Chemicals northwest

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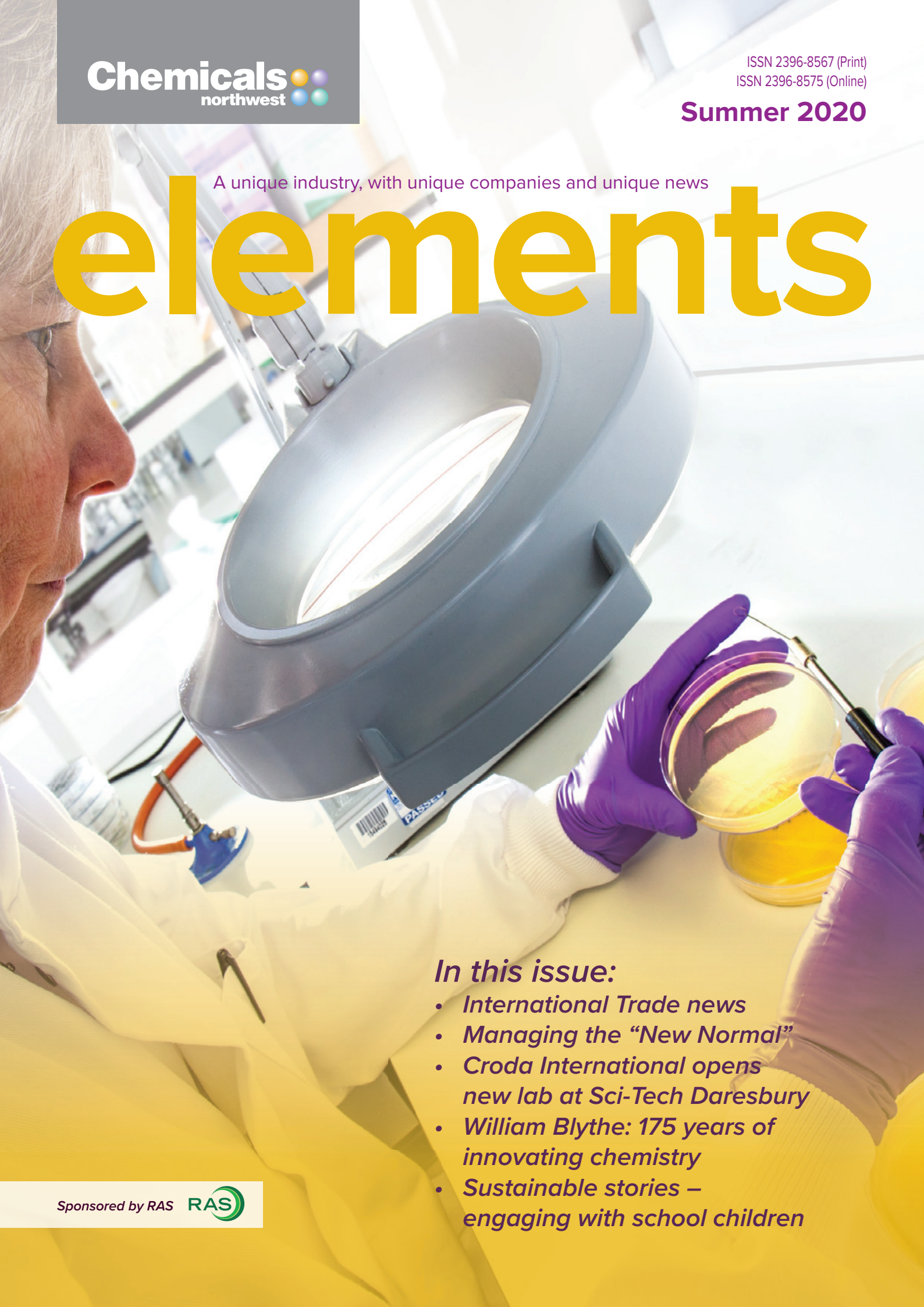
Summer 2020

A unique industry, with unique companies and unique news

elements



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RISK & HAZARD MANAGEMENT

Contents Summer 2020

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? See over for details or please contact:

Alex Abraitis - Member services and events manager
alex.abraitis@chemicalsnorthwest.org.uk or visit:
https://www.cia.org.uk/chemicalsnorthwest/Membership/Benefits-Costs/

2021 rates. ***(from 1st April 2020)***

Micro corporate membership	(1 - 10 employees)	£445+VAT
Standard corporate membership	(11-100 employees)	£774+VAT
Large corporate membership	(100+ employees)	£985+VAT

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,

I hope that you, your family and your colleagues are all keeping well?

We've been really encouraged by feedback from members since the Government issued "Back to Work" guidance on the 11th May 2020. What we've learnt overwhelmingly is that companies would deliver against the expectations and minimum standards now in place. For an industry that has traditionally placed the highest emphasis on plant and process safety, the environment and the health and well-being of staff and customers we were not surprised. The guidelines have acted to reassure all that we are already best in class. But we must remain vigilant. The Health & Safety Executive, Unions, Local Authorities and our own employees will demand that we never tick box the requirements, this will only work if the workplace becomes a genuine safe place for all and we all have a responsibility to contribute towards that goal.

We remain keen to continue to deliver briefing sessions remotely. In April we understandably focussed on COVID-19, International Trade and the approach to REACH after 1st January 2021. Negotiations with the EU remain ongoing and on the 5th May the UK launched FTA negotiations with the US, the UK's largest single market for chemicals and pharmaceuticals. The next couple of months are likely to be critical if either or both of those negotiations are likely to result in deals that will impact on all members. Please do try to join us at future briefings which will be held every month up to the Summer. I hope that we can gather together by the Autumn and a risk assessment on our Daresbury office site will ensure that when we can invite you back, we do so in a secure manner.

At the time of going to print we were looking forward to hosting our next members update webinar on the 17th June followed by the networking breakfast webinar on the 18th June.

Please keep an eye on our website pages for future events, the latest news, industry updates and our current Elements magazine - **https://www.cia.org.uk/chemicalsnorthwest/**

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 160 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 CNW awards programme we are privileged to witness the many achievements made in our local 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. Up to 300 guests from across the industry gather on the night and everyone can see for themselves the amazing achievements made by our people and organisations.

"Focus 50" - This recently named series of seminars and networking events is becoming ever more popular.

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

Breakfast Networking - Chemicals Northwest is gaining a growing reputation for high quality breakfast networking events. With no specific theme, delegates are encouraged to make new contacts and some will make short pitches about their company, its products and services plus news announcements! The breakfast meetings have proved to be very popular and currently run on a 2 monthly basis attracting an average of 40 people each time. New contacts can lead to new opportunities and new business. All are welcome.

Common Interest Groups - Chemicals Northwest's **REACH** group has followed closely the developments within this complex and long term piece of legislation. The initiative allows the sharing of experience, best practice and knowledge between manufacturing, supply chain and support service providers, all with a keen interest in REACH. The group meets three times a year and now has a membership of over 50 companies.

CNW started the **Brexit** user group straight after the referendum in 2016 and it is gaining more and more support from membership. Whilst there is still uncertainty, many businesses will be looking to the future impacts, so we are enabling all interested parties to meet and discuss in more detail their common issues and concerns. Up to date information, expert insights and reports form the basis of each agenda, which will run parallel to the national work carried out by CIA.

elements magazine - CNW produces an informative quarterly magazine called elements which contains the latest round up of member news, specialist features and 'spotlights' on new member companies. This is a great opportunity to establish an association between your organisation and important sector issues, by contributing free editorial and press releases. Companies who do business in the chemicals sector may also wish to look at advertising options. The CNW sector directory is now integrated into elements.

Website - Visits to the CNW website have almost doubled in the past 12 months. The website is regularly updated with industry news and the events programme. Companies are increasingly using it for enquiries and advertising. There is an efficient "e-shot" function which allows direct messaging to our contacts list. Viewers of the directory pages can search the whole of our supply chain providers to find where to buy products and services.

LinkedIn - The Chemicals Northwest LinkedIn group was created in the latter half of 2010 and has an ever increasing membership, with over 1300 members now connected. The group provides the opportunity for chemical industry professionals to share ideas and knowledge.

Twitter - The CNW Twitter account is growing, so to hear about the latest news from CNW and the wider sector, why not follow us.

In addition we'd be happy to re-tweet any news or updates that members themselves tweet.

International Trade News

The UK Government has set a target to ensure that 80% of UK exports are covered by Free Trade Agreements within three years. To achieve that the Government must make agreements with the EU and the US which are responsible for 45% and 19% of UK trade. Negotiations with the EU are ongoing and must be completed by the end of 2020 when the implementation period ends.

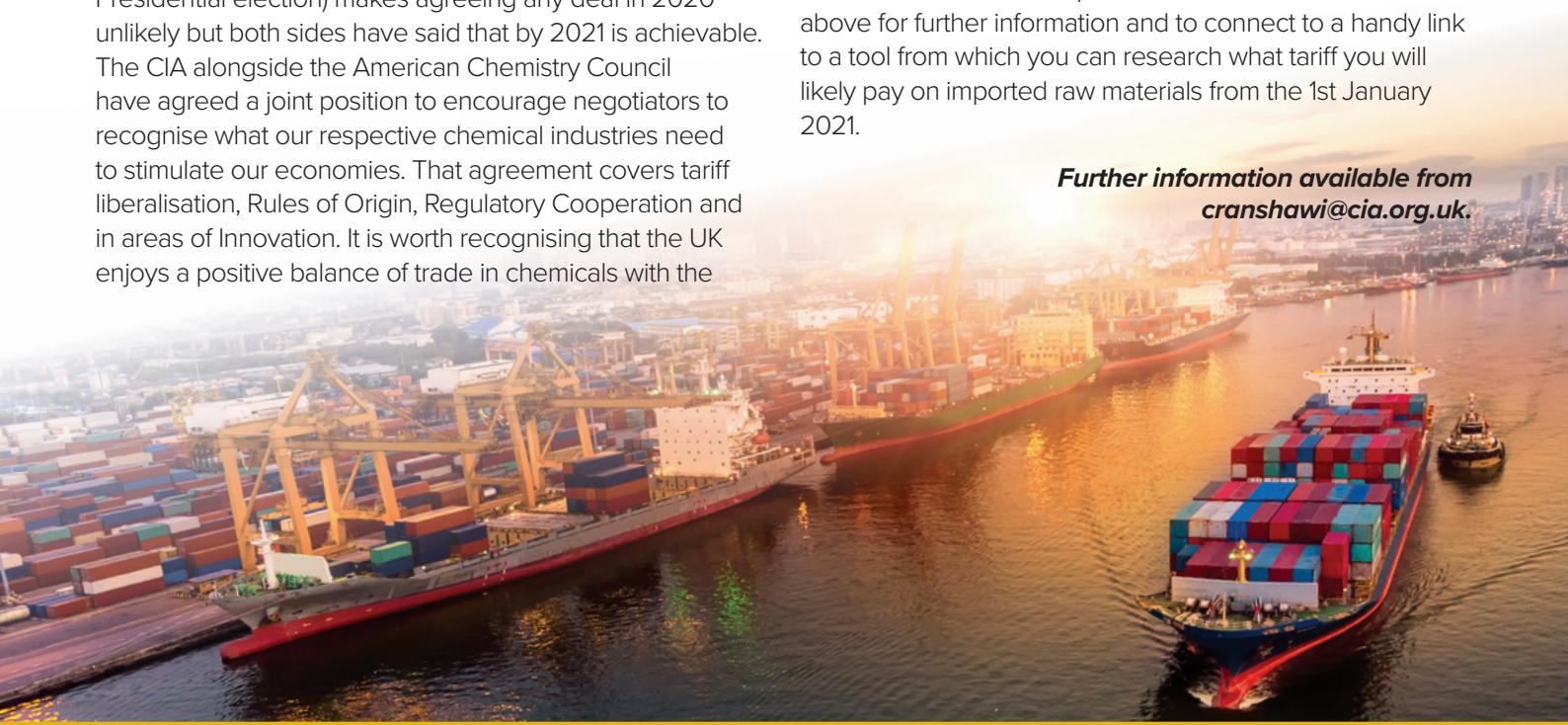
Negotiations are complex and COVID-19 has interrupted face to face discussions. However, the Government insist that no further extension will be requested citing that business would not benefit from any period of further uncertainty. On the 5th May the Government launched UK/US FTA negotiations with 100 officials from both sides keen to hammer out the parameters of a deal. Talks will cover all areas set out in the UK's negotiation objectives, including goods and services trade, digital trade, investment and supporting SMEs. Government analysis shows a UK-US FTA will benefit every region and nation of the UK, with the greatest benefits in Scotland, the North of England and the Midlands. The FTA will also include a dedicated chapter to help the UK's 5.9 million small businesses.

