UK Pavilion at CPhl Worldwide 2019

5 - 7 November 2019 Frankfurt, Germany



INNOVATION IS GREAT

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Foreword



Harjinder Kang

Director and Head of Healthcare, Life Sciences & Bio Economy, Department for International Trade I am delighted to introduce the UK Department for International Trade's presence at CPhI Worldwide 2019.

The UK life sciences sector is one of the strongest and most productive in the world, supporting 248,000 jobs and generating a turnover of around £73.8 billion per year. Added to this is a UK chemicals industry with an outstanding capability in manufacturing complex molecules in high purity, safely and at scale, and underpinning UK's manufacturing exports. In particular, the UK fine and speciality chemicals sector provides many APIs and excipients to the Global Pharmaceutical Industry.

By investing £5 billion across research, innovation and development each year, the UK remains at the cutting edge of this sector. All of this, supported by our world-class universities and higher education sector, helps to make the UK one of the locations to develop, manufacture and commercialise clinical products and pharmaceuticals.

The UK's Chemical and Pharmaceutical companies are behind some terrific innovations, some of whom are featured on our stand 41H2O. These and many other UK businesses are present at CPhI Worldwide this week, and colleagues from the Department for International Trade will be happy to facilitate introductions to promote future business relationships.

More widely, the Department for International Trade has a wide range of support available for business – both UK and non-UK – including: finance through the award-winning UK Export Finance; advice through and our global network of offices; International Trade Advisers and Export Champions; and direct business opportunities on the GREAT.gov.uk website.

I would encourage you to make the most of these resources, and wish you all - whether a business, customer or attendee - a positive CPhI Worldwide 2019 and every success for the future.

Harjinder Kang

Director and Head of Healthcare, Life Sciences & Bio Economy, Department for International Trade



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About the Department for International Trade

The Department for International Trade (DIT) helps businesses export and grow into global markets. We also help overseas companies locate and grow in the UK. Our services are provided in over 100 markets throughout the world.

DIT has trade specialists who can help UK companies commission services from local experts overseas, including:

- Country and sector advice, with extensive local market knowledge and research;
- support during overseas visits, and the identification of possible business partners;
- assistance and support during participation in overseas exhibitions and events.

The UK government's credit agency, UK Export Finance (UKEF), help companies in the UK to:

- Win export contracts by providing attractive financing terms to buyers and fulfil orders by supporting capital loans;
- get paid by insuring against buyer default and protect their investments in overseas markets.

DIT are helping businesses sell overseas by:

- Tailoring support and guidance for businesses on how to start exporting or increase the amount of goods and services they sell overseas;
- helping companies find the best marketplaces globally, and helping companies promote their products and services to international buyers.

About the Department for International Trade

DIT Life Sciences and Chemicals sector teams

We help UK life science and chemicals companies to win business overseas and encourage foreign owned companies to invest in the UK. We provide support from the earliest stages of research and development through to clinical trials, commercial operations and business partnerships.

We're responsible for:

- Supporting companies who want to invest in the UK life sciences and chemicals sectors;
- encouraging international companies to become part of the UK life sciences and chemicals sectors:
- developing further investment opportunities for new and existing investors;
- helping UK-based companies do business overseas.

For life sciences we champion research, innovation and the use of technology to transform health and care services. The UK has one of the strongest and most productive life sciences sectors in the world, generating turnover of over £70 billion. The sector comprises 5,649 companies (including non-manufacturing and service companies) and employs an estimated 241,000 people.

For chemicals, we help UK based chemical companies do business overseas and encourage foreign chemical companies to invest in the UK. Providing support from the earliest stages of research and development through to commercial operations. The UK has one of strongest and most innovative chemical sectors in the world, generating turnover of over £50 billion with 60% of UK chemical production focused on speciality chemicals.

Overview of India's Life Sciences market

The life sciences market is segmented into pharmaceutical, biotechnology and medical technology / devices. India is a rapidly growing market across these segments. By 2020, India pharma is set to be a \$50 billion market, biotech is forecasted to reach \$100 billion.

Pharmaceutical and biotechnology clusters are being developed across India and ease of doing business has improved significantly. This leads to immense opportunities for UK companies in R&D partnerships / collaborations, out-licensing technology to Indian companies seeking to ascend the value chain, and in localised manufacturing partnerships with Indian companies.



