

# HiBarFilm

HIGH BARRIER MONOMATERIAL FLEXIBLE FILMS FOR FOOD CONTACT APPLICATIONS

## Workshop on improved barrier films with functionalised nanomaterials

HiBarFilm 2<sup>nd</sup> Open Day Workshop

### Agenda

V1.7

Date: 11 February 2025

Location: Homerton College,  
Hills Road, Cambridge  
CB2 8PH – UK  
(hybrid)

Time: 08:45 – 17:30 (GMT)

[www.hibarfilm.co.uk](http://www.hibarfilm.co.uk)



HiBarFilm2 is an Innovate UK project, reference: 10015317. Innovate UK is part of UK Research and Innovation.



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## HiBarFilm Project

The HiBarFilm2 Project is an Innovate UK funded project (Ref: 10015317) that started in March 2022. The project is led by Haydale Composite Solutions Ltd and it has the participation of seven companies - BASF, Bangor University, Cambridge Nanomaterials Technologies, Dunbia, Fre-Energy, Parkside Flexibles, and Wells Plastics - to develop the next generation of high barrier films for food packaging using functionalised nanomaterials ("HiBarFilm2 Consortium").

HiBarFilm2 has an ambitious objective to achieve the same barrier performance using a mono-materials polyolefin film as the currently used multilayer barrier films. The consortium aims to accomplish this using plasma functionalised nanomaterials to increase barrier performance in two main areas of focus; firstly by mixing the nanomaterials directly into the polyolefin prior to filming, adding barrier properties to the film itself – both polyolefin films and compostable plastics will be used to also address the issue with contamination of films with food waste such as fats and blood; and secondly, by dispersing the nanomaterials into a barrier coating which can be applied to the polyolefin substrate. The advantage being the two solutions can be combined to increase the barrier performance further. By manufacturing mono-material flexible films the recyclability of these materials will increase, and value will be added.

## HiBarFilm Open Day 2025 Workshop –Agenda

*Please take notice that all times shown in the agenda are **UK times (GMT)***

**08:45** Arrival, Registration and Refreshments served at the Fellows' Dining Room

**08:55** *Opening of the online session*

**09:00** *Welcome to the HiBarFilm2 Open Day 2025*

**Bojan Boskovic**, Managing Director, Cambridge Nanomaterials Technology Ltd (CNT), UK

*HiBarFilm Project Exploitation & Dissemination Manager & Open Day 2025 Organiser*

**Thomas Greeves, & David Cutler**, Haydale Composites Solutions Ltd.

*HiBarFilm Project Coordination*

Welcome to the HiBarFilmOpen Day & round table introduction of participants

**09:30** **David Cutler**, HiBarFilm Project Coordination, Haydale Composites Solutions Ltd.

**Title: Introduction to the HiBarFilm2 Project**

**10:00** **Gavin Lewis**, Innovation Lead - Smart Sustainable Plastics Packaging, Innovate UK

**Title: Catalysing Change: Sustainable Packaging Innovation**

This presentation will give an overview of the work done and the approach taken by Innovate UK's Smart Sustainable Plastic Packaging Challenge as the programme draws to its conclusion.

10:30 *Coffee break and networking - Fellows' Dining Room*

Project online exhibition: [www.circulareconexpo.net/hbf\\_expo/](http://www.circulareconexpo.net/hbf_expo/)

11:00 **Henry Mackley**, Sustainable Solutions Manager, BASF, UK

**Title: BASF – Net Zero at a Glance**

This presentation provides a comprehensive overview of BASF's journey towards achieving net zero CO<sub>2</sub> emissions by 2050. It highlights the company's commitment to sustainability and outlines key strategies and initiatives aimed at reducing carbon emissions across various scopes. The presentation covers BASF's targets for Scope 1, Scope 2, and Scope 3.1 emissions, emphasizing the importance of innovation in chemistry for climate protection. It details the company's efforts in renewable energy projects, carbon capture and storage, and the development of new technologies for emission reduction. Additionally, the presentation discusses BASF's approach to circular economy and the use of alternative feedstocks to reduce fossil resource demand.