The UK made clear that the NHS and Food Standards were not on the table within the FTA but there is common ground and a genuine will from both sides to make an agreement. The Parliamentary and US timetable (November Presidential election) makes agreeing any deal in 2020 unlikely but both sides have said that by 2021 is achievable. The CIA alongside the American Chemistry Council have agreed a joint position to encourage negotiators to recognise what our respective chemical industries need to stimulate our economies. That agreement covers tariff liberalisation, Rules of Origin, Regulatory Cooperation and in areas of Innovation. It is worth recognising that the UK enjoys a positive balance of trade in chemicals with the US and we will make every effort to ensure that further opportunities are secured for companies across the North West of England.

On the 13th May the Government released objectives for FTA negotiations with Japan. Actually, UK companies already benefit from FTA arrangements with Japan through an agreement finalised with the EU in 2018. The Government were not able to roll over those benefits after we left the EU so a new bilateral deal is required. Japan remains the 3rd largest economy in the world and the UK exports over £1 billion of chemical goods each year. Following the Japan deal the UK Government will prioritise deals with Australia and New Zealand with a view to then considering accessing the CPTPP (Comprehensive and Progressive Agreement for Trans-Pacific Partnership) agreement that involves upwards of 10 further markets.

As the UK becomes a sovereign trading nation on the 1st January 2021 we will trade on our own terms, meaning we will set our own tariff schedule on imported goods. Currently all imports pay the Common External Tariff (CET) set by the EU. The Government conducted a public consultation earlier this year seeking to understand the preference of a wide range of stakeholders, including consumers, producers/manufacturers and NGO's. The proposed tariff schedule was announced on the 19th May 2020. https://www.gov.uk/government/consultations/the-uk-global-tariff The Government have simplified the schedule removing all tariffs of less than 2% and tailoring the remainder into specific tariff bands. Some tariffs have been reduced to 0% on specifically where those imports are used to manufacture other goods or where the UK has zero or limited domestic production. Please follow the link above for further information and to connect to a handy link to a tool from which you can research what tariff you will likely pay on imported raw materials from the 1st January 2021.

Further information available from cranshawi@cia.org.uk.



2M supports frontline services with hand sanitiser

In these uncertain and unprecedented times, it's difficult to predict what the future will look like. Despite this uncertainty the 2M Group, are supporting our communities by using our expertise to help the UK's amazing front line.

As a portfolio of Life Sciences companies, the 2M Group has seen a huge spike in demand as a consequence of the unprecedented Coronavirus pandemic. Disinfectants and sanitisation products such as hand sanitisers and surface cleansers, have proved essential at this time.

Hand sanitiser With access to up-stream supply chain, we took the initiative to use our in-house expertise to make our own alcohol hand sanitiser. To make this possible, we used Surfachem's technical laboratory in Huddersfield and MP Storage and Blending, our blending facility in Middlesborough. We have manufactured and filled over 30,000 bottles of hand sanitiser for donation.

Development and production Prior to the outbreak, we were fortunate to have already developed, and stability tested a simple, but effective alcohol hand sanitiser. However, since then, producing the sheer quantity in such a short time frame has been a complete team effort. All of our teams from across the group have supported this initiative – from ingredient sourcing, to technical compliance and logistic teams.

So far, we have helped... In producing this sanitiser, we have been able to protect our internal team by sending hand sanitiser to every employee's home and to every site. We have also provided invaluable donations to those that need it the most. Here's a handful of the institutions that we've helped so far, recommended by our team across the 2M Group.

- **NHS hospitals**
- **Doctors and Nurses who are working in Coronavirus wards**
- **Pharmacies**
- **Social workers, particularly those working with vulnerable children**
- **Teachers who are still working to look after the children of key workers**
- **Care homes and facilities which provide end of life care**
- **Foodbanks, giving emergency food and support**

For more information contact Liran Maller: lmaller@2m-holdings.com

Sustainable stories and solutions for our planet – engaging with school children

The Centre for Industry Education Collaboration (CIEC) has launched a new publication, sharing industry's sustainability stories (http://ciec.org.uk/sustainability.html) with children. These positive messages can allay children's fears about the world in which we live, and demonstrate how science is an important part of the solution to the global challenges we face.

This free publication can be shared with primary schools in your network, and I hope it will inspire you to create similar stories of your own. The publication features five company stories, ranging from Quorn producing protein-rich food in a sustainable manner, to the use of biomass by Thomas Swan and the development of innovative washing products by Croda to reduce micro-plastic pollution. Children learn about Johnson Matthey's catalyst production to reduce car gas emissions, and how Inovyn recycle uPVC window frames.

Written by school science specialists, the activities focus on important National Curriculum concepts and skills, whilst promoting teamwork, problem-solving and communication skills. Roles for industry ambassadors are recommended for those engaging with primary schools, alongside other guidance to raise awareness and aspirations of STEM careers.

When schools closed to all but children of key workers, we began adapting activities to support home-learning. Primary teachers have particularly welcomed science activities to share with parents via their websites, newsletter, etc. Activities from Sustainable Stories and Solutions for Our Planet are now in these formats; one in our March blog (http://ciecyork.blogspot.com/) and another in our series IndusTRY AT HOME (http://ciec.org.uk/industry-at-home.html).

Our publications rely on the support of companies we work with, and we would be delighted to help promote your sustainability story to children, and inspire the scientists and engineers of the future.

Please contact joy.parvin@york.ac.uk and visit our website www.ciec.org.uk

Quotes from teachers:

"The children enjoyed the activities and it gave them a greater insight into industry."

"Enjoyable, 'real-life' learning."

"They were great for extra information and would be particularly good for the non - specialist teachers."

RAS

RISK & HAZARD MANAGEMENT

Understanding and facilitating the effective management of risk is our core business. Our expertise covers the full range of risk assessment and management services across:

Safety Risk

Business Risk

Environment Risk

Only when the risk facing an organisation is well understood can it be effectively managed. Key to the successful identification, assessment and management of risk is engagement with the right people, using the right processes at the right time. We believe we are different to many of our competitors and our approach is distinctive, we don't always walk the well-trodden path but look at each client's particular risk context and develop a tailored solution, working in partnership with our client.

We work across all aspects of risk, from Quantitative Risk Assessments and Predictive & Consequence modelling, through to the 'softer' risks which may affect an organisation's reputation.

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Managing the 'New Normal'

There are very few organisations that can say they are running business as usual during this COVID-19 pandemic, yet the COMAH Competent Authority (CA) have made it clear that regulatory activities will continue, as far as possible, as normal. Of course, process safety doesn't wait so it is clear while there are no excuses when it comes to complying with regulations, but as operators try to strike a balance between COVID specific measures and maintaining production, where does that leave process safety?

Maintaining operations with measures like social distancing, reduced manning and limited access to contractors requires quick decision making, whether an organisation has contingency plans in place or not. Those in process safety have the tools to make sure any decisions made are not going to compromise how our major accident hazards are managed, but in light of recent circumstances, it might be tempting to bypass the management of change process or to fail to identify where the MoC process is needed at all.

Some of the changes we have been seeing on high hazard sites have an obvious requirement for management of change to be carried out, just as it would be if COVID-19 measures were not in place. For example, a number of operators are installing portable buildings on their sites to enable employees to continue to work while social distancing. Any changes that have the potential to directly impact on the safety of personnel, such as location and building vulnerability, are considered to be critical and are generally being well managed.

With limited access to contractors who may be furloughed and social distancing measures preventing many of them from working on sites, keeping up with maintenance, inspection and testing intervals for equipment has proven difficult. Changes to maintenance schedules, particularly for safety critical equipment, should be carefully considered and continuing operations with affected equipment well justified. The longer that tests are left overdue, the less reliable the equipment is, with implications for risk calculations and tolerability. It may be tempting to continue to run the equipment based on historical integrity data, but any credit taken as a risk reduction measure is unfounded once maintenance becomes overdue. Compliance with the ALARP principle (whereby barriers are implemented to control risk to a level that is As Low as Reasonably Practicable), can therefore be compromised significantly if the risks of changes to maintenance tasks are not identified and sufficiently managed.

Some changes, however, might not be so readily recognised as requiring a formal management process. In many cases, we have had to adapt the way that we operate, but are the less tangible changes such as updates to procedures considered to be critical? As the time spent operating under COVID-19 measures increases, activities that have so far been delayed until things return to normal become more urgent. Take, for example, HAZOP (Hazard and Operability) studies for projects. Time and money are important, and so in some cases rather than continuing to delay processes such as HAZOP, some operators are electing to carry them out remotely via video conference calls. Where it is strongly recommended that full studies are done in person, project HAZOPs can be carried out successfully remotely, provided that the risks associated with doing so are identified and managed. Are procedures compatible with remote working? How can we make sure that the resources required for a successful study are available to all participants, and that participants are able to communicate freely?

Unprecedented times are not an excuse to forget or to compromise the activities that ensure our major accident hazards are properly managed. We already have the tools to manage new measures and changes to our operations. Now is the time to remind ourselves of the intentions and the scope of our management of change processes.

Carolyn Nicholls & Jenny Hill - enquiries@ras.ltd.uk

Italmatch Chemicals Group acquires two North West businesses

The heart of the Italmatch Chemicals business in the UK is in Manchester, the city where two major acquisitions in the last two years have strengthened the multinational's leadership in key markets. Italmatch Chemicals is a leading global speciality chemicals group, born in Italy, focused today on the production and marketing of performance additives for water and process treatment, oil & gas, industrial lubricants and plastics. Its history in Manchester started two years ago.

In 2018, thanks to an agreement with Afton Chemical, the company has strengthened its position in the industrial lubricants market. Italmatch Chemicals acquired the entire business and assets relating to metalworking, carried out both in the USA and in the UK at the Manchester site. This acquisition represented a significant step forward for Italmatch Chemicals in the strategy of expanding its market position in the industrial lubricants market. The agreement strategically followed the acquisition of Elco Corporation in the USA, also in the industrial lubricants business, allowing an important development of its current production range through the introduction of new and advanced technologies mainly dedicated to water-mix metalworking fluids. In recent years Italmatch has invested heavily in this field, becoming a leading international player, operating through its dedicated Lubricant Performance Additives business unit.

In 2019, Italmatch acquired BWA Water Additives, based in Manchester, with over 40 years of experience in marketing of water & process treatment additives. This transaction represented a unique opportunity to further increase the company's business, enhancing its innovative footprint in the water and process treatment applications field, and to continue the Group's growth through high quality research and development and 'best in class' technology offerings for the most demanding applications. BWA was the ideal partner, sharing a similar strategic view to grow through innovative and tailor-made solutions. In addition, BWA complemented Italmatch Chemicals' product portfolio with a broad range of biocides for industrial water treatment and oil & gas applications. This acquisition strengthened Italmatch's Advanced Water Solutions business unit.

"These recent acquisitions of highly complementary companies allow the development of strategic, commercial and industrial synergies, consistent with the aim of expanding and broadening our current production and marketing capabilities for water management chemicals", comments Sergio Iorio, CEO of Italmatch Chemicals Group. "The Group's management cooperated closely with Manchester's management to develop new solutions and business synergies. Regarding the Advanced Water Solutions business unit, at the end of 2020 we will have a full integration with the Italian plant at Naples. The collaboration between the sites will further strength Italmatch's leadership in the water treatment market".

Today, the Advanced Water Solutions and the Lubricant and Performance Additives business units represent two areas of excellence within the group and guide the growth of Italmatch Chemicals.

The company considers R&D its main vector for growth and transition towards sustainable and innovative technologies, processes and production. In Manchester, Italmatch Chemicals has part of its Research and Development team, focused on dispersants, emulsifiers, corrosion inhibitors and antiscalants for water-based metalworking fluids, industrial water treatment and Oil & Gas.

For further details visit www.italmatch.com

Croda International opens laboratory at Sci-Tech Daresbury

Croda International Plc (Croda), the name behind high performance ingredients and technologies that are relied on by industries and consumers everywhere, is celebrating the opening of its new biotechnology laboratory at leading science and innovation campus, Sci-Tech Daresbury.

The new laboratory will see the company relocate its existing biotechnology Research & Technology (R&T) specialists, previously based at Croda's nearby manufacturing site in Ditton, Widnes, to the campus's Techspace One building.

The move will significantly increase Croda's biotechnology laboratory footprint in the UK, providing a dedicated facility to further develop initiatives in biotechnology and giving rise to future generations of sustainable products.

Dr Surinder Chahal, Global Vice President - Long Term Innovation, Personal Care, at Croda, said: "Our move into Sci-Tech Daresbury signifies the exciting evolution of our biotechnology capabilities in the UK. The new laboratory will enable our team to continue to expand and look at new and innovative solutions to meet the future needs of our customers.

"The infrastructure and community at Sci-Tech Daresbury was a big attraction in our decision to move to the campus. It's a highly prestigious site with an excellent track record in scientific endeavour across multiple disciplines and, through the Hartree Centre, has one of the most advanced computing and data science capabilities in the UK.; a technology of particular focus for us as we look to extract maximum value from our science."