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Why Choose the UK?

The UK is the home of innovation

The UK Chemicals industry

The UK is a significant player in the global chemicals market, supplying the world with 95,000 different chemicals and chemical products, many of which can't be found in other countries. With key capabilities in petrochemicals, basic chemicals and polymers, specialities such as agrochemicals fertilisers, pharmaceuticals, and consumer chemicals including personal care and cleaning products, the sector contributes over £50bn value in overseas trade annually.

The UK fine and speciality chemicals sector provides many APIs and excipients to the Global Pharmaceutical Industry, part of a national chemicals industry that:

- Contributes £60 million a day to the UK economy, equivalent to £15 billion per year;
- spends £4.4 billion each year on investment in buildings, vehicles and machinery;
- invests almost £5 billion each year on research and development;
- manufactures products and technologies that are delivering a green economy, including delivering twice the carbon saving for society compared to what we use;
- the jobs of almost 500,000 people depend directly or indirectly on the sector, with pay in our sector around 30% higher than manufacturing generally; and
- continues to be the UK's largest manufacturing exporter.
 Source: Chemicals Industries Association, 2018

The women and men who lead and work in the factories, offices and laboratories throughout the UK are massive contributors to the UK economy. Our formulation industry helps ensure that drugs are manufactured to deliver the maximum benefit to the patient, and our world class universities help develop the synthetic pathways to cost effective manufacturing technologies. Additionally, our regulatory businesses ensure compliance at all stages of development.

The four key chemical clusters in the UK are located in Scotland and the North-East, North-West and Yorkshire & Humberside regions of England.

Key UK Chemical Regions

Scotland

Scotland has a thriving chemical sciences sector comprising of companies that convert raw materials into more than 70,000 different products.



200

Companies



14,000 Employed



£8.7 billion Industry sales



£138 million Invested in R&D



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Further & Higher Education Chemistry Establishments



Home to 58% of the UK's chemical industry with world class infrastructure, and supply chain expertise.



Companies



35,000 Employed



£26 billion Industry sales



Further & Higher Education Chemistry Establishments

Yorkshire and Humber

The most diverse chemical and chemistry using industry in the UK, boasting £8 billion output, £2 billion GVA, and 20,000 high quality jobs.



400 Companies



20,000 Employed



£8 billion Industry sales



£340 million Invested in R&D



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Further & Higher Education Chemistry Establishments

North West

The birthplace of UK chemicals production, accounting for nearly one third of the country's chemical and pharmaceutical manufacturing by gross added value.



Companies



40,000 Employed



£7 billion Industry sales



Further & Higher Education Chemistry Establishments







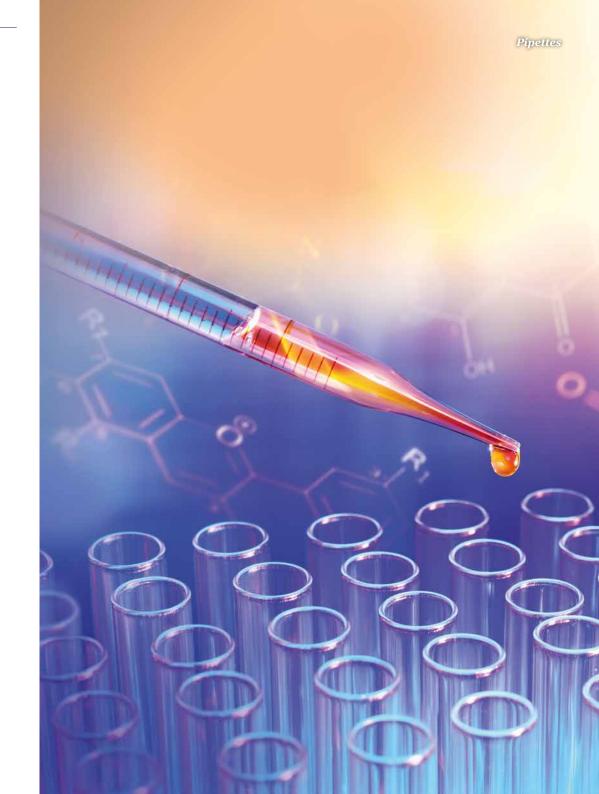
The Chemicals Industry in the North of England