11:30 **Gary Ogden**, Technical Manager, Wells Plastics, UK

**Title: Compound development of single-material high-barrier polymeric film materials.**

Single material high barrier film compounds will have much improved recyclability or biodegradability over multi-layer/material films. However, the challenge ahead is to develop the water and oxygen barrier properties possessed by multi-material layered films in a single material film without increasing unit weight or decreasing mechanical properties.

The approach taken is to incorporate nano-materials in anaerobically digestible biodegradable polymers and conventional polyethylene to improve the required properties

This presentation will discuss the technical aspects which must be considered in order to produce polymeric compounds of very different thermal and rheological properties incorporating a range of nano-materials to a high degree of dispersion to optimise film properties.

12:00 **Graham Ormondroyd**, Bangor University, UK

**Title: An Overview of the Economic Benefits of Recent Biocomposites Research**

12:30 **Julia Hewerdine**, Group Food Safety & Quality Project Manager, DUNBIA, UK

**Title: Dunbia – sustainability in the red meat sector**

Dunbia is committed to sustainability across all areas of the business. This presentation looks at sustainability in the production of red meat products with a particular focus on plastic packaging and the Hi Bar Film II project.

13:00 *Lunch & networking - Fellows' Dining Room*

Project online exhibition: [www.circulareconexpo.net/hbf\\_expo/](http://www.circulareconexpo.net/hbf_expo/)

14:00 **Ana Bankovic Cassidy**, Senior Innovation Manager, Cambridge Nanomaterials Technology, UK

**Title: Development of Circular Economy Eco-system and Innovation Management Strategy**

Competitiveness, strategic autonomy and jobs depend on development of advanced materials circular economy. Steps towards the creation of the necessary environment needed for successful innovation management strategy, related to packaging applications will be discussed.

14:30 **Robert Thompson**, Senior Packaging Manager, The Coop, UK – *Invited Guest speaker (online)*

**Title: Introduction to the packaging strategy at The Coop**

15:00 **Natasha Jeremic**, Product Development, DOMINO, UK - *Invited Guest speaker*

**Title: The challenges of printing industry in the circular economy**

The packaging industry is undergoing a major transformation driven by multiple factors such as sustainability concerns, regulatory pressures and changing consumers behaviours. As an integral part of the packaging, inks, laminates, varnishes, and other protective coatings affect recyclability and reusability of the packaging.

The industry is facing multiple challenges from choosing the right material for the packaging to the choice of the least intrusive ink technology with the best environmental credentials. The new, more easily recyclable, or reusable packaging materials demand different inks and coatings that interact differently with the surfaces they are printed onto. In Domino Printing Technology, we are committed to designing the fluids and printing solution that fully meet recyclability demands, whilst satisfying brand owner requirements for eye-catching, high-quality packaging and labels.

15:30 *Coffee break and networking - Fellows' Dining Room*

Project online exhibition: [www.circulareconexpo.net/hbf\\_expo/](http://www.circulareconexpo.net/hbf_expo/)

16:00 **Panya Wongpanit**, Material scientist, one • five, Germany – *Invited Guest speaker (online)*

**Title: Integrating High-Throughput Data and AI to Develop Sustainable Packaging Solutions for Food Applications**

16:30 **Brenda Resendiz Diaz**, Queen Mary University of London, UK – *Invited Guest speaker*

**Title: EcoBarrier - "Replacing plastic by transforming paper."**

EcoBarrier is a class of food-grade plant-based coating able to transform paper and card into a material that can rival plastics in their performance to protect surfaces from fluids across various applications. A family of patents has been recently filed regarding the technology, which is currently undergoing commercial development with several companies, targeting the food packaging industry as a primary application. Due to their plant-based nature, they are completely biodegradable, allowing for an eco-friendly solution to replace traditional plastic packaging. The coatings have been shown to create effective barrier layers, achieved through advanced coating formulation, for both liquids and gases and operate over extended periods in a range of conditions. Along with the barrier properties, coatings provide advanced functionalities including anti-fouling, self-cleaning and anti-icing. All these properties are achieved through the surface morphology and chemistry of the coatings eliminating the need for additional additives.

EcoBarrier coatings rely on the combination of up to three key components a liquid-repellent wax, a natural roughening agent, and a carrier solvent (first variant) or a liquid-repellent wax and a solvent (second variant). Once these components are mixed, these formulations can be treated as any liquid coating mixture and have been demonstrated to be compatible with the respective coating methodologies (including slot-die coating, screen printing, dip coating, and spray coating, in addition to others). The formulations offer flexibility through the adaptation of the components and their respective ratios.

