The European Chemicals Agency is considering imposing **restrictions** to prevent them becoming widespread.

To help tackle the problems caused by chemical waste, engineers have focused back on chemical synthesis as a means of turning by-products into new medicines.

In the past, most drug development has been achieved through accidental discoveries, or by human chemists working backwards from a biological target to find a chemical molecule. The complexity involved in sifting through large volumes of data in order to achieve the latter meant the process was akin to searching for a needle in a haystack. AI-based systems can speed up discovery processes dramatically.

To date, much of the research in this area has focused on producing less waste and reducing toxicity, rather than viewing it as a useful feedstock or resource. Inspired by the vast data-processing power of AI-based systems, R&D teams have set their sights on finding novel ways to extract value from chemical waste, delivering lasting benefits for society and the environment.

For innovators involved in AI-enabled drug discovery programmes, the optimal intellectual property (IP) strategy is likely to involve keeping the process itself a trade secret, and only seeking patent protection for outputs, such as the discovery of new molecules or chemical syntheses. Taking this approach allows innovators to benefit from rights of exclusivity without risking that important details of their AI-algorithms become public knowledge.

US company, Allchemy Inc, has developed an AI-powered drug discovery platform capable of identifying opportunities to create new drugs from chemical by-products. This is achieved by predicting the molecular properties of specific synthetic reagents and comparing them to known drug properties. Synthetic routes are predicted and ranked to inform the design and development of the new drug.

Expertly trained AI-powered platforms are promising to revolutionise chemical engineering processes. Whereas an engineer might have spent years testing thousands of compounds against a handful of chemical targets in the hope of finding something useful, a trained machine learning model could potentially achieve the same results in a matter of hours.

The growing focus on reducing, reusing and recycling resources represents a significant shift towards a circular economy, where by-products from chemical processes become valuable ‘feedstocks’ and waste is reduced or eliminated altogether.

Nevertheless, cleaning a process that uses synthetic reagents as its feedstock is not without risk. Mistakes could have devastating consequences, particularly if reactions are taking place inside the human body or in the ecological environment. The ability of AI-based systems to understand the rules of chemical reaction in their entirety has not yet been fully tested, and innovators are aware of the need for caution and, importantly, human supervision.

With wider use of AI-powered systems for drug development, it is hoped that engineers will identify molecules or chemical syntheses capable of delivering proven health benefits for niche groups of patients, such as children or those with rare medical conditions.

With so much to play for in terms of cleaning the environment and finding new medicines, engineers must remain focused on extracting value from chemical waste. Adopting the optimal IP strategy on route to market will be critical to their success.



*Dr Joanna Thurston is a partner and patent attorney at European intellectual property firm, **Withers & Rogers**. She is a member of the firm's Life Sciences and Chemistry group and leads the firm's Clean Technology and Batteries groups.*



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Strengthening Compliance: The EU's rigorous approach to chemical safety

The European Union is poised to intensify the enforcement of regulations on chemical substances and products, marking a significant shift in the landscape of chemical compliance. This enforcement focus is a cornerstone of the EU's Chemicals Strategy for Sustainability (CSS), introduced in October 2020. The CSS outlines a robust framework for ensuring the safety and sustainability of chemicals, with enforcement identified as one of its three key pillars.

As the EU rolls out detailed measures and initiatives to bolster this framework, the impact on industries and regulatory bodies will be profound, especially in high-risk areas such as online sales and imported goods.

Challenges in Identifying Non-Compliant Products

A major challenge for enforcers in identifying non-compliant substances and products, particularly at customs borders, is the need for certification proving compliance. To address this, the EU has proposed the Digital Product Passport, which aims to streamline compliance verification. Additionally, the proposed Digital Services Act will clarify the roles and responsibilities of online retailers in ensuring product safety. Initially, Digital Product Passports will focus on key industries like textiles and construction, providing a more straightforward way for authorities to check compliance. However, once these measures are fully implemented, enforcers must rely on other compliance indicators.

The Role of Safety Data Sheets

One crucial compliance indicator is the Safety Data Sheet (SDS), which must legally accompany products containing hazardous substances or mixtures, persistent bioaccumulative toxic substances (PBTs), very persistent very bioaccumulative substances (vPvBs), substances of very high concern (SVHCs), and certain non-hazardous substances and mixtures. **Despite their importance, non-compliance in SDSs is alarmingly high.** The European Chemicals Agency (ECHA) has long noted the poor quality of information in SDSs, with up to 52% found deficient in a 2013 review (REF2). This led to an update in SDS legislation under Annex II of REACH (2020/878).

Recommendations from the High-Level Roundtable

A high-level roundtable at the end of 2021 highlighted enforcement and compliance as major issues, resulting in ten key recommendations in a Joint Report. These recommendations focus on three main themes: transparency, penalties, and harmonised enforcement. Key recommendations for companies include:

1. Naming and Shaming: Identifying and publicising non-compliant entities, sanctioning them, and either removing non-compliant substances or ensuring they are brought into compliance. This involves

sharing information about transgressors with the public and consumer organisations.