John Downes, Group Chief Executive of Langtree and Chair of the Sci-Tech Daresbury joint venture company, said: "Croda is a world-leader in speciality chemical ingredient manufacturing and we're extremely pleased that the company has chosen Techspace One to base the future of its biotechnology R&D in the UK.

"Croda's team ethos aligns perfectly with Sci-Tech Daresbury's strategy to continue the growth of the vibrant eco-system, with nearly 150 highly-collaborative companies and research organisations here on campus. We're looking forward to supporting Croda's team in this exciting new chapter in their development and have confidence it will be a huge success."

For further information contact: Stephanie Bocking, 0151 239 5000, bocking@thisisinfluential.com

Axiom helps the Chemicals sector to adapt and progress during challenging times

We are all living through extremely challenging times. As the situation around Covid-19 impacts on us personally and our families, we are all learning how to work differently, and, more often than not, remotely from the colleagues and assets that have been a constant in our working lives.

Axiom Engineering Associates' Regional Manager for North West England, Kevin Murray, says: "No-one could have predicted at the turn of the year that any of us would be in this situation, and it is incredible to see just how far we have all come in terms of embracing remote working practices, whilst keeping the never-more-important critical supply chains moving".

"It's a phenomenal testament to the resourcefulness of the Chemicals sector just how well it has done to maintain, and indeed in many cases ramp up, production, and the prominence of the sector in the national debate right now should mean a renewed focus on our people's positive contribution to society going forward".

For operators of high-hazard plant, 'business as usual' in terms of Asset Integrity Management, may not be feasible in light of these unprecedented factors. Shutdown/Turnaround scopes involving scores of contract personnel converging on a plant to deliver inspection and maintenance activities – whilst applying social distancing – is seemingly an unrealistic option for now. Operators are now considering options to ensure that plant integrity continues to be maintained, whilst ensuring the welfare of all stakeholders.

Axiom, as part of its award-winning Inspection, Mechanical and Materials Engineering offering, is leading the debate around how goals can be met by operators throughout the sector with reduced physical intervention. From an Inspection perspective, this has meant deploying means of non-invasively baselining asset condition, through to producing safety cases for both optimising and postponing inspection workscopes, in a manner that ensures strict regulatory compliance.

Axiom's Mechanical and Materials Engineers are also assisting clients in deploying analytical techniques to minimise repair/replacement works typically delivered by a large transient workforce, and prolong the life of existing assets until an alleviation of the current restrictions permits a traditional intervention. This has meant the detailed assessment of damage tolerance, as well as re-rating equipment to further improve safety margins.

Kevin Murray adds: "It goes without saying that 'working differently' goes beyond just embracing videoconferencing as an alternative to face-to-face meetings. Our clients within the Chemicals sector are tasked with the management of safety-critical assets that are also critical to the national effort right now. They need to be sure that they continue to operate safely but, recognise that practicalities at present mean that traditional solutions simply aren't an option."

"The positive dialogue around innovation in managing risk with depleted resources has been extremely encouraging. We are very proud to be part of this and would like to pay tribute to all who are involved in keeping the sector moving at this time."

For further information, contact:
Kevin Murray on + 44 (0)1642 732745 Ext 342
or email:kevin.murray@ax-ea.co.uk

Intellectual property, a strategic asset, and COVID-19

The emergence of COVID-19 has imposed change on all our lives, professional and personal, with essentially no notice and has led to the rapid development of alternative modes of working, new challenges and mindset and a reassessment of previously assumed parameters of "normality". And that's without considering the "B" word; whichever side of the debate, Brexit is likely to bring challenge and/or opportunity itself. We consider here, the impact and implications of these new circumstances, uncertainties and working parameters in the context of intellectual property (IP).

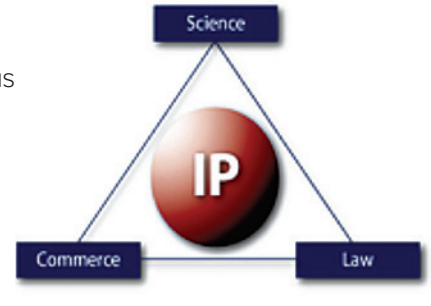
IP and the Longer Game

Innovation occurs in many forms and in different environments, from multi-person research groups involving collaborative working and practical experimentation and testing to individuals with creative ideas working in a more isolated manner. Whatever the origin or process of innovation, identifying and, as appropriate, protecting IP, remains of paramount importance. IP, especially patents, is a strategic investment and of importance for the longer-term, beyond the immediate impact of COVID-19. By not managing IP activities during COVID-19, for example by not identifying and protecting new IP and using it or not remaining vigilant in the face of competitive IP, a company risks compounding the adverse impact of COVID-19 through lost opportunity and a poorer competitive position as we emerge into calmer waters.

Ensuring IP is actively managed as a strategic asset through these uncertain times is therefore as important as ever.

Less is More

Financial pressures and the need to focus on "essentials" to a business may mean IP is overlooked or a limited, technical approach is taken to "protecting an invention". Whilst having a fundamental understanding of the technical aspects goes without saying, a strategic approach requires much more than this. Whilst having a fundamental understanding of the technical aspects goes without saying, a strategic approach to lay the foundation for generation of value requires much more than this – how will the IP be exploited, licensing/partnership and how is that structured, exclusivity, generation of funding, who are the customers and suppliers, how will infringement be detected and many other business factors are critical in drafting patent applications. We see a conventional, technical approach as fundamentally flawed – it provides the illusion of focusing on essentials but risks missing the bigger, longer term picture and therefore wasting resources and missing opportunities and falling foul of competitor IP. Delaying filing patent protection or seeking to maintain secrecy in the present circumstances is also fraught with risk in view of the first-to-file patent systems around the world.



Integrated to deliver strategic value

With the present pressures, focusing on laying key foundations requires a business-led IP mindset and philosophy of integrating legal, technical and business considerations such that IP activities support the business goals in a timely manner, notwithstanding COVID-19.

The Practicalities

Remote-working in the face of COVID-19 creates a range of challenges including a reduced capability to work in multi-disciplinary teams as compared to laboratory or office-based norms and adapting to new working practices and systems necessitated by isolation. Advising on IP lends itself to working remotely, particularly with electronic files and on-line interaction with patent offices and courts now commonplace and electronic execution of documents. The European Patent Office has also suspended all "in-person" oral hearings until at least 14 September 2020 unless the parties consent to video-conferencing.

While less satisfactory than "in-person", the explosion in the use of on-line face-to-face meetings provides a workable alternative. Whilst IP advisers are able to continue to meet clients' needs during isolation, this may place a greater emphasis on the IP experience of the individual adviser in retaining client confidence.

By maintaining regular contact with your IP adviser, identification and auditing of innovation and IP need not be compromised during lockdown. We recommend continuing to seek and obtain timely advice and not place matters "on-hold" as to do so may lead to complication, ultimately increased cost or structural harm to an IP position as well as undermining its strategic management.

As former in-house attorneys with global responsibilities in multinationals such as ICI, Unilever and Exxon Chemical, our extensive personal experience, business-focused mindset and long-established devolved working practices allows us to continue to deliver high-value IP services to support your business in these unprecedented times.

Please contact Stephen Geary, Tel+44 1582 466704, Email: stepheng@bawden.co.uk or Jodie Flynn jodief@bawden.co.uk for further details. www.bawden.co.uk

THE COVID RESET – an opportunity to reflect on innovation, patents and the patent process

Whilst people movement has been restricted and lab access sporadic during the COVID-19 lockdown, chemists and the chemical industry in general have experienced a pause in their ability to produce lab-based research.

During this break from normal day-to-day operations, some businesses have taken the opportunity to reassess the broader picture, to take stock of their innovations, and consider how Intellectual property (IP), and especially patents, may work, or work better, for their business.

A patented invention is a business asset that can add to the bottom line, quickly bolstering the health of an organization. Businesses can invest in a patented (protected) asset with confidence, being able to enforce patent rights where third parties seek to replicate or exploit that invention for their own commercial gain.

As we continue to face uncertainty in many ways, securing patents for inventions has become a strategic priority for many businesses.

Many wonder, do I have a patentable invention? If yes, how is that transformed into a patent application?

During this early preliminary stage of the patent process it is important to avoid jumping to conclusions, to take it one step at a time, and to reach informed decisions along the way.

The following is a simple three-step strategy to help manage the transition from innovation to patent application:

Step one: capture
Inventors frequently downplay their innovations. Too often, patent protection is not considered until it's too late, because the inventor decided that "It was obvious to do that".

The legal test for obviousness does not have access to the reservoir of knowledge in the inventor's mind. An innovation that seems obvious to an inventor may often be inventive and protectable under the patent system, especially for chemical subject matter. As well as protecting new compounds, new uses of known compounds, new formulations and new processes can all be protected by patents. The 'newness' can be a new amount of a known component, new molecular weight, new physical form, or any new feature or step that leads to a technical improvement.

Broadly speaking, if the answer to the question, "Have I made a change that has solved a problem/provided an advantage?" is yes, then details of the potential innovation should be captured, without applying further judgement at this stage.

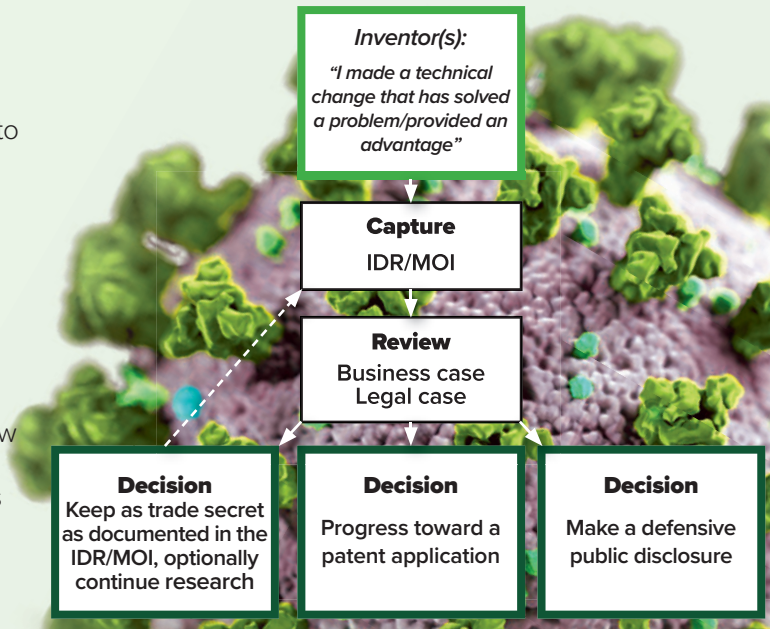
Best practice is to use a template form (Invention Disclosure Record (IDR) or Memorandum of Invention (MOI)) that captures pertinent information on the invention. A patent attorney can help design and implement an invention capture process.

Step two: review
After identification of an innovation, the inventor, the business and a patent attorney should discuss the IDRs/MOIs promptly. This is where judgement can start to be applied with proper consideration given to both the business reasons and the legal case for a patent. What is the business' interest in this innovation? What kind of patent coverage could be obtained? The attorney should offer pragmatic, strategic legal advice, manage timelines and capture and progress action points.

Step three: decision
Once an innovation has been captured, and the business and legal context for the invention properly considered, an informed decision can be reached as to whether to prepare a full patent specification. Often, alternative approaches/actions may be more suitable.

For example, patent protection could be delayed if more research is needed to support a patent application, or the innovation could be protected as a trade secret instead. Occasionally, making public disclosure of the innovation may be appropriate to reduce the risk of others protecting the same innovation.

The important point is that the innovation was captured and an informed decision was reached. In this way, potentially valuable assets are not lost between the cracks of the day-to-day workload.



For further information, contact Kate Hickinson, Appleyard Lees Partner, at kate.hickinson@appleyardlees.com, or connect with Kate on LinkedIn.

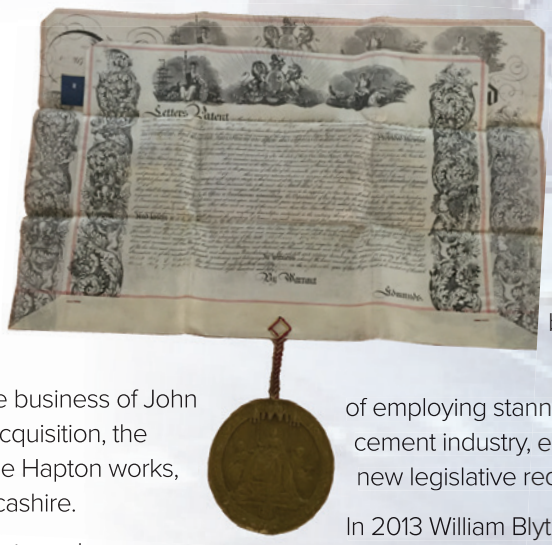
William Blythe: 175 years of innovating chemistry

William Blythe Ltd. is now one of the oldest speciality chemical businesses in the UK. 175 years on from its start today's product range largely comprises the main three chemistries of copper, iodine and tin derivates, which are supplied into diverse markets, such as life sciences, performance coatings, polymers, electronics, catalysis and renewable energy.