17:00 Interactive Discussion Session: Innovative materials solutions for sustainable packaging

Moderate by: **Dr Bojan Boskovic**, Cambridge Nanomaterials Technology Ltd (CNT).

17:30 Closing remarks

**Note** It is planned that all presentations would be followed by Q&A discussion. The organisers reserve the right to change the programme or speakers should circumstances require. For any further enquires please do not hesitate to contact directly the **HiBarFilm2 Open Day 2025** organiser Dr Bojan Boskovic from Cambridge Nanomaterials Technology Ltd on [info@hibarfilm.com.uk](mailto:info@hibarfilm.com.uk).

## HiBarFilm Open Day 2025 Workshop – Speakers



Dr Bojan Boskovic (Project Partner & Organiser)  
CEO,  
**Cambridge Nanomaterials Technology**  
14 Orchard Way  
Lower Cambourne  
Cambridge CB23 5BN - UK

**Dr Bojan Boskovic** is the Founder, Managing Director, and Principal Consultant of the company. He has more than 20 years of hands-on experience with carbon nanomaterials and composites from industry and academia in the UK and Europe. Previously, he worked as a R&D Manager at Nanocyl, one of leading carbon nanotube manufacturing companies in Europe. He also worked on carbon nanotube synthesis and applications as a Principal Engineer-Carbon Scientist at Meggitt Aircraft Braking Systems, as a Research Associate at the University of Cambridge, and as a Senior Specialist at Morgan Advanced Materials. During his PhD studies at the University of Surrey he invented low temperature synthesis method for production of carbon nanomaterials that has been used as a foundation patent for the start-up company Surrey Nanosystems. He was a member of the Steering and Review Group for the Mini-IGT in Nanotechnology that advised the UK Government on the first nanotechnology strategy policy document. Dr Boskovic was working as an advisor for the European Commission (EC) on Engineering and Upscaling Clustering and on setting up of the European Pilot Production Network (EPPN) and European Materials Characterisation Cluster (EMCC). He has experience in exploitation and dissemination management on a number of FP7 and H2020 European projects, including UltraWire, NanoLeap, OYSTER, M3DLoC, Genesis and nTRACK. Also in UK Government InnovateUK funded projects, such as UltraMAT and GRAPHOSITE He is also a leader of two private membership based consortiums: Nano-Carbon Enhanced Materials (NCEM) and Advanced Materials for Additive Manufacturing (AMAM).



Gavin Lewis – (*Speaker online*)  
Innovation Lead  
Smart Sustainable Plastics Packaging  
**Innovate UK**  
UK

**Gavin Lewis** is an Innovation Lead in UKRI – Innovate UK's Smart Sustainable Plastic Packaging (SSPP) Team and has a track record in leading innovation projects developing sustainable products, material technologies and business models. Gavin has worked predominantly with polyolefin polymers and relevant performance-enhancing additives across a broad range of applications and polymer conversion technologies and is passionate about being part of a positive change around the way we use plastics.

Gavin looks after several of SSPP's large-scale Demonstrator projects that are aiming to deliver major advances in chemical recycling, the mainstreaming of reusable packaging for 'pre-filled' and 'refill' business models, and food-grade PP recycling. He also manages many of SSPP's Business-led R&D projects, from novel identification, sorting and tracking technologies to new recycling-friendly coatings and barrier materials.



David Cutler (Project Coordinator)  
**Haydale Composite Solutions**  
UK

**David Cutler** is the new Project Manager for HiBarFilm2, joined Haydale in March 2023. Strong background in chemistry, material science and Lean 6 Sigma project management. Previously a project leader in construction materials for Saint-Gobain, British Gypsum and Project Engineer for SmartIR a spin Graphene technology company from Manchester University leading activities in space and defense.