2. Revocation of REACH Registrations: For non-compliant substances, the EU suggests revoking REACH registrations.
3. Costly Non-Compliance: Ensuring that non-compliance carries significant financial penalties.
4. Harmonised and Coordinated Enforcement: Enhancing cooperation across member states and internationally.
5. Focus on Imports and Online Sales: Prioritising these areas and clarifying the roles and responsibilities within the supply chain.
6. International Cooperation: Enhanced collaboration with third countries, exemplified by the administrative arrangement between the EU and Canada for product safety, which includes data exchange and joint investigations. Non-compliance in one jurisdiction can trigger investigations in others.

REF11 and the Focus on SDS Quality

The EU's commitment to stringent enforcement is evident in the REACH EN-FORCE (REF) initiative. REF11, an EU-wide enforcement project starting in 2023, is concentrating on assessing the quality of SDS information following the regulation update (EU) 2020/878. The emphasis on transparency, harmonisation, and zero tolerance for non-compliance underscores the EU's determination to ensure chemical safety.

Common Non-Compliance Issues in SDS

In our experience, SDS non-compliance typically involves issues related to the 4 i's: Incomplete, Incorrect, Inappropriate, or Inconsistent information. In a recent audit of over 6,000 SDSs conducted by Yordas, only 26.4% were fully compliant, 32.3% were partially compliant, and 28.6% required a full review and reclassification.

Conclusion

The EU's emphasis on enforcement of chemical regulations significantly impacts industries and regulatory bodies, ensuring a higher standard of safety and compliance. As measures like the Digital Product Passport and updated SDS requirements take effect, the landscape of chemical compliance will continue to evolve, demanding greater transparency and accountability from all stakeholders.

At Yordas, we provide a variety of workshops and training sessions to help stakeholders safely bring their chemical products to the EU market. Our upcoming 3-Day Hazard Communication Workshop, scheduled for 12-14 November 2024, aims to address these challenges and present targeted solutions.

Get in touch with Jodie Kershaw at j.kershaw@yordasgroup.com to learn more about this workshop or simply register here now and benefit from the early bird price!

<https://www.yordasinsight.com/courses/3-Day-Hazard-communication-workshop-course>

Article by: Fiona Moir



Transforming asset integrity in the process industry

With the European Chemical Industry facing challenging times from high energy costs, tightening labour market, the requirements to decarbonise and reduced demand, driving transformational changes across our industry is crucial for its survivability and growth. After energy and feed stock pricing, maintenance and asset integrity costs feature highly for most process industry producers.

Traditionally, asset integrity management within the process industry relies heavily on the use of invasive inspections, requiring human entry into vessels on a fixed interval basis. With new technologies constantly being developed, the mindset within the industry needs to shift more towards how we can implement advanced Non Destructive Testing (NDT) techniques, and limit the need for invasive inspections to greatly reduce the risk posed to inspectors and practitioners.

A recent poll was taken at a TÜV Rheinland Asset Integrity Management conference, supported by the Chemical Industries Association, on the issue of how to implement more advanced maintenance and inspection techniques within industry. The poll found that 32% of attendees felt the main barrier to the use of advanced and Non-Invasive Inspection techniques was the perceived lack of viable proven techniques and 24% said they felt there was a lack of management engagement.

The key benefit to Non Intrusive Inspection (NII) is reducing the health and safety risk of entering vessels. There is also a monetary benefit when considering cost impact of halting production and taking equipment apart; loss of production capacity for example is often underestimated or unbudgeted. TÜV Rheinland conducted a study alongside the Oil and Gas Technology Centre (OGTC) and major upstream operators which investigated the industrial adoption of NII. The results identified within the UK Offshore Industry, 80% of all inspections could be completed without the need for human entry into a vessel (non-invasive) and asset integrity costs could be cut by 50% across all North Sea operators. This delivers a net benefit to the sector of £242 million (\$310 million USD) per annum.

To demonstrate these savings do not apply solely to offshore, a recent Risk Based Inspection (RBI) and NII review was carried out by TÜV on a UK company with onshore facilities. The study was carried out over a 3-year period, collaborating TÜV Inspection and Materials Engineers alongside client Process, Operations and Asset Integrity Engineers. All vessels and piping systems on the client site were reviewed, Written Schemes of Examination (WSE) were drafted, and inspection packs were produced. Inspection intervals were increased on average by 13% for vessels after phase 1 of the RBI review. The intervals increased by a further 11% after RBI revalidation. This led to an overall risk profile reduction with increased inspection regime focus for high-risk items, whilst reducing inspection costs across the plant.

As part of the RBI review relevant methodologies were used to identify equipment suitable for NII. NDT procedures were tailored for consistency of results for all NDT personnel across the various locations. Following this study, the use of Non-Invasive Vessel Inspections was increased by 60%, increased again a further 6% after an RBI revalidation.

The combination of the increased inspection intervals and use of NII resulted in a saving of £2.2 million in inspection costs alone, with gains seen from additional production being much higher. The client also saw benefits such as reduced turnaround examinations, reduced inspection workload, improved production uptime and increased operations ownership of asset integrity.

Undoubtedly, introducing advanced maintenance and inspection technologies and mindset into the Chemical Industry will improve safety, increase production and reduce overall asset integrity costs on operating plants by up to 50%.

Article written by Joseph Cooper, a graduate mechanical engineer in TÜV Rheinland, who has been working on Asset Integrity transformative potential of new technologies. These innovative techniques promise to advance the industry and he looks forward to contributing to and witnessing the positive changes they will bring.