The North of England is the heartland of the UK chemicals industry, home to three of the UK's four key chemicals clusters: Teesside in North East England, The Humber Estuary in Yorkshire & the Humber, and Runcorn in the North West of England, which are supported by local areas with key sector strengths - Leeds City Region (high value fine and speciality chemicals), York, North Yorkshire and East Riding (green chemicals) and Cheshire and Warrington (petroleum, chemicals and pharmaceuticals). This geographic proximity provides partners with many advantages, including a concentration of expertise, easy transportation - rail and road links, seven international airports and 12 major foreign trading ports connecting Atlantic shipping in the west and links to the European continent in the east - and established support infrastructure, all of which act as a driving force for innovation, knowledge transfer, growth and investment.

Home to the largest chemical complex in the UK, which is also the second largest in Europe in terms of manufacturing capacity, the North of England employs 44% of the UK chemical and process sector work force. Of the 18 universities in the region offering undergraduate degrees in chemistry, 5 are classed as world class universities, and over 7600 industry ready graduates per year are specialising in courses related to the chemicals sector, providing a significant opportunity to meet local demand for professional talent. In fact, North of England universities provide a quarter of the UK's science, technology, engineering and mathematics graduates and, in addition, 2016/17 saw 39% of all chemical sciences apprenticeships started in the North of England.

The North of England has a cluster of internationally and nationally important research centres that support the chemicals and process sector, with particular strengths seen in materials science, chemical synthesis, chemical measurement, atmospheric physics and chemistry and materials processing. There are also a large number of university/company collaborations at the forefront of developing technology applications for the chemicals sector including the Internet of Things, Big Data and Analytics, Cloud Computing and Visualisation.

To find out more about investing in the chemicals sector in the North of England, or how the Department for International Trade supports UK companies to succeed globally, please email **NPH@trade.gov.uk** guoting CPHI2019.





About the Chemical Industries Association (CIA)

The Chemical Industries Association (CIA) is the organisation representing and advising chemical and pharmaceutical companies located across the UK. Our core membership is a diverse mix of chemical and pharmaceutical companies operating within the UK.

Our representation includes lobbying legislators, policy-makers and stakeholders on the issues that affect our member companies the most. We do this at UK, European and international level.

We provide advice and guidance to our member companies by:

- · Reporting on policy developments;
- · Providing business support;
- · Technical application of legal requirements;
- · Sharing good practice.

We cover eight policy areas:

- · Climate change.
- · Energy.
- · Health & safety.
- Employment.
- · Trade.
- · Environment.
- · Chemicals management.
- · Economic growth.

Our member companies decide on our policy and approach through our committees, led by our President Tom Crotty (Director of INEOS) and our Board.

Our staff members are based in Westminster, with some working from home in different parts of the UK. Our Chief Executive is Steve Elliott. Since the 2016 Referendum on the issue of UK Membership of the EU we have been working hard to ensure that UK Government, EU Stakeholders and global MNC's understand our industry red lines and how we are set up to deliver what is most required.



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Company Profiles

Arcinova



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Arcinova is a Contract Development and Manufacturing Organisation. Our wide range of services support clients across the drug development pathway to produce life changing medicines quickly and efficiently. We focus on process, research, development, scale-up and small-scale manufacturing, along with bioanalysis, DMPK, regulatory and consulting services.

We supply end-to-end solutions by integrating the disciplines of chemistry, biology and bioinformatics. Our 15,000m2 facility houses a breadth of expertise under one roof, enabling a collaborative approach to the development and manufacture of drug substance and drug products. Every project benefits from the knowledge and experience of multiple industry experts working sideby-side.

Our work involves supporting the development and delivery of new medicines to rapidly bring them to market. By developing a trusted partnership with our customers, we can help them make informed decisions and overcome project challenges.

Our mission is to deliver best-in-class technology services in the fields of contract research, development and small-scale manufacturing to minimize risk and overall cost. We continuously strive to improve efficiency and productivity, supported by substantial investment in state-of-the-art technology. We are dedicated to the provision of high-quality products that will significantly improve the health and wellbeing of society.