Thomas Greaves (Project Coordinator)  
Site Manager  
**Haydale Composite Solutions**  
Unit 10 - Charnwood Business Park  
North Road  
Loughborough, LE11 1QJ  
UK

**Thomas Greaves** joined Haydale Composite Solutions in October 2017. As Site Manager, Thomas is responsible and accountable for Business Development, Research and Development, Projects, Commercial Manufacture, Quality, Health and Safety and Finance. Previously as Technical Program Manager, Thomas was responsible for product development and sales growth initiatives across the Haydale portfolio, managing technical and commercial teams to deliver products to market in elastomers, composites, inks and coatings using nanotechnology.

Thomas is focused on driving Haydale's commitment to commercialising nano-enhanced products and is responsible for managing Haydale's supply chain with suppliers and customers in all key aspects and product areas



Henry Mackley  
Sustainable Solutions Manager  
**BASF PLC**  
UK

**Henry Mackley** currently works as Sustainable Solutions Manager at BASF for the UK & Ireland Country Cluster. In this role, he is responsible for developing and maintaining key customer relationships to ensure long-term engagement. Additionally, he serves as the Country Champion for the NPS System and as a Salesforce focal point. Henry also oversees market screening, searching for innovative and sustainable solutions in the UK.



Dr Gary Ogden,  
Technical Manager  
**Wells Performance Materials Ltd**  
Emerald Way,  
Stone Business Park, Stone,  
Staffordshire. ST15 0SR, UK

**Gary Ogden** has been Technical Manager at Wells Performance Materials Ltd for over 14 years. He gained his first degree from UMIST followed by a PhD from Loughborough University and is a Fellow of The Institute of Materials, Minerals & Mining (IOM3) and a Chartered Scientist with the UK Science Council. He is Chairman of The Manchester Polymer Group (IOM3) and is currently chairman of the Society of Biodegradable Polymers.

He has over 25 years of experience in the field of the development and manufacture of specialty additive masterbatch and compounds for film, sheet and wire & cable applications. During this time, he has been responsible for the development of novel additive masterbatches to suit customer and market requirements, including an ever increasing demand for multi-component combination types, where potentially detrimental interactions are required to be extensively studied to produce optimum quality product.



He is greatly involved with the political and regulatory aspects of the polymer industry, being a technical lead at ASTM with regards to polymers that degrade on the environment and having been involved with the development of various standards from W&C for rolling stock to natural biodegradable environments, and providing expert evidence and advice to both UK and EU legislative bodies.

Prof. Graham Ormondroyd  
**Bangor University**  
Bangor, Gwynedd,  
LL57 2DG, UK

**Prof. Graham Ormondroyd** is a Professor in BioBased Materials at Bangor University. His research interests are based around renewable materials, and their use to combat climate change. His speciality is based around timber and its use in construction.

As the Director of the BioComposites Centre, he led a team of cross disciplinary scientists to help to deliver the drive towards Net Zero. These include materials scientists, chemists, mycologists and systems modellers (including specialists in LCA and social LCA).

He is a PRINCE2 practitioner and member of the Institute of Line Managers and am interested in the development of research management systems. He has published over 100 articles in peer-reviewed journals and conferences, contributed to 7 books and recently edited 'Designing with Natural Materials'

He is currently the Vice President of the Institute of Materials Minerals and Mining.



Julia Hewerdine CSci FIFST GM.Inst.M  
Group Food Safety & Quality Project Manager  
**Dawn Meats & Dunbia**  
UK

**Julia Hewerdine** leads food safety and quality related projects across the Dawn Meats Group in UK and Ireland. She has worked in the animal protein industry for over 20 years in roles as diverse as research, account management, technical management and development. She holds a Masters in Meat Science, is a Chartered Scientist and a Fellow of the IFST.



Dr Ana Bankovic Cassidy (Partner & Organiser)  
Senior Innovation Manager  
**Cambridge Nanomaterials Technology Ltd.**  
14 Orchard Way, Cambourne  
Cambridge CB23 5BN