For further details visit <https://www.tuv.com/world/en/>

50%



Joseph Cooper



80%

£242
million

Why do we keep seeing Stress Corrosion Cracking (SCC)?

The subject of stress corrosion cracking (SCC) may be an old one, but remains one of the most important considerations today for designers, materials engineers, operators and scientists in industry since its discovery in the late 1800's.

SCC is a critical consideration in relation to the reliability of many applications during the design stages. However, it is in the longer term over an asset's life cycle that the interaction between the materials, stresses and environments combine to potentially cause this phenomenon. It is safe to say though that not all materials sustain SCC in every environment, but many common engineering materials are subjected to SCC in many environments common in industry, thus it does not require extreme conditions to occur just their individual 'sweet spot' between these factors.

Predominantly in materials of high toughness and high strength, it can occur in both brittle and ductile materials. SCC occurs almost always due to residual stresses, not applied stresses from the design calculations of the equipment. SCC will generally not display any gross degradation or deformation on the surface, the material often appears visually still shiny or metallic. Although SCC will propagate more readily at areas of existing defects or pits, it often initiates at surfaces that appear smooth and defect free. It is therefore imperative that effective methods are continually developed to monitor, predict and manage SCC to ensure long term reliable asset service.

To understand how we can deal with SCC in industry it is essential that we understand the mechanisms, materials, environments and testing methods to predict and effectively manage the many common forms of SCC we see such as Ammonia, Caustic, Chloride, Polythionic Acid and Sulphide. These different forms of SCC vary slightly in practice but they are all environment assisted damage mechanisms.

One of the most common we see is in 300 series stainless steels displaying Chloride SCC (CSCC). The synergy of tensile stress, temperature, low pH and an aqueous chloride environment can lead to cracks that are multi-branched, often transgranular but can be intergranular in sensitised material (material that has seen operating temperatures between ~425°C and 815°C and/or e.g. weld HAZ). Sensitisation results in chromium depletion along grain boundaries leading to a chromium reduction from 18/20% to ~13% (Figure.1). It is

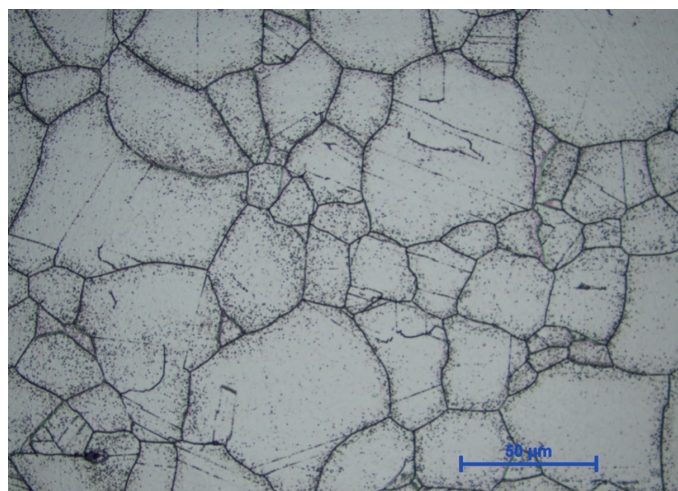


Figure.1 Polished and chemically etched section of 316 stainless steel showing carbide accumulations along grain boundaries (sensitisation).

also a myth that the CSCC threshold is 60°C, CSCC can and does occur at ambient temperature, though the rate is usually low ~0.6 mm per year. It can be common under wet insulation and non-stress relieved welds.

Cracks in the early stages can be difficult to detect using conventional NDT methods, many types of SCC will be found on the process surface of the asset as very fine branched cracking (Figure.2). Although challenging, they can sometimes be detected by eddy-current and phased array ultrasonic testing. External testing is best done visually or with dye penetrant testing, but even still it's likely to only show ~10% of the issue if found as it will likely be filled with oxides.

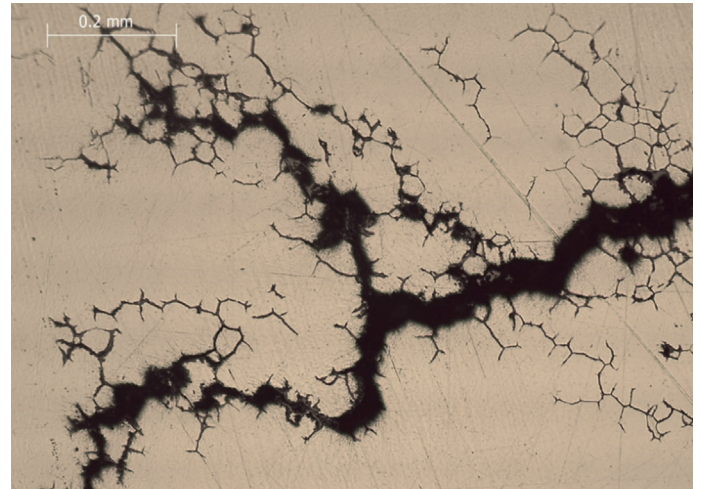


Figure 2. Polished (un-etched) section of a 316 stainless steel refractory sprag showing intergranular chloride SCC.