Company Profiles

Argenta Dundee Limited



lan Williams

Manager of Customer Relationships, Europe

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Argenta is the world's only combined contract research organisation (CRO) and contract manufacturing organisation (CMO) specialising in animal health.

With accredited operations and facilities in Auckland, New Zealand (global headquarters), Dundee, United Kingdom and three locations in the United States of America (Fort Dodge, Iowa / Lawrence, Kansas / New Brunswick, New Jersey), Argenta is fully equipped to offer a full range of products and services to the global animal health industry.

This includes access to innovative intellectual property, formulation research and development (R&D), analytical method development, clinical trial management, technology transfer and commercial-scale manufacturing. Argenta's 400+ global team develops and exports products and services to over 40 countries.

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Company Profiles

BDD Ltd



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BDD - delivering the impossible for our clients. BDD combines drug delivery expertise and clinical capabilities to accelerate product development pipelines, enable life cycle management and create new value-added products. Rapid parallel clinical testing with BDD SWIFT significantly reduces the time from product concept to clinical success. Prove your product claims with BDD Scintigraphy, best in class scintigraphic clinical trials. A unique patented time release technology, OralogiK provides unrivalled control of drug release at the right place and the right time to achieve a superior and clinically effective drug delivery profile.

BDD SWIFT for rapid clinical development. SWIFT accelerates evaluation and optimisation of product performance using in vivo clinical data to direct formulation design in real time. SWIFT studies enable you to make decisions on formulation changes based on emerging clinical data. This integration of formulation development, GMP manufacturing and clinical testing activities can reduce time from initial prototype development to clinical evaluation in 6 months.

Company Profiles

CatSci Ltd



Sofia Papadouli Marketing Manager

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CatSci Ltd was established in December 2010, spun out of the erstwhile Catalyst Screening Facility at AstraZeneca's Avlon Works. Now with a staff of 35 and growing, the company is managed by a team with decades of experience in pharmaceuticals.

CatSci Ltd is a scientifically unbiased process research and development CRO that provides tailored chemistry services to emerging, mid-sized and large pharma companies across the globe. We aspire to develop economically and environmentally sustainable chemical processes so that our customers can deliver affordable best-inclass small molecule therapeutics to meet the evolving healthcare needs of the world.

Our services include route design, process development, scale-up and optimisation, and non-GMP material supply in order to support CMC demands from IND enabling and candidate selection through clinical development to product launch and lifecycle management. As an independent and commercially minded CRO, we are a reliable and trusted partner for innovation.

Recent recognition includes wins at the CPhI Pharma Awards 2018 (Excellence in Pharma: Contract Services and Outsourcing) and at the Cardiff Business Awards 2019 (International Business of the Year). We are fiercely dedicated to working together with all our stakeholders to build the leading independent pharmaceutical process research and development CRO.

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Company Profiles

Robinson Brothers Limited



Adrian Hanrahan Managing Director

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Robinson Brothers is an awardwinning UK chemical manufacturer offering a portfolio of speciality chemicals and rubber accelerators.

- Organo-sulfur chemistry
- Hydrogenation
- Amination
- Dehydrogenation
- Amidation
- Thiolation
- · Carbon disulfide chemistry
- · Heterocyclic chemistry
- Oxidation
- Chlorosulfonation

We have the capacity to rapidly scale-up processes as necessary; from laboratory grams to kilograms in our Kilo-Laboratory and/or Pilot Plant facilities, followed by multitonne quantities in our Production Plants.

Robinson Brothers is celebrating 150 years of business.

Company Profiles

Upperton Pharma Solutions



Richard JohnsonFounder and CEO

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Upperton Pharma Solutions is an independent CDMO providing specialist formulation services to the Pharmaceutical and Biotechnology industries. The company is a world-leader in Spray Drying technology and offers a complete development package from: early stage feasibility studies, formulation development, to process optimisation, scale up and clinical trial (IMP) manufacturing. We have experience of working with a range of dosage forms and the expertise to overcome complex delivery challenges, for small molecules or complex biotherapeutics.

Comprehensive product testing and ICH stability studies are available through an extensive range of analytical capabilities. Upperton is based in Nottingham UK and was founded in 1999. The company has an extensive, multinational clientbase, ranging from small start-ups to top pharma companies and we pride ourselves on our client-focused, flexible approach and scientific excellence.