**Dr Ana Bankovic Cassidy** is a Senior Innovation Manager at CNT Ltd. At the CNT Ltd she has been working for more than four years on customised patent landscaping, technology monitoring and market research reports, preparation of the Impact section of the Horizon Europe and Innovate UK proposals and exploitation, dissemination and innovation management tasks in the projects She has wide project management, innovation management, business architecture development and computation modelling experience. Ana graduated from the Faculty of Physics, University of Belgrade Serbia, winning the award for the best BSc (Honors) Thesis of the year 2007. The main aim of her PhD study and further research was to identify and explain specific kinetic phenomena that occur in positron transport in electric and magnetic field due to non-conservative nature of positronium formation. Ana applied the basic phenomenology of charged particle swarms to study the interaction of positrons with biologically relevant



molecules, in order to develop and establish a benchmark for Monte Carlo codes used in positron emission tomography (PET) modelling. Her research activities were undertaken in Centre for Non-Equilibrium Processes at the Institute of Physics in Belgrade, Serbia, a large interdisciplinary group with interests ranging from theoretical, numerical and experimental studies of low temperature plasmas, to studies of positron swarms and their applications, modelling particle detectors and conducting experiments at applying plasma physics methodologies to medicine and biological applications. As a Visiting Researcher at the Open University, Milton Keynes in 2014/15, she worked on quantum chemistry treatment of positron interactions with atoms and molecules using the UKRmol quantum chemistry software.

## Invited Guest Speakers



Robert Thompson (*Invited Guest Speaker - online*)  
Senior Packaging Manager  
**The Co-op**  
UK

**Robert Thompson** is Senior Packaging Manager at the Co-op. He has been working 24 years in packaging development, CEnv FIMMM.

Dr Natasha Jeremic (*Invited Guest Speaker*)  
Product Development,  
**DOMINO**  
UK

**Natasha Jeremic** is an Ink Development Manager in Domino Printing with 20 years long experience in the inkjet industry. She is professionally and personally very interested in sustainable packaging and understanding how in the ink industry we can help recyclability.

Dr Panya Wongpanit (*Invited Guest Speaker - online*)  
Material scientist  
**one.five**  
Germany

**Dr. Panya Wongpanit** is a materials scientist specializing in flexible packaging with a Ph.D. in Polymer Science. Currently working at One.five GmbH in Germany, Dr. Wongpanit focuses on developing innovative and sustainable solutions for the packaging industry. With a strong interest in BOPE, monomaterials, and paper-based packaging, Dr. Wongpanit actively engages in discussions on emerging trends and advancements in packaging technologies.



Brenda Resendiz Diaz (*Invited Guest Speaker*)  
**Queen Mary University of London**  
UK

**Brenda** is a 3rd year PhD student at Queen Mary University of London in the School of Engineering and Materials Science. She is an integral member of the CRC research group, renowned for its expertise in advancing superhydrophobic materials. Brenda's current research focuses on the development of plant-based water-repellent coatings for innovative food packaging solutions, alongside pioneering a novel approach utilising sulphur polymers for textile applications.

## HiBarFilm Open Day 2025 Workshop – Project Partners

Haydale Composites Solutions Ltd.



Web: <https://haydale.com/>

**Haydale** is a global technology solutions company that has developed a patented plasma functionalisation process to allow graphene and other nanomaterials to be used in a wide range of applications from packaging, heating products and biomedical sensors to tyres, shoes, and protective coatings. The HDPlas<sup>®</sup> method is a dry, clean, and environmentally friendlier process that unlocks the properties of advanced materials to give products improved mechanical strength and increased electrical and thermal conductivity. Haydale's expertise lies in the unique plasma functionalisation of nanomaterials using patented technology. Haydale's functionalisation hub is based in a purpose-built facility in Ammanford, South Wales, designed to handle and process volume nanomaterials for a wide range of applications. Due to their unique position, Haydale has access to a large library of nanomaterials (250+), which have been analysed using their fingerprinting process to assess the quality and potential property enhancements. These nanomaterials are then functionalised using plasma functionalisation to impart covalently bonded chemical groups and species onto the nanomaterial surface.

Please visit our virtual expo booth at: [CircularEconExpo](#)



BASF



Web: [www.basf.com](http://www.basf.com)

We create chemistry for a sustainable future - We combine economic success with environmental protection and social responsibility. Around 111,000 employees in the **BASF Group** contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €78.6 billion in 2021.