The Industrial Revolution saw a boom in manufacturing and the textile industry in the North West of England due to inventions such as the spinning jenny and the power loom. William Blythe initially produced inorganic chemicals for use in the textile industry, notably zinc sulphate for use in the production of rayon and zinc chloride for batteries and the dissolution of cellulose.

1854 saw the first William Blythe patent filed and granted for the development of a novel manufacturing route for sulfuric acid.

By the turn of the century William Blythe was also manufacturing picric acid for use in the local dyestuffs industry.



In 1919, William Blythe acquired the business of John Riley & Sons. By completing this acquisition, the company became the owner of the Hapton works, the largest chemical works in Lancashire.

New plants to make sodium sulphate and hydrochloric acid from sodium chloride and sulphuric acid were constructed in 1955 and 1957, using two state-of-the-art, oil-fired Mannheim furnaces. Acid from these plants was sold throughout the North West of England and had a reputation for exceptional purity. These are core principles and values we maintain today.

Hickson & Welch acquired William Blythe in 1969 to safeguard the supply of arsenical salts used in their inorganic wood preservative business.

One of current product lines, Flamtard H&S which are flame retardant synergists, were developed in association with Alcan, in 1989.

William Blythe was acquired by Holliday Chemicals in 1990. This led to significant investment in new products and plants, including the development of a continuous process to produce copper carbonate for use in the timber treatment and catalyst industries.

In 1998, William Blythe became a wholly owned subsidiary of Synthomer (then named Yule Catto) as part of its strategy to become a major producer of speciality chemicals as well as latex based polymers. The development and commercialisation of a process to make high-grade periodic acid to meet the requirements of the electronic industry began in 2001.

Four years later, we developed a means of employing stannous chloride solution as a reductant in the cement industry, enabling cement manufacturers to meet the new legislative requirements for Chromium 6+ content.

In 2013 William Blythe won the Gold Standard Skills Award in recognition of the extensive training programme it had run over the preceding years. In the same year, a new analytical and R&D laboratory was opened as the company focus

shifted to new advanced materials development.

The expansion of R&D over the past ten years has been one of the key enablers to the success of new product development, the commercial benefits of which are being realised today as a result of the bold move made by the senior management at William Blythe to use innovation as a key tool for achieving long-term, sustainable financial success of the company.

Polymer Additives, Gas Absorbents and advanced materials are key growth areas for the company where R&D efforts have led to development of commercialised products.

Energy Storage is a major focus in our current R&D portfolio with several projects investigating the manufacture of the active materials that store energy in batteries. In these projects, William Blythe works closely with its parent company, Synthomer, which is active in the battery materials market producing SBR latex binders for lithium battery anodes. In parallel we are working with the National Graphene Institute in Manchester, investigating the use of its graphene materials in lithium-ion battery applications.

The chemistries we use to create the product range are controlled bi-tri metallic precipitation, redox reactions and hydrothermal synthesis. These processes allow strict control over the material's physical and chemical properties, both of which are directly related to application performance.

The firm's continued success as one of the UK's largest speciality chemical manufacturers, however, lies not in the specific chemistries, but more in its flexibility and experience in tailoring each inorganic chemical to the specific needs of the customer, regardless of the challenges associated with the requirement. This encapsulates the core capability of William Blythe.

The ability to tune the physical and chemical properties of its products to optimise performance whilst providing additional functionality is key in ensuring the continued growth of the company.

William Blythe also is able to perform a wide variety of purification techniques based around filtration, electrodialysis and ion exchange that can produce very low impurity levels in the resultant materials. In some cases, this extends to parts per trillion levels of trace impurities when supplying products into the electronics industry.

A part of providing additional and increased performance, post-synthesis enhancement is also used throughout the William Blythe manufacturing line. When the required product characteristics cannot be met by first intent, i.e. via precipitation chemistry alone, the material will then be further treated to optimise the properties. Examples of this include granulation, milling, masterbatch and surface modification.

The above capabilities have been demonstrated most recently in the development cycle of two of William Blythe's newest products: Luxacal and graphene oxide. Luxacal is a doped tungsten oxide nanomaterial, which possesses near-IR absorption properties that enables applications in inkless in-line digital printing and solar control technology. Graphene oxide, by contrast, utilises the company's expertise in redox chemistry.

The rapid development of these two products exemplifies William Blythe's vision for the future in becoming a global leader in the development of advanced materials for 21st century applications.

As these projects come to fruition and new products emerge into the pipeline, William Blythe has the capability to scale these new processes on the original Accrington site, either onto the flexible multi-purpose plant or by designing new dedicated production facilities that will continue to build on from the company's long and successful past.

Visit https://www.williamblythe.com for further details.

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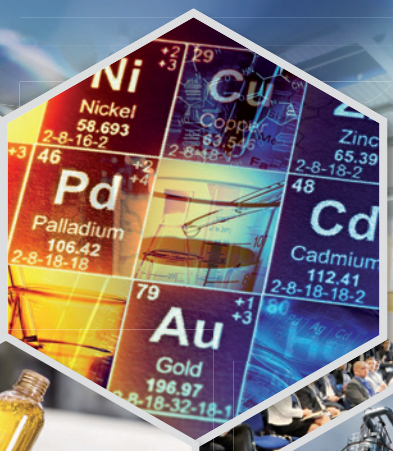

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CHEMUK 2020 Preview

Visitor registration has now opened for **CHEMUK 2020, the UK chemical industries national expo,** being held on **16th & 17th September** at **EventCity** in **Manchester.**

Presenting over 270 exhibitors and 100+ expert speakers, CHEMUK 2020 is the only large-scale trade show that brings together the UK's chemicals, chemical processing and chemical product formulation industries, providing an intensive 2-day supply chain sourcing, business networking, intelligence gathering, innovation showcasing, best-practice and strategy development experience.

Following the show's successful launch in Harrogate last year, event organiser, UK Industry Events, took the decision to move the show to the largest event space in the North, EventCity, Manchester, to facilitate the huge industry demand.

Founder and Managing Director Ian Stone said: "We're delighted to be bringing CHEMUK 2020, doubling in size, into the heart of the crucially important North West chemical region. With some 270+ exhibitors and 35+ hours of expert speaker programmes, attendees will have the biggest names, solutions & themes under one giant roof".

Supply Chain Expo:

CHEMUK 2020 will provide visitor groups with a diverse and impressive showcase of 270+ specialist exhibitors showcasing latest plant, equipment, materials and services supporting the chemicals industries, driving product innovation, plant & process performance, future-proofing, supply-chain fulfilment, safety, compliance and more.

Just some of the major names across the CHEMUK 2020 show floor include: 2M Services, Brenntag, Actikem, ARI-Armaturen UK Ltd, Atlas Copco, Azelis, BTC Europe, Busch (UK) Ltd, Calgavin, Edwards Vacuum, Emerson, Endress+Hauser, GEMU Valves, George Fischer Sales, Gericke Ltd, GRUNDFOS Pumps Ltd, HRS Heat Exchangers Ltd, Yokogawa UK, Libra Specialty Chemicals, Monarch Chemicals, Kinder-Janes Engineering Ltd, NETZSCH Pumps & Systems UK Ltd, NewsonGale, ProMinent Fluid Controls (UK) Ltd, Schenck Process UK Ltd, Siemens Plc, Tradebe Chemicals, VEGA Controls Limited.. to name a few.

CHEMUK 2020 Speaker Programme

The CHEMUK 2020 speaker programme will present over 100 speakers, providing 35 hours of 'free to attend' expert intelligence, case studies, best practice and tech-insight 'snapshots', to inspire and assist next level investment , as well as guide technical and operational strategies for attending industry groups across the UK chemicals & chemical product sectors.

Packed this year with specialist highly topical contributions from 25+ separate trade, technical or professional bodies, three government departments, multiple centres of research/ tech transfer, together with an exciting cross-section of leading chemical suppliers, technology partners & specialist service & consultancy groups, CHEMUK 2020 brings together an unrivalled blend of topical content & industry personalities.

The BIG Issues

Centre stage will be critical themes such as process innovation, improvement & intensification, sustainability & responsible care, digitisation, new technology, plant & supply chain management, process safety & regulatory landscape, global trade, sector skills, Brexit and more....

Organisations confirmed to speak include; **Chemical Business Association, Chemical Industries Association, Defra, BEIS, Department for International Trade (DIT), BASF, Brenntag, BioVale, The KTN, ABB Energy Industries, The HazChem Network, Accenture, Dupont, Siemens, GAMBICA, Royal Society of Chemistry, Process Intensification Network (PIN), Tank Storage Association, The British Contract Manufacturers and Packers Association (BCMPA), HSE, Environment Agency, Cogent Skills, CATCH, Centre for Process Innovation, Calgavin, Maelstrom Advanced Process Technologies, IChemE Safety Centre, RAS Ltd, National Chemical Emergency Centre (NCEC), Newson Gale, REACHLaw** and many more.

Sector Perspectives

Representing downstream chemical product industries, CHEMUK welcomes senior representatives from **British Coatings Federation, British Adhesives & Sealants Association (BASA), British Pest Control Association (BPCA), Solvents Industry Association (SIA), Paint Research Association (PRA), Oil & Colour Chemists' Association (OCCA), Composites UK, Confederation of Paper Industries (CPI), The Paper Industry Technical Association (PITA), Aromatherapy Trade Council (ATC)** and others, who will all be providing illuminating sector perspectives and discussing implications for the wider chemical supply chain.

Registration:

Attendees can register for their free badge, providing access to all presentations and exhibition floor. The speedy team registration is also available through the site.

For full and current speaker listing and full exhibitor information, please visit www.chemicalukexpo.com

Occupied building risk assessment and inherent conservatism?

Protecting people on and off a hazardous facility is a key obligation of the site operator. The regulator expects that all risks can be demonstrated to be As Low As Reasonably Practicable (ALARP). This can be a complicated process that requires a multi-disciplinary team and support from outsourced technical resources, especially related to consequence modelling and Occupied Building Risk Assessment (OBRA). As well as OBRAs ABS Group structural engineers regularly analyze extreme loads from natural hazards and terrorist threats and this has given us an insight into the inherently conservative assumptions that are often made during OBRAs and their implications. This article briefly discusses some of the issues found.

The aim of any safety justification is to demonstrate that the risk to on-site and off-site populations is ALARP. This is the far-right hand side of the Bowtie, shown in Figure 1, which presents a generic safety barrier model for a hazardous chemical process. The independent safety barriers are progressively built up from left to right. Figure 1 presents them as generic barrier with examples.

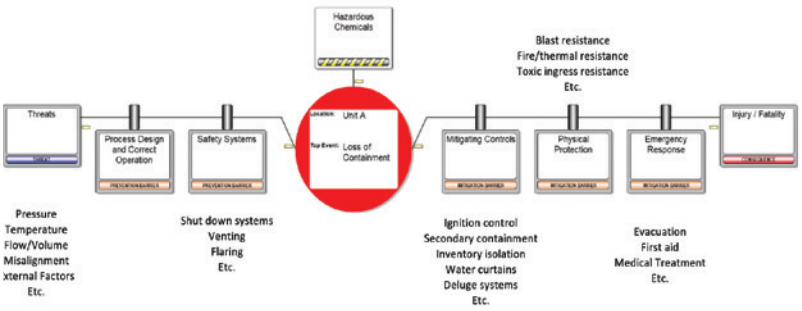
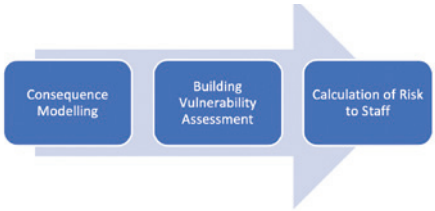


Figure 1 – Generic Barrier Model for Process Safety The majority of these barriers are developed, implemented and justified by process and safety engineers. However, when it comes to OBRA duty holder often looks outside their organisation and appoints consultants to support the Physical Protection barrier in Figure 1,. The OBRA process can be viewed as Figure 2 as having three parts: 1) the consequence modelling, 2) the building vulnerability assessment and 3) the calculation of risk to the occupants.

Figure 2 – Simplified Flow for Occupied Risk Assessment

One of the key issues with OBRA is that there can be a danger of a risk model "black box" effect that may lead to outputs that are not reflective of reality. Apart from the assumptions made during the modelling of leak sizes, frequencies, environmental conditions, congestion etc. a key area for the calculation of risk experienced by on-site workers is the building vulnerability assessment. This is the physical impact of the overpressures and impulse, thermal radiation levels and toxic ingress on a building's occupants. In many software packages and guides, vulnerability functions use generic building types, based on empirical data sets. This approach is adequate in many cases, however, the question should be asked "How do our on-site buildings compare to the empirical building?".