In summary there are vast SCC databases regarding susceptible material and environmental combinations, however we still see too often examples of SCC failures (Figure. 3). Ageing assets containing older SCC susceptible materials that are non-economical to replace, unpredicted detrimental environmental conditions over time, applied and residual stresses underestimated, environment and load

variables during start up and shut down procedures and unplanned operational changes can all contribute to SCC. It is difficult to detect in the early stages and ultimately mitigation is the best form of defence. SCC unfortunately often occurs when no one expected it would, but sometimes doesn't occur when conditions indicate it should.

For more information about AXIOM Materials Services, contact Adam Lawther, Materials Engineering Lead at adam.lawther@axiom-ltd.com

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Dry promotions – everyone has their limits

Less than 12 months ago, the phrase “dry promotion” had never crossed our paths – of course it’s not a new concept, but the phrase itself is novel. The concept describes situations where companies promote people, adding additional responsibilities or more senior job titles, but without any increase in actual pay.

The concept has existed for decades and more, but it appears to have gained traction during the unrest of 2022/2023 where supply chain disruption caused significant economic instability. During this period, companies could easily point to macro factors justifying the cost constraints and this would often be hard to argue against the backdrop of tumbling public markets.

One thing is for sure, tolerance to these lip service promotions is waning - everyone’s patience has limits.

A recent report from Harvard Business Press and Data ADP, cites that 29% of employees quit within one month of a dry promotion. So whichever side of the table you sit, if you are considering offering or accepting a dry promotion, keep this figure in mind.

It’s probably better to accept it’s time for a bigger change. As a hiring manager you should either find some budget to increase pay or as an employee look externally to consider a move.

With experience of talent management, my advice would be to stay away from dry promotions.

If you genuinely want to retain the individual, you should offer a package enhancement straight away. All too often the employee can feel that their expertise or contribution is being taken for granted. If budgets are constrained, can you negotiate a different element of enhancement in the short term, can you offer great flexibility or additional leave that the employee would be genuinely happy to accept, something they see creates value for them.

Whatever the elements of negotiations, being fully transparent on both sides is essential if you want to sustain good relationships.

If you don’t offer your best deal and the employee is offered a better package externally, then our experience tells us that getting involved in counteroffers is fruitless. In these situations quite often the employee is moving out of principal so a short term counter offer will only act as a sticking plaster. Of course, there are always cases where individuals have an overinflated view of their self-worth, but deep down as a hiring manager you will know this so getting drawn in to counter offers in this situation is definitely something to avoid. Instead accept that the relationship is no longer what it once was and with fresh eyes consider what it is you need.

This is where external recruitment and search firms add so much benefit. Services to map the talent market is something a good recruitment house will provide and offers significant benefits, particularly in sectors such as chemicals where niche skills are fought after.

Dry promotions have definitely risen over the years. In the US, the Wall Street Journal reported a 5% increase between 2018 to 2024 to 13%. If so, companies must reconsider their own internal retention methods, including an assessment of realistic salary levels in their external market and by cross-functional career development moves. The latter, not only enhances collaboration across the company, supports growth business areas with necessary skills, but also helps build a ‘real’ people culture. The employees benefit from greater experience, helping them to be more skilled and fulfilled. They will also have gained more visibility and additional ‘ambassadorial support’ from more senior leaders in their business to aid progression too, (and can’t be as easily trapped by one manager wanting to retain them in their team for more negative/selfish reasons).

All managers and HR teams must keep track of employees’ aspirations and motivational factors, especially their high talent, with regular communication, 1-1 feedback or management development training programs even if these have gone slightly out of fashion as seen as too expensive/old school. Are methods like these too expensive in the long run? Not if the result is retention of valuable skills and having a ‘real’ people culture that looks after your people. Successful companies see their staff development, retention or recruitment as an investment rather than a lost cost.

RMG are specialist head-hunters in the Chemicals sector - we also have our own ‘Talent Network’ keeping tabs on the most exceptional individuals in the market who may be quietly looking for their next ideal move. If you want to access the network or are considering a move please do reach out to me in confidence – 01928 711 800 or email anita.caldwell@rmg-uk.com

How can STFC support your business?

The Science Technology and Facilities Council (STFC), part of UK Research and Innovation (UKRI), is a world-leading multidisciplinary science organisation. Their goal is to deliver economic, societal, scientific, and international benefits to the UK. STFC operates world-class research facilities across the UK, including Daresbury Laboratory at the Sci-Tech Daresbury campus.

Daresbury Laboratory has a wide array of facilities and capabilities catering to the chemical industry: I-TAC for incubator facilities, Hartree Centre for digital technologies, Campus Technology Hub for rapid prototyping and ASTeC for surface science and specialised materials equipment.

Innovations Technology Access Centre (I-TAC)

STFC provides specialist equipped laboratory facilities to give ambitious entrepreneurs, start-ups and SMEs in biology and chemistry sectors the space to support and grow. Known as the Innovations Technology Access Centre (I-TAC), the facilities are an affordable solution for businesses to access an impressive array of technologies, equipment, technical and business expertise. This reduces the risk associated with research and development, particularly for early-stage companies.

Offering flexible leases and fixed rental costs, I-TAC laboratories are provided for companies working in material chemistry, nanomaterials, chemical development and more. They are equipped with fume cupboards, deionised water, and also benefit from access to compressed air, CO₂, nitrogen and natural gas. The suite of equipment includes essential laboratory apparatus, high precision analytical equipment, and facilities for micro and nanofabrication and prototyping.