Please visit our virtual expo booth at: [CircularEconExpo](#)



## Bangor University

Web: [www.bc.bangor.ac.uk/](http://www.bc.bangor.ac.uk/)



The **BioComposites Centre** aims to facilitate and undertake research for innovation using bio-materials in industry. The Centre was established with the specific remit to collaborate with and provide research services for businesses. Accordingly, a significant area of their research responds to end-user demand and focuses on exploiting the functionality of new polymers. The Centre's work is targeted at developing bio-based materials in a wide variety of applications to reduce demand for fossil fuel-based polymers. Enhancement of barrier or permeation properties of polymers is essential across a wide range of industries. Therefore, one of the primary aims of the Centre's research is improving the barrier performance of single-layer substrates whilst simultaneously retaining and increasing recyclability. Most of the research is at Technology Readiness Level (TRL) 3, sometimes reaching 4-5 as potential component polymers are developed and undergo an LCA. All research projects are collaborative and linked to industry. The centre has competitively won over £2.7m of research projects linked to packaging and has been designated as a Key Enabling Technology (KET) centre, which carries out applied research (TRLs 3-8) in technologies deemed fundamental to the UK's future technological growth. The Centre has also won awards for projects in the food packaging sector such as the Green Life award for Bread4PLA, where PLA was polymerised from waste bread. The Centre works closely through the Bio-based and Biodegradable Industries Association (BBIA), the trade association for the biopolymer sector. Through this link the centre has responded to UK Government calls for evidence, for example around the use of LCA. Recent work funded via Innovate UK includes HDT BioPol (the development of Biobased coffee cup lids for the replacement of HIPS with Wells Plastics) and SafeBioPack, (an EPSRC (Engineering and Physical Sciences Research Council) project working with Tesco and Parkside Flexibles to develop of novel packaging products with Malaysia). The Centre has experience of pilot scale production and prototyping of new packaging formats with improved functional performance such as antimicrobial surfaces. It has also developed in-house test methods that help to screen the bio-degradation profiles of new materials in their early stages of development. The Centre aims to raise awareness of the recycling properties of different materials through the development of impact case studies that show the potential for increasing recycling rates of plastics whilst retaining the necessary properties for use in businesses.

Please visit our virtual expo booth at: [CircularEconExpo](#)



## Cambridge Nanomaterials Technologies Ltd.

Web: [www.cnt-ltd.co.uk](http://www.cnt-ltd.co.uk)



**Cambridge Nanomaterials Technology Ltd (CNT Ltd)** is an innovation management and nanotechnology consulting company based in Cambridge, UK. The CNT Ltd helps companies, academic and government institutions to develop world-class innovative solutions for nanomaterials related R&D and IPR strategy, partnership, products, technologies, funding and markets. CNT Ltd is specialised in carbon nanomaterials R&D consulting and collaborative R&D project management, including exploitation and dissemination management, consortium and supply chain building. CNT has done a number of patent landscaping and

market research analysis studies regarding production and use of various nanomaterials helping to link inventors and technology developers with end-users and investors. The CNT Ltd is a leader of two private consortiums: **Nano-Carbon Enhanced Materials (NCEM)** and the **Advanced Materials for Additive Manufacturing (AMAM)** with members coming from leading multinational companies and research institutions. Through both private consortiums NCEM and AMAM, as well as private and public contracts, CNT Ltd has established strong relations to the aerospace, automotive, construction, electronics, materials development, biomedical and chemical industry. In March 2019 CNT Ltd opened a sister company CNT Innovation based in Brussels, Belgium, with the aim to support and complement their work, especially in European related activities.

Please visit our virtual expo booth at: [CircularEconExpo](https://CircularEconExpo)



## Dunbia



Web: <https://dunbia.com/>

**Dunbia** is one of Europe's leading food companies. Founded in 1976, Dunbia is a family business and the desire to create better food naturally is the driving force behind everything they do. A combination of organic growth, strategic acquisition & entrepreneurial vision has seen Dunbia grow into a multi-site, multi-species operation, processing cattle & sheep for national and international markets. Headquartered in Northern Ireland with 12 sites throughout the UK, a division of Dawn Meats, they are the supplier of choice to a range of leading supermarket, food service and restaurant businesses, exporting to over 50 countries, their customers value their unquestionable commitment to sustainability and quality. Employing over 5,000 people across a wide range of high-tech and multi-skilled disciplines, Dunbia is at the cutting edge of new product development, winning numerous industry awards including Meat, Poultry and Seafood Manufacturing Company of the Year 2022, Northern Ireland Food & Drink Awards 2022 Winner, World Steak Challenge Winner and numerous Great Taste Awards.