DIT Contacts



Alastair Gardner Sector Specialist, Chemicals, Bioeconomy Department for International Trade e: alastair.gardner@trade.gov.uk **t:** +44 (0)7776 673127

Alastair Gardner has recently joined the team as Sector Specialist for the chemicals sector. In his new role, Alastair will be looking to promote and support the UK's world class chemicals industry on the global stage.

Alastair trained as a chemist and worked in various R&D and product development roles with DuPont, before exporting his skills to China, where he commissioned and ran the production and QC functions for a Chinese printing plate manufacturing company.

He has worked in international trade promotion for nearly 20 years, initially with China-Britain Business Council, then with the Department for International Trade, when the Department was known as UK Trade & Investment. Working as an International Trade Adviser in the Yorkshire & Humber region, he led on the chemicals and related sectors in the region and maintained close links with the sector team in London, and colleagues overseas while working with companies to help maintain and grow exports.



Ayça Kiliçli Senior Trade Adviser, Chemicals Department for International Trade e: ayca.kilicli@mobile.trade.gov.uk t: +49 211 9448 213

Ayça has been a Senior Trade Adviser since 2008 and in this time has covered the Chemicals and Life Science sectors. For the past two years her focus has purely been on the Chemicals sector. The main objectives of Ayça's job is to assist British companies in exporting to Germany and to help expand their business.

As well this, her role includes attracting foreign direct investment from Germany into Great Britain and Northern Ireland. Ayça has a degree in Economics and is based in Düsseldorf, Germany.

DIT Contacts



Ivan Lima Head of Chemicals, Bioeconomy Department for International Trade e: ivan.lima@trade.gov.uk **t:** +44 (0)7793 803653

Ivan is the Head of the DIT HQ chemicals team which he joined in 2014 - the team leads the Global DIT network on its support of both trade from and investment into the UK chemicals sector.

Ivan has worked for DIT since 2007, previously on supporting inward investment into the UK for the renewables and environment sector. Ivan is a fluent Spanish speaker.



Mark Oakes **Head of Bioeconomy** Department for International Trade e: mark.oakes@trade.gov.uk t: +44 (0)7876 006 416

Mark has been head of the Bioeconomy team (Agri-Tech and Chemicals sectors) for the past three years. His main role has been in leading the team in its support of UK exports and inward investment across a broad range of markets from the US to China. At a strategic level he has been engaged in Brexit related issues and the Bioeconomy Strategy.

Mark has worked in six government bodies in his varied career including Defence, Cabinet Office, No 10, HMRC, Business, and DIT. He has also been seconded to Airbus and the Houses of Parliament.



DIT Contacts



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Martin has recently joined the Department of International Trade (DIT) Chemicals team, as Deputy Head, focussing on trade. The DIT Chemicals team leads the global DIT network in the sector and supports UK chemical companies to export overseas, as well as assist in attracting further FDI into the UK.

Martin is a career civil servant of 20 years, with most of this time spent in DIT, and its predecessor UK Trade & Investment, working on trade promotion of UK companies and their expertise in a number of different sectors and markets. Martin previously worked on the DIT Sports Economy Sector team, supporting UK companies in exploring the opportunities around the delivery of overseas sporting events and infrastructure.



Susanne Holzmann
Trade Advisor
Department for International Trade
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Susanne Holzmann has recently joined DIT as Trade Adviser for the Chemicals and Food and Drink sector. She supports the Senior Trade Advisor in finding high potential UK chemical companies who are ready to expand their businesses to Germany and supports them in exporting their products and services onto the German market.

She speaks five languages and is based in Düsseldorf, Germany.

DIT Contacts



Victoria Coker
Project Manager, Chemicals, Bioeconomy
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Victoria is the Project Manager responsible for trade and investment related activities for the chemicals sector. Focusing on helping UK companies to export and assisting FDI into the UK. Victoria is keen on forming relationships with UK companies.

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DIT

The UK's Department for International Trade (DIT) has overall responsibility for promoting UK trade across the world and attracting foreign investment to our economy. We are a specialised government body with responsibility for negotiating international trade policy, supporting business, as well as delivering an outwardlooking trade diplomacy strategy.

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Published October 2019 by Department for International Trade.