If you are interested in the facilities at I-TAC, please contact: incubationlabs-dl@stfc.ac.uk

Campus Technology Hub (CTH)

The STFC's Campus Technology Hub (CTH) supports organisations, from start-ups to larger primes, to rapidly translate new ideas into reality through access to expertise, equipment, space, and a collaborative business ecosystem.

The CTH has a flexible approach to accommodating

project work - whether it's prototyping, product design, or improving manufacturing processes – and provides scaling businesses access to leading equipment, reducing the risks associated with the development and trial of new products. The CTH's experts are also on hand to provide impartial advice and support to explore the art of the possible, accelerating time to market.

With capabilities including 3D printing, virtual reality, scanning technologies and more, the suite of equipment located at the CTH allow for prototyping in various combinations of materials, and at different shapes, scales, and strength levels. The CTH also offers flexible laboratory and office space, from open-plan to lockable work benches and offices.

If you are interested in working with the team at the CTH, please contact: emmanuel.dupuis@stfc.ac.uk.

Hartree Centre

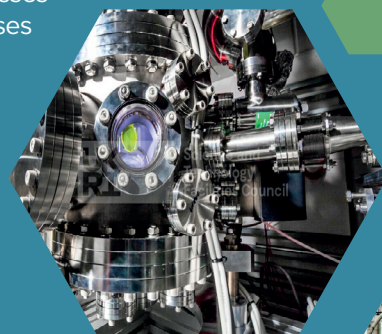
STFC Hartree Centre helps UK businesses and organisations of any size to explore and adopt supercomputing, data science, and artificial intelligence (AI) technologies for enhanced productivity, smarter innovation, and economic growth. Originally set up to support industrial access for emerging chemical and materials processes, the Hartree Centre is well placed to assist in the development and production of new materials, processes, and their life impacts.

Capabilities companies can access include:

- Modelling and simulation at multiple length scales
- AI assisted modelling
- Fundamentally data driven approaches

The Hartree Centre also has excellent links with academia and industry primes, such as Unilever. Being a part of the Knowledge Centre for Materials

Chemistry also provides businesses access to a range of materials capabilities within universities in the North West, such as Manchester and Liverpool. The Hartree Centre is also well connected to external funding sources and its own Hartree National Centre



for Digital Innovation (HNCDI) programme, in collaboration with IBM, which has a specific materials call.

If you are interested in collaborating with the Hartree Centre, please contact: hartree@stfc.ac.uk

Accelerator Science and Technology Centre (ASTeC)
STFC's Accelerator Science and Technology Centre (ASTeC)

studies all aspects of the science and technology of charged particle accelerators, including working with clients from a range of industries, including chemistry and materials. With capabilities in surface science and specialist materials development, including EDX, which allows the chemical composition of a surface to be mapped, and other spectroscopic surface analysis techniques. ASTeC also carry out activities in the development of thin films and superconducting material.

If you are interested in working with ASTeC, please contact: anthony.gleeson@stfc.ac.uk

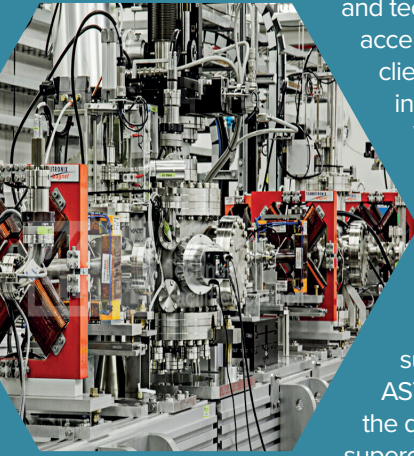
Sci-Tech Daresbury
In 2010, a joint venture including STFC, Halton Borough Council and Langtree formed the national science and innovation campus known as Sci-Tech Daresbury. The partnership has led to increased collaboration,

new buildings, establishment of clusters and world-class science facilities. Sci-Tech Daresbury provides a range of post-incubator and scale-up laboratory facilities suitable for wet biology and wet chemistry labs, pilot plant facilities and instrumentation labs.

These labs range in size, from 750 square feet to 2000 square feet, and have access to specialist infrastructure including fume extraction, 3-phase power, compressed air, nitrogen and cooling water.

Looking ahead, Sci-Tech Daresbury will start construction on an additional laboratory building as a part of its Violet Phase II development, providing laboratory floorplates of 5,000 -20,000 square feet - suitable for scale-up laboratory and pilot plant facilities.

If you are interested in enquiring about laboratory facilities at Sci-Tech Daresbury, contact: info@sci-techdaresbury.com



How the Quantm Electric Diaphragm Pump revolutionizes industry standards

In an industry constantly seeking efficiency and sustainability, the Quantm Electric Diaphragm Pump represents a significant leap forward.

This innovative pump technology is setting new benchmarks for performance and energy efficiency, signalling a departure from traditional diaphragm pump systems which have been completely dependent on costly compressed air. Engineered to meet the diverse demands of modern industries, the Quantm Electric Diaphragm Pump offers an appealing solution that not only reduces operational costs but also improves environmental sustainability.

The Quantm Electric Diaphragm Pump is distinguished by several key benefits and features that set it apart in the industry.