Please visit our virtual expo booth at: [CircularEconExpo](https://CircularEconExpo)



## Fre-Energy

Web: [www.fre-energy.co.uk/](http://www.fre-energy.co.uk/)



**Fre-energy** specialises in anaerobic digestion and associated technologies. An established, innovative designer of on-farm anaerobic digestion systems, based in north-east Wales, we pride ourselves in providing bespoke technological solutions for the management of on-farm wastes, tailoring our installations to meet the specific needs of each agricultural setting to complement our clients core farm business. Our aim is to create an on-farm circular economy where farm wastes are used to fuel the digester thereby producing useable energy for on-farm/local use and a high-quality nutrient-rich digestate used as a soil conditioner to optimise crop growth. We passionately believe that an on-farm AD facility is about environmentally positive and sustainable agriculture rather than a farm becoming a rural power station.

Please visit our virtual expo booth at: [CircularEconExpo](#)



## Parkside Flexibles

Web: [www.parksideflex.com](http://www.parksideflex.com)



**Parkside** is an innovative packaging solutions provider specialising in compostable, recyclable, paper-based, and innovative plastic flexible packaging solutions for consumer-packaged goods including food, personal & household care, and tobacco sectors. Established for over 40 years, the company is a global supplier with manufacturing sites in both the UK & Asia and is headquartered in Normanton, West Yorkshire.

Please visit our virtual expo booth at: [CircularEconExpo](#)



## Wells Performance Materials Ltd

Web: <https://wellspm.com/>



Wells Plastics is the largest independent specialist additive masterbatch manufacturer within the UK.

With an experienced team of technical, sales and production staff, extensive manufacturing facilities based in the heart of the United Kingdom, Wells Plastics offers a wide range of products and services to the plastics processing industry both within the UK and internationally.

By celebrating 40 years of research, development and manufacture of additive masterbatches and compounds in Stone, Staffordshire, Wells Plastics has created an enviable degree of expertise in a wide

range of chemistries and processes, providing additive masterbatches, compounds, bespoke formulations and contract work for some of the most demanding technical applications and global customers.

In May 2018 Wells Plastics successfully completed an ambitious expansion of its operations in Stone, Staffs, including the installation of two new state of the art twin screw compounding lines creating extra capacity, functionality and new job opportunities. This significant expansion is in response to the continued growth and demand for Wells Plastics products and services both locally and internationally.

Please visit our virtual expo booth at: [CircularEconExpo](#)



## HiBarFilm Open Day 2025 Workshop – External Participating Organisations

### UKRI's Smart Sustainable Plastic Packaging (SSPP)



Web: [www.ukcpn.co.uk/focus-area/smart-sustainable-plastic-packaging-sspp](http://www.ukcpn.co.uk/focus-area/smart-sustainable-plastic-packaging-sspp)



UKRI's Smart Sustainable Plastic Packaging (SSPP) Challenge is the largest and most ambitious UK government investment to date in sustainable plastics packaging research and innovation. Since its inception in 2020, SSPP has deployed almost £60m of public funding – and leveraged over £149m of private money – to support bold, ambitious innovation to deliver a step change in the UK's ability to reduce, reuse and recycle plastic packaging waste.

### University of Cambridge

*Department of Materials Science & Metallurgy*

Web: [www.msm.cam.ac.uk](http://www.msm.cam.ac.uk)



The **Department of Materials Science & Metallurgy** has a large and vigorous research school, with about 100 research fellows, postdoctoral scientists and visiting scientists, and more than 140 research students studying for the postgraduate degrees. The growth in our research activities over the past twenty years has been almost exponential, with a current research income of more than £10 million per year. Although our research has always been closely linked with industrial needs and supported in large part by industry as well as government, recent trends have seen the development of larger-scale working relationships with major research sponsors. Similarly, our wide range of international contacts which bring visiting researchers



to Cambridge has been extended through formal collaboration agreements with institutions from around the world.

## Novartis Pharma (CH)

Web: [www.novartis.com](http://www.novartis.com)



**Novartis** is reimagining medicine to improve and extend people's lives. As a leading global medicines company, we use innovative science and digital technologies to create transformative treatments in areas of great medical need. In our quest to find new medicines, we consistently rank among the world's top companies investing in research and development. Novartis products reach nearly 1 billion people globally and we are finding innovative ways to expand access to our latest treatments. About 125 000 people of more than 140 nationalities work at Novartis around the world.