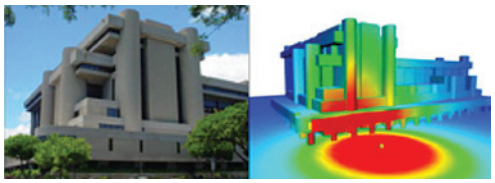


In our experience structural engineers can add value to make the vulnerability assessment directly applicable to a facility's buildings. The way in which the modelling is performed can also make a difference especially when looking at 3D models of a site, which are becoming cheaper to produce as technology advances. Figure 3 shows a model of a site showing overpressure changes across the face of a building.

Figure 3 – 3D Building Modelling

By understanding how the primary structure (columns, load bearing walls etc), secondary structure (infill walls, cladding) and the non-structural elements (glazing, doors etc) interact and the different responses across the different areas of a building, the following is possible:

1) Improved occupant vulnerability assessment
2) Targeted mitigation strategies at specific areas of a building
3) Identify cost-effective solutions



In most cases an empirical approach to building vulnerability is adequate, however, a more detailed review should be considered if:

1) The OBRA gives unacceptable risk levels
2) Recommended building up-grades are generic in nature
3) The OBRA risk is driving improvement projects in other barriers in Figure 1

In our experience, involving a structural engineer in the OBRA can add a great deal of value by: removing potential conservatisms, creating a building specific vulnerability model and developing specific, cost effective mitigation plans where required.

For further details please contact JRoche@absconsulting.com

Sci-Tech Daresbury businesses unite to support development of COVID-19 tests

Two businesses located at Sci-Tech Daresbury have united to develop a vital new research kit that could prove crucial in the fightback against coronavirus.

Arcis Biotechnology, a research and development led company with expertise in the development of a wide range of fast sample preparation technologies, is working with onsite neighbours Perfectus Biomed, a leading Contract Research Organisation (CRO) that provides both standard and customised microbiological testing services.

In response to the shortage of chemicals available for diagnostic testing, Arcis Biotechnology has developed its Coronavirus RNA extraction research kit. This enables users to go from biological sample to downstream testing in under three minutes in most situations, and provides all of the necessary reagents to rapidly prepare respiratory tract specimens of molecular testing.

Therefore, within five minutes of a swab being taken from a patient the sample is ready for diagnostic testing. The simplicity of the process allows it to be used without highly expensive and prohibitive laboratory equipment –crucially, this means the test has the potential to be automated, meaning robotics could be used to expedite quicker and more efficient testing.

The methodology and swiftness of such testing would rapidly increase the speed at which tests can be conducted, enabling the most at risk patients to receive treatment faster while increasing the safety of healthcare workers.

The kit serves as a starting point for collaboration with healthcare organisations and Arcis is currently in discussion with numerous NHS trusts regarding its use. In order to ensure its regulatory approval, Perfectus Biomed is undertaking antiviral testing on the kit and screening on a molecular basis to ensure it has an efficacy claim against coronavirus.

Additionally, Perfectus has adapted its service in order to cater to the growing demand for testing of disinfectants and hand gels and has cut the cost of its testing service in order to make it easier for more products to safely get to market.

Dr Jan Rogers, chief scientific officer, Arcis Biotechnology said: “Our current focus is on developing collaborations with the groups and organisations working on COVID-19 diagnostics. The time it takes to develop a result is critical to enable doctors to know which patients require immediate treatment.

“We are eager to contribute to resolving this global crisis and are prepared to offer samples, technical support, and collaboration efforts that will lead to faster diagnosis and improved healthcare worker safety.”

Dr Samantha Westgate, chief executive officer, Perfectus Biomed said: “Our mission as a business to improve quality of life through exceptional microbiology. During these unprecedented times, we see that as more important than ever. Whether that’s adapting our services to support the development of new hand sanitisers or supporting our Sci-Tech Daresbury neighbours in helping to get their extraction kit to into hospitals, we’re determined to use the expertise within our team to support the global fight against coronavirus.

“Like most businesses, our staff have had to adapt to different working conditions during this period. The work both our companies are undertaking would not be possible without their flexibility, whether that’s maintaining social distancing in a lab environment on site at Sci-Tech Daresbury or delivering vital business and admin support while working from home. It’s been inspiring to see how such important work can be delivered in difficult and disruptive circumstances.”

John Downes, group chief executive of Langtree and chair of the Sci-Tech Daresbury joint venture company, said: “We are very proud that Arcis Biotechnology and Perfectus Biomed are using their expertise to help fight the battle against coronavirus. Both are innovative companies at their cutting edge of their respective fields, and Sci-Tech Daresbury will continue to offer them our full support as they undertake this vital work.”

For further information please contact: Tom Carlin, 07827 957740, carlin@thisisinfluential.com

Siemens' total integrated automation and process solutions with data analytics

helping optimisation of acrylamide and polyacrylamide production at Kemira's Bradford factory

Challenge: A global expert in chemical solutions with a manufacturing presence in over 40 countries, Kemira serves water intensive customers in the paper, oil and gas, mining and water treatment industries. On its 50,000 sq.m. Bradford site, the company produces a range of polyacrylamide products used in cleaning of municipal and industrial wastewater.

Polyacrylamides are powdered solid products that act as flocculating agents. Acrylamide is the essential raw material in the polymerisation process. The acrylamide was sourced from a Kemira plant in The Netherlands, with up to ten tanker loads per day making the journey across the North Sea to Bradford. To improve the use of resources and minimise waste, the company set out to bring the manufacture of acrylamide on site.

Solution: "There were a number of factors that led to this project," explains Graham Scarborough, Process Technology Team Leader for Polymer Manufacturing at Kemira. "The Dutch acrylamide unit was nearing the end of its life. It made sense to remove the reliance on a long-distance supply route. In addition, we had a role model in the Kemira site at San Giorgio in Italy, which was already producing its own acrylamide through a much more energy efficient enzyme-based process."

The Bradford project involved planning for safe offloading and storage of the raw material, acrylonitrile; creating three reactors in which acrylonitrile would be converted to acrylamide; and constructing two large tanks to store the acrylamide.

The SIMATIC PCS 7 system, a fully integrated and engineered DCS solution used in chemical and process plants, was integrated into the new plant alongside Siemens intelligent field instrumentation for accurate process measurement, handling both the control and measurement aspects of the process. The Profibus communication protocol was used for data communication between field devices and the DCS, enabling key insights into their production process.

Outcome: "We found the whole team to be extremely supportive and that was a significant factor in our decision to select PCS 7," added Scarborough.

A workstation located in the new building enables the acrylamide plant operator to view every aspect of the plant functionality. This computer is connected to the site control system network and linked with an archive software that collects and stores detailed operational data.

"Information and the ability to run the process and access our historical data is very important," says Paul Turfrey, Technical Manager. "We can use this information to track our daily activity and aim for continuous improvement."

Scarborough added, "The SIMATIC PCS 7 system allows us to drill down at each step of the production sequence, such as the opening and closing of valves, flow rates, temperatures and pressures. The Profibus instruments not only provide an alert but also identify the exact nature of the problem."

Kemira has been able to drive significant improvements in efficiency, including 50% increase in peak production rate. Cycle time has been significantly reduced and new weekly and monthly site production records have been set.

"We are self-sufficient in acrylamide production and we have eliminated 1600 tanker deliveries annually. We can focus on upgrading the manufacturing process and reducing batch times further," concludes Scarborough.

The new plant has factored in future expansion, which includes adding a fourth reactor and additional processing equipment. The chiller plant is geared for future demand, and the scalable design of the control system enables any new instrumentation to easily integrate.

"Siemens was able to supply a complete solution, and with the strong relationship we've built, we look forward to guiding Kemira in further expansion of the acrylamide plant," comments Ian Elsby, Head of Chemical Industry UK and Ireland at Siemens Digital Industries. "From training and implementation through to maintenance we are committed to full lifecycle support."

"The combination of Kemira's process expertise and the Siemens integrated solution has created unmatched efficiency and enabled Kemira to exceed targets," says Steve Leech, Business Manager for Process Control Systems at Siemens. "In addition, the capture of key manufacturing insight by the Kemira team creates the foundation for more efficient information-led decision making and production assessments."

Further details contact:
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XCellR8 and SenzaGen expand collaboration to offer GARD®skin Animal-Product-Free

SenzaGen, a Swedish developer of animal-free *in vitro* tests for sensitisation and the British contract testing laboratory, XCellR8, have expanded their collaboration by signing an exclusive global licensing agreement. The new agreement covers the performance, marketing and sales of SenzaGen's new, vegan skin sensitisation test, GARD®skin Animal Product-Free.

XCellR8 is an established in vitro contract testing laboratory in Europe engaged in work to replace animal testing and related animal components with alternative methods, especially in the cosmetics industry. Today, XCellR8 works with several well-known cosmetics companies such as The Body Shop, Lush, and their suppliers. SenzaGen and XCellR8 have been in partnership since 2016 through a distribution agreement. Thanks to this new enhanced license agreement, XCellR8 will market and sell GARD®skin Animal Product-Free and perform tests at its laboratory in Daresbury, UK.

"We are happy to deepen our collaboration with Dr. Carol Treasure and her team at XCellR8. By focusing on the use of the latest technology and new research results, they are contributing to the movement towards a more ethical and sustainable testing industry. Our collaboration has resulted in further development of an existing test, adding an offering to our portfolio, which is in line with our strategy and mission to offer the best animal-free test methods," says Axel Sjöblad, CEO of SenzaGen.

GARD®skin Animal Product-Free is a further development of SenzaGen's existing skin sensitisation test, GARD®skin, and meets consumers' growing demand for an animal-free supply chain. By replacing animal serum, traditionally used as a nutrient solution in cell culture, with human serum, this new test is totally free of animal components. GARD®skin Animal Product-Free has the same high accuracy and performance as the other tests available in SenzaGen's portfolio.

"Together with our clients, we are passionate about the vision of creating a more ethical testing industry, without animal testing and animal components. Through this close collaboration with SenzaGen, XCellR8 has the exclusive opportunity to offer this accurate and innovative GARD test, free of animal components, for skin sensitisation. In the long term, this means safer and better products for all of us," says Carol Treasure, founder and CEO of XCellR8.

Visit https://x-cellr8.com/ for further information

Hosokawa Micron Ltd announces appointment of James Moore as Managing Director

Industry-leading engineering and manufacturing company, Hosokawa Micron Ltd, is delighted to announce the recent appointment of James Moore as their new Managing Director. James succeeds Professor Iain Crosley, who has left the company to pursue other ventures.

James joined the powder processing equipment and technology expert as Business Manager in November 2016, with a wide-ranging remit for planning and directing the company's strategic and long-range goals. His business analytics and strategic planning background – including several senior management positions and five years as Managing Director of GBI Research – allowed him to identify emerging trends, competitive threats, expansion opportunities and viable business partners as he led the change management process. Promoted to Commercial Operations Director in late 2019, James became Managing Director just a few months later.

James Moore, Managing Director, Hosokawa Micron.

In his new role, James will be directing and controlling Hosokawa Micron's operations – giving strategic guidance to ensure that the business achieves its aims of growth, profits and increasing shareholder return – with one of his key focuses being to lead, coach and mentor colleagues at the company's Runcorn headquarters, actively supporting and encouraging each employee's professional development.

Though James' appointment comes during a formidable time in world events – occurring in the midst of the Coronavirus pandemic – he is determined to remain positive and focussed on the unique journey both he and the Hosokawa Micron team will be taking together, as they adapt to the consequences of an unprecedented global situation.

"It's an exciting and challenging time to begin leading the team at Hosokawa Micron, during a fascinating new era of digitalisation and innovative technology, state-of-the-art equipment, research and development and evolving contract manufacturing products. As a company, Hosokawa Micron thrives on embracing new challenges and we look forward to meeting and exceeding the exacting requirements of our customers in the future, whether they are based in the UK, Europe or further afield."

For further information about Hosokawa Micron Ltd and its range of innovative equipment and services, please visit hosokawa.co.uk or call +44 (0)1928 755100.

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SRG - The 2020 STEM Survey

The 2020 STEM Survey - produced by SRG in association with New Scientist Jobs - is the STEM labour market's most comprehensive survey yet. Here Faye Allison, Principal Consultant at SRG, specialist STEM recruitment agency, discusses some the findings and how you can apply them to attract the best candidates to your business.

Notwithstanding the current situation we find ourselves in with regards to the COVID-19 pandemic, the STEM Survey signalled good news regarding UK job satisfaction, with 70% of respondents rating themselves as "satisfied" or "somewhat satisfied" with their jobs. Given that the workforce appears to be generally happy with their jobs, how can businesses attract top talent in increasingly competitive labour markets?