- **Energy Efficiency**

Quantm technology is engineered to consume up to 80% less energy compared to traditional air-operated models. This significant reduction in energy use is achieved through an innovative electric motor design, which eliminates the need for compressed air, thus avoiding the associated energy losses.

- **Cost-effectiveness**

The operational cost savings are one of the most compelling advantages of the Quantm Electric Diaphragm Pump. By reducing energy consumption, sites can expect to lower their energy expenses dramatically, making it a cost-effective solution over time.

- **Low Maintenance**

Designed with fewer moving parts, the Quantm pump needs minimal maintenance. This design not only reduces the likelihood of mechanical failures but also overall maintenance costs, contributing to a lower total cost of ownership.

- **Environmental Impact**

Reducing energy consumption minimises environmental impact significantly reducing the carbon footprint of industrial processes.

- **Comparable Footprint**

The Quantm Electric Diaphragm Pump features an efficient, plug and play, electric drive meaning that it can be fitted into the same space as an air-operated diaphragm pump removing the need for major changes to infrastructure.

In industrial operations, the focus on energy efficiency has become paramount due to rising energy costs and environmental concerns. The Quantm Electric Diaphragm Pump has emerged as a standout solution in this landscape.

Why Quantm stands out

The Quantm Electric Diaphragm Pump distinguishes itself by using up to 80% less energy compared to conventional pumps. This significant reduction is achieved through innovative design features that eliminate the need for compressed air, thereby reducing energy losses associated with air compression systems. Additionally, the Quantm pump's ability to operate without air prevents the common issue of icing in compressed air systems, further enhancing its efficiency and reliability.

Users report significant operational improvements with the Quantm Electric Diaphragm Pump. One client highlighted its reliability and the drastic reduction in energy costs, emphasizing that the pump's efficiency has transformed their production processes.

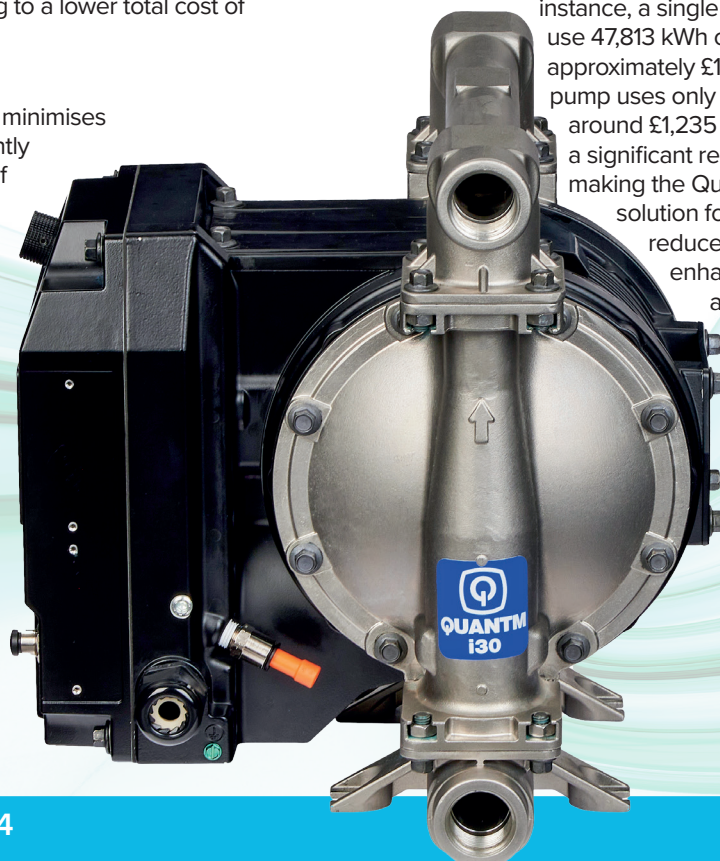
In a notable implementation, a nationwide manufacturer replaced traditional air-operated pumps with Quantm pumps which resulted in annual energy savings of approximately 334,687 kWh. This translates to financial savings of about £70,248.97 per year whilst also contributing to a substantial reduction in the facility's carbon footprint.

Quantm Electric Diaphragm Pump vs Traditional Air-operated Pumps

The Quantm Electric Diaphragm Pump significantly outperforms traditional air-operated diaphragm pumps (AODDs) in terms of energy efficiency. While AODDs typically operate at 10-15% efficiency, the Quantm pump operates at 80% efficiency.

Cost Analysis

Diaphragm pumps are widely used across various industries due to their ability to handle a diverse range of materials. These include corrosive chemicals, volatile solvents, viscous and shear-sensitive food products, pharmaceuticals, sticky fluids, dirty water containing small solids, creams, abrasive slurries, oils, and gels. From a financial perspective, the Quantm Electric Diaphragm Pump offers substantial savings. For instance, a single air-operated pump might use 47,813 kWh of energy annually, costing approximately £10,041. In contrast, a Quantm pump uses only 5,880 kWh, costing around £1,235 per year. This represents a significant reduction in energy costs, making the Quantm pump a cost-effective solution for industries looking to reduce operational expenses and enhance sustainability without any major changes to existing infrastructure.