Among Generation Z respondents (born 1996-), "Career progression" was found to be the most important existing employer offering, followed by "attractive salary & benefits" and "stimulating and & challenging work." Despite slipping behind factors such as "career progression" in recent years, "good work/life balance" also remains a priority. When looking at motivations to leave a role, "interesting work" was cited as the main influence, whilst "increase in pay" as an incentive was a lot lower. Gen Z also seeks collaboration and friendly team environments. They crave positive, face-to-face working relationships that go beyond online or social media contact. Continuous feedback is also important, as it helps to improve engagement and productivity. The key takeaway? A company culture that embraces honest and positive feedback will attract Gen Z candidates.

Gen Y: Striking a balance

Broadly speaking, Generation Y or Millennials (born 1981-1995) were found to value similar employer offerings to Gen Z. Unlike Gen Z, however, Gen Y respondents placed emphasis on "good work/life balance" — perhaps as a result of Millennials settling into their careers and starting their own families. (According to the Gen Y respondents we surveyed, 41% earned between £20k and £29k, while 35% earned between £30k and £39k.) "Career progression" and "Stimulating & challenging work," while important, were deemed less so than for Gen Z respondents. For businesses looking to attract top Millennial talent, it's important to offer a flexible approach to work-life balance — particularly given that many in this generation are starting families.

Generation X (born 1965-1980) and "Xennials" (a micro-generation born between the late 1970s early 1980s) have similar requirements when looking for new employment. With slightly older families and, generally speaking more stable careers, this group values travel opportunities and flexible working arrangements. At this stage in their career, they are looking for a better work-life balance and a company culture or workplace environment that aligns with their values. "Increase in pay" is important but less so than younger generations — likely because the salary of most Gen X/Xennial employees generally tends to be higher (at the lower end of the spectrum, ~£40k; at the higher end, ~£150k).

All the offerings outlined in the report form part of a clear Employee Value Proposition (EVP). Given the times we are living in, a clearly defined and communicated EVP is more important than ever. As stated in a Gartner report, when candidates view an EVP as attractive, a business can reduce the compensation premium by 50% and achieve a 50% deeper reach into the labour market. Businesses that effectively deliver on their EVP can also decrease annual employee turnover by just under 70% and increase new hire commitment by nearly 30%. Investing in an EVP makes business sense.

Contact Faye for more details on current roles within the Chemicals industry, the fantastic network of candidates she works with and EVP solutions to help you attract the best people to your business. faye.allison@srgtalent.com

Don’t overlook process safety during a crisis

In our daily lives we now need to make a choice - hold the handrail when going down stairs and risk catching Corona Virus or risk falling by not holding the handrail. If you are operating a high hazard site at the moment you need to make sure that the controls you put in place to minimise the impact of the virus do not result in you having a major accident.

I am sure most sites are minimising face-to-face contact by instructing people to work from home and stopping all non-essential visits to site. You are probably doing this with fewer site-based staff. These conditions create some potentially significant human factors and process safety challenges.

Shift handover

One group of workers you need to be particularly careful of are shift operators. The obvious conclusion is that members of different shifts should never be in the same room at the same time. So how are they going to conduct their shift handovers?

Consensus is that a face-to-face meeting is an essential part of a good handover. If you simply exclude this and put no other controls in place there is a high likelihood that poor communication will result in risks to safety.

Making sure operators keep very good chronological logs throughout the shift and prepare high quality handover reports at the end of each shift will be essential. Providing structured templates and guidance about what to record can help.

Without the face-to-face meeting individuals will not have the opportunity to discuss what has happened and what is important for the forthcoming shift. Setting up somewhere where the incoming shift can talk to the outgoing shift by telephone or video conference can allow discussion to take place. Allowing screen sharing will assist greatly, especially if this includes the ability to look at control system screens.

If you do not have a procedure for shift handover you really will need one now. It should not just say about filling in log sheets and reports but give guidance about verbal and visual communication. Giving some training via a webinar to explain the critical aspects of handover would be a useful addition.

Permit to work

Another routine interaction between personnel is around maintenance and project work, usually involving permit to work. Permit-to-work is all about communication and the written permit is really only a way of structuring the discussion and recording the key points. You need to work out the best way of replacing the face-to-face element; and having a procedure that defines the communication element is more critical than ever.

Managers and engineers working from home

A lot of managers and engineers will be home working at the moment. One thing that they will not be able to do is pop into the control room or onto the plant to see what is happening and have a chat with operators and maintenance personnel. These informal meetings are actually far more important than people sometimes realise.

Clearly video conferencing will enable people at home to contact anyone, including operators in the control room. This can be useful but it also causes distraction. The operators should be given control of these interactions to avoid this.

Technology also allows remote viewing of control system data. There can be a tendency for people working remotely to become a bit fixated with watching what is going on. It can result in lots of calls to the control room, which is clearly very distracting. Also, it can cause confusion about who is in charge of the operation.

Now is not the time to stop maintaining critical safety systems

There is likely to be more reliance on alarms and safety instrumented systems (SIS) that at any other time. This means they need to be highly reliable, which can only be achieved by keeping up with testing and maintenance.

Remember, during safety studies (e.g. LOPA) you probably made some assumptions about human performance. For a response to an alarm you probably assumed that there will be fully competent operator who is well rested and would view it as a simple task. During this crisis it is highly likely that you may have a stand-in operator covering for an absent colleague.

Andy Brazier, AB Risk Limited - www.abrisk.co.uk

The show must go on: Facilitating HAZOPs from remote locations

There's an elephant in the Zoom. The current global situation has brought a new Process Safety consideration to light; how can we ensure as best as possible that HAZOPs can be undertaken from several remote locations? Otto Simon has chaired and facilitated numerous Hazard Study workshops in the traditional format with client, engineering, and operating personnel congregating to review the process risks and hazards; but with the current restrictions and requirements to maintain social distancing, we've had to adapt our traditional ways of working to ensure that business safety isn't compromised.

We've put together the following tips for conducting your Hazard Studies and Review Workshops via video link, in the hope that the lessons learned from our experience will allow your meetings to run smoothly and seamlessly.

- Test, Test, Test all the equipment before you begin. You may want to mute your audience, but not unintentionally, and you will want to share screens. Get familiar with the set-up in advance.
- Do you have the right background? Working from home you will want to avoid showcasing a heap of clothes, a breakfast plate with leftover toast or a book which only resonates with yourself and could be misconstrued by your audience.
- Does your program have a programme? Have you considered that the exercise will take longer than a face to face meeting, and it could be useful to break the sessions into bitesize 4-hour episodes rather than a solid 8-hour stint that stretches beyond most people's limits of concentration and interest.
- Hecklers. Have a plan on how to contain the stronger characters and prevent them from dominating proceedings without resorting to using the mute button. Let the quieter participants have their say.
- If you decide upon Zoom or Teams make sure that participants use the video to enable you to interpret visual signals even if that does include suppressed yawns, and ensure all participants have the access to the required software before the meeting is due to start.
- Distribute the subject matter well in advance. Highlight the key areas for discussion and check that individuals have received the information and understand beforehand what has to be shared, when it needs to be shared, and with whom it will be shared.
- Silence can be deafening. Be aware that some people need to cogitate more than others, so ensure that you ask each individual to contribute, and remain mindful that gaps in dialogue could be a cue to take a break which is important in the interest of keeping the process fresh.

Finally, know your subject matter; you have gone to immense trouble to set up the meeting, mastered the technology, readied your trigger-finger on the mute button, and moved the laundry out of view – but make sure you don't forget to study the technical aspects, pre-prepare as much typing as possible, and familiarise yourself with who you're expecting in the meeting and what their roles are. Once you've set-up your home office in great lighting and adjusted the camera angles to hide your dodgy lock-down hair-cut, the show is ready to go on.

Otto Simon Limited
Providing Specialist Consultancy, Engineering and Project Delivery services to the Process and Industrial sectors.

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The world might have stopped but your innovation doesn't have to

In the last few weeks, it might seem that the world has stopped. The global health crisis caused by Covid-19 has forced business and society into a long pause. Companies and their supply chains are confronting disruptions and are trying to keep the lights on. The implications will likely be with us for many months and maybe years.

There are plenty of metaphors doing the rounds: the events of years have become those of weeks, a "new normal" will emerge. So, what can we possibly do to keep making progress in business?

Recent articles have tried to capture the essence of what is going on. The Economist highlights that the crisis has forced much greater pace into company innovation lest they fall victim to Schumpeter's creative destruction. McKinsey reflects on the 2008 financial crisis to point out that companies with a though-cycle mentality not only survived but thrived.

An agenda item for many firms, digital transformation has become an overnight requirement. While 90% of execs know digital transformation was important, only 20% had moved off the slow adopter blocks.

Breaking down the uncertainty

At the best of times, strategic planning can be complex, ambiguous and uncertain. The uncertainty brought by Covid-19 dials that up to maximum. Let's break this down.

Uncertainty levels range from total clarity of the path to be taken through to true ambiguity. Scenario Planning, when coupled with strategic roadmapping, can help navigate this uncertainty. It reduces a range of possible futures to a handlable set of plausible alternatives to make decision-making under these conditions of uncertainty easier and more credible.

Level	Situation	Planning Tactics
4: True Ambiguity	Post Covid-19	Dynamics Roadmapping
3: Range of Possibilities	Digital Transformation	Scenarios Roadmapping
2: Alternative Paths	Market Expansion Options	Options Roadmapping
1: We Can See Clearly	Product Line 2019	Forecast Roadmapping

The main message is one that is hopeful reassuring: a strategic planning process can be taken online with excellent results. A recent project flipped in seven days from physical to online delivery using strategic roadmapping to help a consortia make complex decisions about their innovation programmes.

Advice for Planning Remotely

Part of the digital transformation trend are the possibilities provided by a plethora of tools designed for this. While the switch to remote working can be done, to do it well and get equivalent results needs careful thought. Simply wrapping a digital blanket over a typical strategic planning workshop will lead to poor results. We can also bring well-worked out research about roadmapping from the physical world and apply this to the world of remote working. Three main considerations are,

1. **Clear Process Design**. In my experience, taking strategic planning online needs to be very clear about the purpose, the process and the facilitation. Breaking down the planning process into specific chucks with both online and offline working, timeboxing the tasks.

2. **Helpful Technologies**. Some hygiene factors apply like choosing good internet conferencing and communication hardware and software. Widely available tools with cloud storage make collaboration effective. Whiteboard tools like Miro, selection tools like Mentimeter and cloud storage tools like MS365 should be in the facilitator's toolkit.

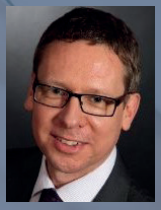
3. **Great Facilitation**. It's still vital to get the right people into the virtual room and be well facilitated. Make sure all contributors know their roles, the objectives and the timetable. Offline working weaves the golden thread through your strategy refresh.

Gartner reports that 74% of companies plan to permanently shift their activities to remote working so it's here to stay. This speaks to the through-cycle mindset. So, refresh your innovation plans: the world might have stopped but your innovation doesn't have to.

Want to know more?

I can take a look at your strategy process and help you to optimise your decisions and innovation, technology and R&D investments.

Please contact IfM's Industrial Associate in the Northwest, Rob Munro to discuss your technology and innovation management objectives, Email rjm240@cam.ac.uk or call +44(0)7896 128 878



10 years of supporting start-up businesses at Daresbury Laboratory

For 10 years now, businesses have been able to access to the unique research facilities, expertise and business support at the Science and Technology Facilities Council's (STFC) Daresbury Laboratory. Located at the heart of Sci-Tech Daresbury, the facilities have played a key role in the growth and success of early stage high-tech businesses from across the North West and beyond. Some of these businesses are now pulling together to respond to the COVID-19 pandemic.

Since 2010, start-ups have gained affordable and flexible access to multimillion-pound research equipment, expertise and business support that would usually be out of reach for a small business. With options to either lease exclusive-use labs, or opt for access to low commitment multi-user labs available on a daily basis, it continues to be a fantastic and dynamic environment that enables businesses to minimise their costs and grow in a sustainable way.

The laboratory space at Daresbury is complimented by an ever-growing suite of business incubation programmes, including collaborative programmes with both the European Space Agency and CERN, alongside the addition of a state-of-the-art digital prototyping facility, which includes a brand new virtual and augmented reality workstation for businesses to use as a testbed for new ideas.

Delyth Edwards, Business Incubation Programmes Manager at STFC, said: "Scientific breakthroughs and technologies developed by businesses continue to transform the world we live in, but for small high-tech businesses, developing these kinds of innovative products and services can be an uphill struggle in difficult economic times and an increasingly global marketplace. We've had a fantastically successful 10 years, and it is our ambition that we continue to develop and attract even more companies in the next decade, as they go on to develop new products."

Crucial to the success of early-stage businesses is the network at Sci-Tech Daresbury. Here collaboration is key and a 'home-for-life' ethos makes it possible for, what may start as a single-person business using shared facilities, to scale up to individual purpose-built premises. This collaboration also extends into the wider region, and resulted in the launch of the UK's first HealthTec Cluster on campus last year, in response to the growing number of business working in the sector.

Two of these companies, which both started their journey in the shared laboratories, Perfectus Biomed and Arcis biotechnology, are now working together to develop a vital new research kit that could prove crucial in the fightback against coronavirus.

In response to the shortage of chemicals available for diagnostic testing, Arcis Biotechnology has developed its Coronavirus RNA extraction research kit. This enables users to go from biological sample to downstream testing in under three minutes in most situations and provides all of the necessary reagents to rapidly prepare respiratory tract specimens for molecular testing. To ensure its regulatory approval, Perfectus Biomed is undertaking antiviral testing on the kit and screening on a molecular basis to ensure it has an efficacy claim against coronavirus.

Perfectus Biomed, which joined Daresbury Laboratory in 2012, is now an award-winning and market leading contract research organisation, recently chosen by leading business experts as one of the 'Top 20 North West most exciting companies to watch out for in 2020'.

Samantha Westgate, CEO at Perfectus Biomed said: "Locating our business at Daresbury Laboratory provided the essential facilities and support that Perfectus Biomed needed through the early stages of our growth. Flexible access to laboratory and office space allowed us to grow, while on-site business support provided us with contacts and knowledge to help us secure the investment required to develop the business further. Since then, a year of record growth meant that we were outgrowing our workspace and needed to think about the next step in our development. Moving into a bigger building meant that we could continue to expand our workspace without the need to relocate our business."

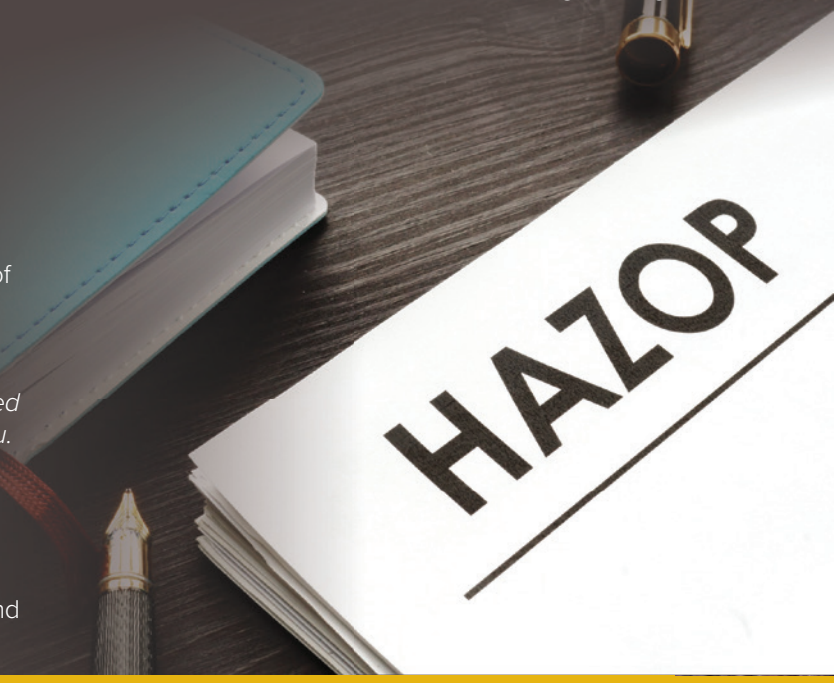
Further information about support for SMEs at Daresbury Laboratory can be found: https://stfc.ukri.org/innovation/locations/business-incubation/

Common functional safety problems

6Engineering have a wealth of experience on site and we thought we'd share with you a few common functional safety problems that we see when we visit sites (process plants, offshore platforms, etc.), along with some suggestions as to what to do about it if your site suffers from the same.

1. Who is responsible for functional safety? If there is nobody specific (or just simply the site manager), then this indicates that there is no functional safety management system, or if there is, it's on a shelf not being used.
   Solution: ask someone who knows about such things for some help (e.g. a qualified functional safety engineer). Knowing where to start and what is needed is half the battle.
2. Where is the Hazard and Operability Study (HAZOP)? Noted that other methodologies for hazard identification are available, but we think this is the best. If you can't identify what your safety instrumented functions are protecting against then how can you be sure they're fit for purpose?
   *Solution: gather all your HAZOPs in one place (electronically speaking). Your site should be reviewing them every 5 years and tracking action close-out so they *shouldn't* be out of date, but don't bet on it.*
3. Is the Layer of Protection Analysis (LOPA) correct? Again, we think this is the best methodology. However, we often see poor quality LOPAs. A key giveaway is the word content. In our experience, LOPAs which are concise and referenced give confidence they've been done correctly. Verbose LOPAs suggest that a HAZOP wasn't performed. If it's not short and sweet, be wary. In addition, if the hazardous event can occur more than once per year, it is a high demand system and the way the resulting safety integrity level (SIL) is calculated is different than for low demand and your SIL might be wrong.
   Solution: give your LOPA a good dose of looking at and be critical. If you have some other form of SIL assessment, we recommend you perform a LOPA yourself, if only to gain a proper understanding of the numbers that have been used and their justification.
4. Where is the SIL verification calculation for the whole Safety Instrumented Function (SIF)? A SIF is made up of sensor-logic solver-final element (as a minimum).
   Solution: If you don't see a calculation that evaluates all these items and gives you a pass/fail answer then somebody competent needs to do one. Find a qualified (i.e. 'competent') functional safety engineer to help you.
5. Where is the Safety Requirements Specification (SRS)? Every SIF needs an SRS. The purpose of the SRS is to convey the duty of the SIF, the environment in which it must operate and the specific requirements it must achieve. It also describes the architecture of the SIF and the components it is made up of. Per IEC 61511 there are 29 points to be addressed and only for new designs have we ever seen a completed SRS. Even then there were still problems.
   Solution: obtain an SRS template and start filling in the blanks. At least then you'll know what you don't know.
6. Where is the verification proof test procedure? Every SIF must undergo a verification proof test before it is used to provide protection against the hazard for which is has been specified. This is not just an end to end test, e.g. raise the pressure above the trip point and make sure the valve closes. The purpose of the verification proof test is to ensure that the SIF not only performs as specified when the facility is operating as normal, but also that it acts as engineered when there is a fault condition. The action upon a fault occurring must be specified; this is not just as simple as 'it fails safe'. The onus is on the site to prove safety: does the SIF do what it says on the tin?
   Solution: ask a qualified functional safety engineer who has experience of field testing SIFs for help. (We've made this bit bold because the functional safety engineers course doesn't necessarily cover all of this)
7. Where are the SIF components? Somebody should be able to take you to the SIF components so that you can see them yourself. We have been to a site which had taken credit for a new SIF in a LOPA 10 years ago which had never been installed.
   Solution: ask a site operator to show you around and ask plenty of questions. Make sure you get to look in some cabinets and confirm what logic solvers are involved. Good practice is to label items so they are not inadvertently changed.

If you're looking for competent process and functional safety engineers then please call us, we're really friendly and we love a good chat!
Please feel free to get in touch if you have any questions - www.6engineering.co.uk



6 Engineering

6 Engineering has been supporting the major hazard industries worldwide since 2011, both onshore and offshore. It's really important to us that people get to go home to their families every day and therefore we hold ourselves and our clients to the highest safety standards.

You can see our services on our website: www.6engineering.co.uk. Our specialisms are process safety and functional safety.

We understand that business needs to take calculated risks in order to grow and this is why it is our mission to provide worldwide safety expertise, helping you to keep people and assets free from unnecessary risk. Our engineers have a wealth of experience on site and we pride ourselves in adding value where we can. We have offices in Teesside, Aberdeen, Warrington and Cologne and we're happy to travel!

As a responsible site operator, you know that it's important that you can prove to the regulator that you do what you say when you say 'safety first'. However, things fall through the cracks. We know where the cracks are, what to look for and how to solve it. We consider ourselves part of your team and you can call on us for support at any time; we can be on site the next day in most cases. We take ownership of your problem and deliver it solved.

If you need some temporary support then we can second our graduate engineers to your site to bolster your team. They'll have our expertise to call upon when they need it so they can add value to your endeavours.

We're a phone call away and we'd love to hear from you!

Offices in Aberdeen, Teesside, Warrington & Cologne.

6 ENGINEERING

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The Environment Agency in a time of coronavirus

A client reports that an EA site visit to consider the final closure of a hazardous landfill – which had taken 18 months to arrange – has been postponed to an indefinite date due to Covid restrictions. Meanwhile permit payments continue and contract repayments to cash strapped contractors are put on hold, as are intended changes to site operating practices. It is unclear whether regulatory minds were applied to how the visit might have been conducted safely. Certainly, open air social distancing with PPE would not have been difficult.

Following on from significant re-sizing in recent years, and the loss of further staff to DEFRA to work on the Brexit effort, EA's visibility is now further reduced under Covid. Waste crime and wilful blindness to non compliances are more likely to go undetected.

The EA's published statements indicate that it is carrying on largely as usual, albeit some activities (eg bathing water sampling) have been paused. Most staff are working from home and only 4 offices are open. Compliance checks are still being conducted, but the regulator is relying primarily on documentation to assess performance and appears to be avoiding site visits unless they are essential. Pollution incidents will still be investigated.

While the EA expects businesses to take all reasonable steps to comply with regulatory requirements, there is a recognition that it may be impossible for some at the present time, for reasons beyond their control. In such cases the regulator must be notified and various other steps taken, such as minimising the effects of the non-compliance and keeping a record of the reasons for it. However, an enforcement response cannot be ruled out. Perhaps not all businesses will confess, however.

The EA has published a series of temporary regulatory position statements (RPS) which set out situations in which the strict letter of the law will not normally be enforced provided that all the stated conditions are met. Several RPSs will be of wide applicability, including a relaxation of permit-imposed monitoring and reporting requirements if the operator is unable to meet its usual timetable; and the ability to exceed normal waste storage limits if the usual disposal routes are unavailable.

Anyone wishing to take advantage of an RPS should read it very carefully. It may be necessary to notify the EA first, or even to obtain the EA's prior agreement to the changes. In these uncharted times we strongly recommend that everything RPS-related is carefully documented, particularly the reasons why the business needs to make use of it and a record of the EA's agreement or notification.

For further information please contact:
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Supplying to the Chemical Industry

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

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.

BakerCorp UK Ltd
Provision of rental products for transfer, storage and treatment of liquids. Specialising in liquid management solutions for demanding operations, with focus on the tank, pump and filtration product lines. From a single-product storage project to setting up an integrated multi-product solution. Initial chemical compatibility checks, 'job walks', CAD drawings and rigorous equipment maintenance schedules.

Brenntag UK & Ireland
Connects chemical manufacturers and chemical users in a value-adding partnership through tailor-made distribution solutions. Offers specific application technology, extensive technical support and value-added services (i.e. just-in-time delivery, product mixing, formulation, repackaging, inventory management and drum return handling). High safety standards and strives to make served industries sustainable.

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.

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..

Innovative Packaging Solutions Ltd
A top tier COMAH operation offering many handling services: re-packaging of any class liquid chemicals from bulk isotankers, road tankers, IBCs and drums. Decanting, dosing and sampling. Packaging: HT pallets, strapping and shrink wrapping. Labelling of receipts and despatches. Storage services including: inside, outside or temperature controlled.

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.

Education, training & skills

All About STEM
Lots of different projects to bring exciting Science, Technology, Engineering and Mathematics to schools across the region, linking them with business and industry expert volunteers inspiring the next generation of STEM specialists. Building and maintaining relationships with our schools, businesses, industry, colleges and universities so that we can strategically match-make opportunities with need.

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.

EngineeringUK
Not-for-profit organisation promoting the contribution made by engineers to society. We partner business and industry, government and the wider science & engineering community, producing evidence of the state of engineering. Sharing of knowledge and inspiring young people to choose a career in engineering.

Manchester Metropolitan University
Degree apprenticeships, consultation services, collaborative and contract research facilities, and students seeking placement opportunities. The Department of Natural Sciences trains undergraduate and postgraduate students in chemistry, pharmaceutical chemistry, medicinal and biological chemistry, biology and environmental science. New MSc in Advanced Materials starting in September 2020 https://www2.mmu.ac.uk/natural-sciences.

SEERIH
The Science & Engineering Education Research and Innovation Hub positively influences the experience of young people in science and engineering. Expertise in curriculum and teacher development, applied research and creation of innovative projects related to primary science and associated STEM disciplines. Inspiring excellence in teaching and learning in science education.

The Outward Bound Trust
An educational charity that uses the outdoors to help develop young people. Experts in the development of early talent and specialising in providing experiential learning and development programmes for apprentices and graduates. Identification, development and change of people behaviours in line with organisational needs.

TTE Training Ltd
Engineering training and apprenticeships focused on whole person development and bridging the sector's skills gap. The learning environment will be one which is welcoming, safe and inspiring, appropriate to the subjects and responsive to the needs of the learner.