Book a Demo
CDR Pumps (UK)
Ltd are offering live demonstrations of the Quantm Electric Diaphragm Pumps, find out more or book a demo at www.cdrpumps.co.uk/quantm/

Non-intrusive flow measurement enhances chemical park operations

The efficient and cost-effective supply of energy is crucial for the chemical industry. At the chemical park of a leading industrial service provider in Knapsack, Germany, being able to ensure a reliable supply of steam, alongside other resources like electricity, natural gas, and compressed air, is paramount.

The steam required for various chemical processes at the site is sourced from local generation plants, including a refuse-derived fuel (RDF) power plant, which converts up to 300,000 tons of alternative fuels into steam and electricity annually. Additionally, a nearby RWE power plant supplements this steam supply.

Importance of accurate volume measurements

Accurate volume measurements are essential for managing the steam network efficiently. These measurements help balance the quantities of steam generated and fed into the grid with the quantities consumed. However, natural measurement uncertainties and unrecorded purchases can lead to discrepancies. To address this, creating smaller balancing sub-networks is an effective strategy.

Forming two balancing sub-networks

The chemical park is divided into two sections, with these sections being connected by an internal road and a pipe bridge that also carries steam from Knapsack to a second plant. Measuring the steam quantity on this connecting line forms two balancing sub-networks - crucial for identifying discrepancies, but halting production at the second plant to install measurement devices would be highly disruptive.

Adoption of advanced measurement technology

Innovative clamp-on ultrasonic flow measurement technology offered a solution. The experts at the chemical park already had significant experience of the benefits of this non-intrusive technology, which was further enhanced by

recent advancements made by Flexim's developers. These developments expanded the use of non-intrusive flow measurement to superheated steam, generating considerable interest.

Cross-correlation method for high-temperature steam

Traditional ultrasonic flow measurement relies on the transit time difference principle, but for high temperature steam, Flexim's meters use the cross-correlation method. This involves mounting two pairs of ultrasonic transducers on the pipe at a defined distance, creating two acoustic measurement barriers. The ultrasonic signals interact with the vortices of the flowing steam, and as these vortices travel through the barriers, they modulate the signals, which are then cross-correlated over time to determine the flow velocity. The mass flow is calculated based on the pipe geometry and the physical parameters of the steam.

Validation and implementation

To validate this new measurement technology's reliability and accuracy, a long-term test was conducted. The measurement point was installed at the RDF plant exit, and its readings were compared with those of an inline ultrasonic measurement system, showing good agreement. This success led to the decision to purchase and install the system on the pipe bridge between the two plants. For precise mass flow calculation, temperature and pressure are also recorded directly at the measuring point.

This innovative approach ensures a reliable and efficient steam supply for the chemical park, highlighting the importance of adopting advanced technology to help maintain operational excellence in the chemical industry.

Want to revolutionise your flow measurement process?

Discover the real-world benefits of clamp-on ultrasonic flow measurement in the chemical industry. Whether you need a permanent mains-powered installation, or flexible battery-powered rental meters for one week or longer, contact Simon Millington to find out more: www.emerson.com
flexim-uk@emerson.com | +44 (0)1606 781 420





Join and Connect

Chemicals Northwest is the industry-led, chemical cluster support organisation for the North West and surrounding areas chemical sector, the largest in the UK.

We are funded by our members and owned and supported by the Chemical Industries Association.

Chemicals Northwest members currently serve a wide range of markets, including manufactures of chemicals, pharmaceuticals, automotive, electronics and construction products.

Our membership also has a large proportion of vital service

provision to the industry, including legal, engineering, recruitment, laboratories and logistics - to name a few!

Members benefit from access to high quality events and communications. Face to face networking is at the heart of our offering, giving members the best opportunities to meet new contacts and find new opportunities.

**Why not join Chemicals Northwest and connect with this dynamic and innovative industry? Please visit our website at: <https://www.cia.org.uk/chemicalsnorthwest/>
*Or, contact us directly as below.***

Chemicals
northwest

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Summit Dynamic Solutions

With over 35 years of experience and a team of seasoned professionals, Summit Dynamic Solutions provides innovative, tailored material handling and processing systems for all industries.

Supported by a global network of leading suppliers, Summit Dynamic Solutions is poised to deliver bespoke solutions that enhance operational efficiency, economic performance, and sustainability. Our offerings include state-of-the-art pneumatic transfer systems, bulk bag handling, screw conveyors, and precision weighing systems.

“Our mission with Summit Dynamic Solutions is to provide comprehensive, customised solutions that surpass our clients’ expectations,” said Matt Ross, Sales Director, Summit Systems. “By harnessing our extensive experience and industry know-how, we’re committed to delivering unparalleled service and satisfaction.”

Summit Dynamic Solutions offers a full spectrum of services, from design and installation to commissioning and maintenance, ensuring seamless integration

and peak performance. This new division marks an exciting expansion for Summit Systems, reflecting our dedication to innovation and excellence beyond the plastics industry.

We understand that each industry has unique challenges. Therefore, we work closely with clients to develop solutions that meet their specific needs, ensuring maximum efficiency and productivity.

Our services include customised system design, leveraging cutting-edge technologies through our global supplier network, and a focus on sustainability to help clients achieve their environmental goals. Summit Dynamic Solutions represents a bold step forward for the Summit Systems Group, setting a new standard in material handling and processing across various industries.

For more information, visit
www.summitsystems.co.uk/dynamic-solutions or **contact us at**
info@summitdynamicsolutions.co.uk



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Wareing Consulting

As ESG obligations and expectations grow, responses to them now differentiate companies and are a “must do right” if businesses are to survive and thrive. Roger Wareing (Wareing Consulting) is an independent sustainability/ESG consultant combining expertise in best practice ESG responses with wider experience in change leadership and business improvement delivery. A former PhD industrial chemist, Roger is passionate about how the sector frames and overcomes net-zero and other sustainability challenges within an already complex compliance landscape.

“I help you navigate what ESG challenges mean for your company’s future. I shape your bespoke, best practice ESG response to growing regulatory obligations and rising stakeholder expectations and support delivery and reporting to drive value creation and resilience alongside positive environmental and social outcomes.”

Using a proven systematic, holistic and above all practicable approach, I lead the implementation of your response and help

you overcome limitations so you can deliver on your ESG objectives.

Sustainability (ESG) risk analysis. I demystify this complex and often confusing topic to pinpoint the relevance of ESG themes to your business model and value chain, distilling these into tangible impacts, risks, and opportunities and bringing focus and prioritisation to your response.

Shaping the right ESG response includes target-setting, engagement, and baselining SCOPE 1,2 & 3 and other ESG indicators. I turn ambitions into transition plans and actions, helping you build targeted business cases, supporting capability development and driving delivery.

Supporting best practice reporting and disclosure. I help you understand evolving requirements and target meaningful data gathering before collating into compliant, decision-useful reporting formats. I also guide your underlying narrative to help champion your progress whilst avoiding greenwash risks.



Contact:

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T: 07545 224117

LinkedIn:

www.linkedin.com/in/rogerwareing



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.

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 speciality 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 multiphase 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.

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.

MCE Group

Offering valve service and overhaul in our state-of-the-art service workshops, or on site, using OEM parts, from single valves to complete outages. European distributor for ValvTechnologies, providing severe service, zero-leakage isolation valve solutions, setting the standard for the next generation of valves for the chemical industry.

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 from stock. Centrifuges, dryers, evaporators, filters, heat exchangers, mills, mixers, reactors, separators, tanks.

Pumptec Engineering Services

Specialises in supporting the chemical industry in the inspection, repair, overhaul and fitting of all types of rotating equipment. Our highly trained engineers can support your routine maintenance, call outs and shutdowns. Our Wirral based machine shop can complete overhauls on your pumps, fans and mixers.

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.

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

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

Delivering high integrity heat transfer equipment for over 45 years. The company has a strong emphasis on Chemical/Process & Mechanical Engineering backed up by an advanced manufacturing facility.

IKM Consulting

With 25 years of civil & structural engineering and environmental consulting experience, IKM's portfolio in high-hazard and regulated industries is extensive. With offices in Runcorn and Grangemouth, IKM specialises in consulting services around asset integrity, secondary & tertiary containment, asset infrastructure inspections, environmental risk assessments and COMAH compliance.

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.

Otto Simon Ltd

Diverse engineering consultancy and project delivery organisation. Initial consultations, technical and commercial due diligence and front-end design and definition. Feasibility studies through design, supply, erection, and commissioning services using in-house and licensed technology. Services for complete plants or upgrades. Procurement, construction management, start-up and operation & maintenance expertise.

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.

Engineering, IT & process consultants

Siemens Digital Factory & Process Industries and Drives

Productivity and efficiency requirements continuously increase in the field of process automation. A comprehensive range of process automation and Drives products as well as an award-winning range of training and support services.

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.

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 is 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.

RPS Group

Provision of specialist consultancy to help those with responsibility for health and safety achieve compliance. With particular expertise in the chemicals sector, we provide support from plant development through to operation. Core services include: ATEX/DSEAR, asbestos, BowTie analysis, CDM, COMAH support, fire safety engineering, functional safety, hazard identification, Legionella, occupation health and risk assessment/analysis.

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.

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.

TW Languages Ltd

Provision of a professional and reliable multi-lingual translation service delivering high quality translations. We specialise in business, technical and scientific translations into 250+ language combinations. We provide certified translations for legal purposes. We are full members of the ATC & EUATC and ISO 17100 Translation Services certified.

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.

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.

Withers & Rogers LLP

A leading UK and European intellectual property law firm with five offices including London and Munich. We offer a range of IP services including obtaining UK, European and worldwide patent or trade mark protection, the handling of contentious matters, advice surrounding licensing arrangements and issues including validity of patents and "freedom to operate".

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.

Know your supply chains

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 as 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.

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

Mid to senior level appointments solely within the Chemical Manufacturing space. Over 30 years search experience. The company was built on the success of Stuart Tomkinson's successful 11-year recruitment career primarily within the chemical manufacturing arena. Focusing on providing the best talent in the chemical industry. We work closely with you, to understand your business, your culture and exactly what you are looking for from a recruitment partner.

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.



Preparing for climate change

In addition to the requirement to consider climate change in your management system by April 2024, if you operate under an Environmental Permit, the International Standards Organisation (ISO) published amendments to a number of existing management system standards in February 2024 to include consideration of climate change.

SLR provides technical expertise in the following areas, should you require assistance preparing a climate change risk and adaptation plan:

- Undertaking standard and in-depth climate change risk assessments
- Development and implementation of climate adaptation plans
- Environmental management systems
- Environmental compliance auditing
- Environmental permit applications

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

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