University of Chester
Faculty of Science & Engineering offers new degrees in chemical engineering, electronic & electrical engineering, mechanical engineering, natural sciences alongside established degrees in mathematics and computer science. Close links to local chemical companies with student placements and collaborative research projects.

Wirral Met College
Provision of education and training, supporting innovation and development. The College is pioneering SIP traineeship programmes with local employers, preparing young people for science apprenticeships. New STEM Centre opened in 2016.

Engineering products & services

Chem Resist Group Ltd
Design, manufacture and installation of corrosion resistant process plant. A wide portfolio of thermoplastic process plant, an extensive range of pumps and ancillaries and complete pipework installations, upgrades and repairs. Aggressive and corrosive applications for pumps (1m3/hr to 1000m3/hr, heads to 100m) valves and level controls.

DHD Cooling Limited
Design, installation and maintenance solutions for industrial cooling. Our service extends to cooling system inspection, testing, service, maintenance and new equipment capability. Regulatory and reliability assessments, thermal performance improvements, turnkey projects and carbon footprint reduction.

HTS Engineering Group Ltd
Process safety and safety instrumented systems, delivered with a high level of engineering and expertise with cost efficiency. Four key engineering services that can be tailored individually or as one complete solution: process control & software engineering, engineering & design, site installation and inspection services.

Know your supply chains

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.

Lokring Northern (UK)
Special mechanical fitting system that produces a permanent weld equivalent pipe connection, eliminating the need for hot work, NDT and associated health and safety issues. Lokring fittings are code qualified to ASME B31.1, B31.3 and other industry standards. A proven cost saver compared to traditional welding and fabrication methods.

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.

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.

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

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.

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

6 Engineering
Is a safety engineering consultancy for the major hazard industries specialising in process and functional safety. Our mission is to provide world class safety expertise, helping you to keep people and assets free from unnecessary risk. Our site engineers can be there to support you when you need us. See more at www.6engineering.co.uk

Axiom Engineering Associates Ltd
An award-winning company specialising in the provision of UKAS accredited inspection services, backed up by a mechanical and materials asset integrity section. Acting as the design and inspection authority to many blue-chip companies, working across a broad range of process sectors such as: chemicals, petrochemicals, bulk storage, power and pharmaceuticals.

Clarke Energy
Specialists in the engineering, installation and maintenance of reciprocating engine-based Combined Heat & Power (CHP) plants. Offering ranges from supply of an engine through to turn-key installation of a multi-engine power plant. Our facilities deliver fuel efficiency, dramatically lower energy costs and help reduce carbon emissions. Carbon dioxide can also be recovered.

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.

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 PROjEN
A multi-disciplined engineering, design and project management business working across a range of market sectors for a diverse mix of clients from SMEs to multinational blue-chip companies. We are part of PM Group, a 2,200 strong, employee owned company operating across Europe, Asia and the USA.

WorleyParsons Resources & Energy
A professional services company delivering, concept, prefeasibility and feasibility studies, FEED and Detail Engineering, Procurement and Construction. We also offer a wide range of advisory services. We support the chemicals, hydrocarbons, infrastructure and minerals & metals sectors over their full lifecycle, providing end to end services.

Engineering, IT & process consultants

BPE Design and Support Ltd
Progressive and innovative process engineering consultancy. Extensive process development and scale-up experience and process modelling and simulation is a core expertise. Early stage concept and feasibility studies as well as subsequent design, commissioning and qualification stages. Independent HAZOP chairing, ATEX/DSEAR assessments and SIL/LOPA studies.

EJ Peak Technology Solutions
Process control, industrial automation systems and manufacturing analytics. A unique combination of automation projects, consultancy, and performance improvement services delivered by experienced teams. FEED, process control projects, legacy asset replacements, control room and operational technology, modern manufacturing analytics solutions.

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.

HFL Consulting Ltd
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.

Intersolia
Intersolia provides large organisations and small firms with a web-based platform designed to enable them to achieve COSHH compliance, and most importantly providing those who use chemicals as part of their everyday workplace activities with the critical safety information needed to safeguard their health and in doing so, protecting the business.

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-wining range of training and support services.

Environment, health & safety risk management

AB Risk
Experienced consultancy specialising in: task & human error analysis, staffing assessments, control room design & evaluation and alarm management and rationalisation. Helping companies with process safety aspects such as; emergency management, management of change, human factors in design, shift handovers, risk and safety analysis and HAZOP.

ABS Consulting
A global process safety consultancy and training services provider with regional headquarters in Warrington, UK. Our expertise in data-driven risk and reliability includes a range of capabilities: root cause analysis, incident investigation, organisational culture evaluation, risk management, process hazard analysis, bow-tie and data science techniques.

Our approved process safety leadership training courses and proficiencies also include building risk assessments, HAZOP analysis, compliance auditing, asset integrity management competency assurance and management systems certification services.

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

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

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

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.

Facilities, finance and other business services

ChemQuest Ltd
Sourcing and procurement solutions for research and development. Expertise in biochemical, chemical, nanotechnology, cell cultures, equipment, consumables and sundries. Streamlining and simplification of importing and purchasing processes.

Department for International Trade – Northwest
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.

Falck Fire Services UK
A leading, global and dedicated emergency services provider and fire-fighting specialist to high risk industries. Tailored outsourcing contracts and a high quality integrated fire protection system. Incident fire training courses for emergency response teams, including practical scenarios. Consulting services specialising in fire and explosion hazard management

Grant Thornton UK LLP
One of the world's leading organisations of independent advisory, tax and audit firms. We help dynamic organisations unlock their potential for growth by providing meaningful, forward looking advice. Provision of assurance, tax and advisory services. A dedicated Innovation practice that has an enviable track record of working with successful and dynamic companies to realise their ambitions for growth.

Halton Borough Council
World renowned research facilities such as Sci-Tech Daresbury and The Heath alongside many companies at the cutting edge of science, technology and advanced manufacturing. We oversee capacity in terms of land, buildings, people and business support creating a world class location.

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

Chilworth Technology Ltd
Process safety testing services aimed at helping companies avoid major incidents such as fire, explosion or loss of containment. Combining process safety engineering and management expertise with the use of test data allows us to help clients achieve the most effective and practical approaches to safe and efficient processes.

Kindlow Safety Services
Provision of process safety testing and consultancy. Understanding of needs to control hazards such as dust explosions, thermal decomposition and runaway chemical reactions. Fully equipped laboratory and experienced team help achieve your safe operating conditions. Other services include: HAZOP, aerosol safety, REACH testing and process safety training.

Labtex Ltd
Suppliers of leading laboratory products and process scale-up equipment. The list includes: HUBER liquid temperature control systems, DIEHM glass reactors to 100 l, PREMEX and AMAR high pressure autoclaves, POPE wiped film or short path evaporation and distillation, Nutsche filter dryers and many more.

Smithers Viscient
Environment at testing and regulatory services, carrying out environmental, consumer safety contract research and regulatory services. Plant metabolism, aquatic ecotoxicology, avian toxicology, environmental fate, honeybee and pollinator testing, endochrine disruptor testing, residue, analytical and product chemistry.

XCellR8 Ltd
A world leader in animal-free testing. Our GLP accredited laboratory provides ground-breaking in vitro safety tests for the chemical and personal care industries. We are passionate about delivering testing strategies that are both scientifically advanced and ethically sound. Our award-winning work is recognised at a regulatory level by the OECD and ECHA.

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..

Marks & Clerk LLP
Intellectual property services, advising start-ups, SMEs and multi-nationals with large global IP portfolios. Comprehensive range of IP services covering patents, trademarks, designs and copyright. Obtaining protection worldwide, portfolio management, strategic and commercial advice, licensing, enforcement, due diligence, valuations and litigation.

RW Legal Ltd
Provision of pragmatic legal advice to companies in the chemical sector. Particular expertise in drafting and negotiating commercial contracts. Managing legal risk through early involvement to save time and resources in the long run. Competitive rates and flexible fees without sacrificing quality.

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.

Symmetry Law
Specialist law practice structured to provide "partner" level experts at "junior" level prices, with a focus on the 'high consequence' end of the spectrum. Legal services include: environmental, safety, regulatory, contracts, tax, construction, green incentives, litigation.

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

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.

Stewardship Solutions Ltd
Provision of chemicals regulatory services to organisations across many industry sectors and throughout the world. REACH and CLP compliance is a primary focus, and REACH registrations programmes are a core strength. The company has achieved significant savings in the costs of REACH compliance on behalf of many of its SME clients. Stewardship Solutions is a REACHReady-approved service provider.

The ACTA Group
Assisting companies with complex compliance issues under multiple regulatory schemes, including N American, EU, S American, Asian and Pacific rim regulatory programmes. Expertise in product approvals, product review and REACH compliance. Provision of REACH registration dossier submission, lead and joint registrations.

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.

Millbank
With over 30 years' experience providing recruitment solutions to major clients in the chemical sector, Millbank has an extensive database of experienced candidates and contractors ready to join projects across the region. A true recruitment partner, Millbank offers services ranging from contract and permanent placements through to fully managed services.

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.

Science Recruitment Group
Experts in the recruitment of scientific, regulatory, quality, engineering and technical professional across all areas of the industry. Support in recruiting temporary, contract or permanent staff for your team.

TransitionPlus Ltd
Executive search for science-based organisations, talent development, outplacement and career transition support. Experienced chair, NED, coach and business development consultancy. The "Plus" is to ensure that considerable attention

Off-Payroll: So what happens next?

Since its public sector introduction in 2017, HMRC's off-payroll legislation has been controversial and divisive. The legislation relates to contractors who run 'PSC's' (personal service companies) and seeks to determine whether an individual providing services through a limited company should pay the same tax and NI as an employee doing similar work. Whilst these principles were first outlined in the IR35 legislation of 1999, crucially off-payroll requires the hiring company to make an employment determination on the contract assignment as opposed to the contractor, which has always previously been the case. Also, the 'fee-payer', being the organisation responsible for making payments to the contractor, becomes liable for levying the correct levels of tax and NI.

The regulations have been extremely unpopular for three reasons:

- Hirers don't want to make employment status determinations for fear that a miscalculation might enter them in to the chain of liability.

- PSC's don't want their tax affairs to be dictated by a third party and argue that it is unfair to be treated like employees for tax purposes when they don't receive the same employment benefits (paid holidays, sickness cover, pension contributions etc.)

- Recruitment agencies assert that of all parties in the equation, they have the least visibility and influence over the nature of the working relationship, and yet they are expected to carry the greatest liability, should the determination be challenged.

When the Spring Budget of 2018 declared that the regulations would be introduced to the private sector in April 2020, many chemical companies would have taken a deep breath. The flexibility that contractors offer make them a popular solution where workload and requirements for different types of expertise can vary according to project demands.

In March, with implementation just days away, the Government announced a 12-month delay. It seemed that COVID-19 had done what all manner of lobbying, complaints and protests could not.

Since then, off-payroll has suffered two significant blows. Firstly, a House of Lords review raised serious concerns, including the burden on business that implementation would cause, the credibility of HMRC's CEST (Check Employment Status Test) and questioned whether off-payroll is the right approach in light of Government's self-proclaimed commitment to the gig economy, which thrives upon the flexibility offered by PSC's.

Secondly, in early May an upper-tier tribunal (HMRC vs Professional Game Match Officials Limited) dismantled HMRC's position on mutuality of obligation. Mutuality of obligation, or more specifically the lack of it in a typical hirer/contractor relationship has formed the defence for many PSC's in the IR35 argument, and HMRC must now think carefully about their previously dismissive attitude towards it, and how it is reflected in CEST.

So what will come next in this bitter saga? I asked two leading figures in the debate whether the current delay might become a permanent cancellation. Rebecca Seeley Harris is an independent employment status and IR35 expert, and was previously a Senior Policy Advisor for the Office of Tax Simplification: "I think bearing in mind that the off-payroll reforms have been a goal of HMRC for 20 years, it is unlikely that they will be cancelled. The Government were quick to respond to the damning report by the House of Lord's Finance Bill sub-committee by insisting that they were still going to carry on with the intended implementation in April 2021."

Dave Chaplin is CEO of Contractor Calculator and IR35 Shield, and the driving force behind the 'Stop the Off-Payroll Tax Campaign': "The new 'zero rights employment' model is fundamentally flawed and turning into a political crisis and an embarrassment for the Conservatives. Combined with COVID-19 and Brexit, the off-payroll tax will wreak havoc on the UK economy. The Lords report should not be ignored and MPs should take the time to digest the findings, make changes, and reintroduce it in the next Finance Bill later in the year."

It does seem like Government has a serious dilemma: on the one hand, they will be desperate to replenish a Treasury depleted by a reported £123bn in coronavirus support. On the other however, they will surely be wary of hampering the ability of companies to recover from both the coronavirus crisis, and the accompanying recession. A forthcoming Commons vote on the Finance Bill should give us an indication on what is in store.

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