## Queen Mary University of London

*School of Engineering and Materials Science*



Web: [www.sems.qmul.ac.uk](http://www.sems.qmul.ac.uk)

**Queen Mary University of London** is a leading research-intensive university with a difference. Its history dates back to 1785 and beyond, with each of its four founding institutions established to provide "hope and opportunity" to under-represented members of society.

The School of Engineering and Materials Science was formed from **Queen Mary's Department of Engineering and Department of Materials** and provides outstanding degree programmes coupled with internationally leading research which is reflected in all our undergraduate programmes. Our taught postgraduate programmes are similarly first class and provide students with a fantastic opportunity to engage with cutting-edge research in: Bioengineering, Intelligent Transport, Sustainable Engineering and Engineering and Materials Education. The skills developed by our students and our extensive industrial connections provide graduates with excellent employability in stimulating and well-paid careers.

## Ourobio



Web: [www.ourobio.com](http://www.ourobio.com)

**Ourobio** is a young synthetic biology, biomaterials, and circular economy company. We develop engineered microorganisms to turn industrial byproducts into biomaterials.

Ourobio began in early 2019 as Transfoam, an iGEM research project at the University of Virginia, and was spun out in March 2020.

## Ecogenesis Biopolymers



Web: [ecogenesis.com](http://ecogenesis.com)

**Ecogenesis Biopolymers** is a biomaterial engineering and sustainable product development startup. We work with trusted biomaterial suppliers, plastic converters, and brands to help accelerate the adoption of high-performance, bio-based, and biodegradable products and packaging.



## Innovia Films



Web: [www.innoviafilms.com](http://www.innoviafilms.com)

**Innovia Films** is a leading material science pioneer that manufactures base film materials for labels, packaging and graphic films that will create sustainable and recyclable solutions for a better future.

Innovia is a major producer of highly differentiated specialty Biaxially Oriented Polypropylene (BOPP), Bubble and Stenter technologies and Cast Polypropylene (CPP) films. The unique functional properties of our film, combined with our world leading coating and surface chemistry expertise, results in products which are very well recognised and valued by our customers.

We hold a leading global position in the markets we serve – high performance coated films, tobacco overwrap, labels and security films. Technical expertise and market-driven developments are key to our position at the leading edge of advances in these markets.

## Haleon



Web: [www.haleon.com](http://www.haleon.com)

A consumer health company that puts people first, we exist to deliver better everyday health with humanity.

We are a world-leading consumer health company. Our leading brands are built on science, innovation and human understanding and are trusted by millions of consumers globally.

## Avanzare Innovación Tecnológica



Web: [www.avanzarematerials.com](http://www.avanzarematerials.com)

At Avanzare we aim to bring disruptive change to industry. The next generation of mobile devices, vehicles, household appliances, industrial equipment, medical devices, footwear, packaging, as well as sustainable and smart construction, will require new advanced, more versatile and high-performance materials.

We are specialized in the development, production and commercialisation of advanced functional materials for both emerging applications and alternatives to traditional materials.

Our materials are high performance solutions based on nanotechnology, 2D materials (graphene and other two-dimensional materials) and new emerging materials. We also produce nanointermediates (dispersions of our advanced materials) that allow easy integration by the end customer and facilitate internationalisation.

Please visit our virtual expo booth at: [GraphenEXPO](#) and



## TMBK Partners Sp. z o.o.



Web: [www.tmbk.pl](http://www.tmbk.pl)

TMBK Partners is an SME that specialises in the manufacturing of innovative products and provision of services in the area of materials engineering. TMBK Partners mainly specialises in the production of thermoplastic CNT-doped veils and strips. The services offered by TMBK Partners primarily involve issues relating to integration of nano-enabled products with customers' materials and technologies in order to give the final products the desired features and characteristics.

Please visit our virtual expo booth at: [UltraWirEXPO](#)



## one • five

Web: [www.one-five.com](http://www.one-five.com)



**one.five** is a biomaterials research, development and scale-up company, providing circular, cleaner and tailor-made packaging solutions in record time and with measurable impact to the consumer packaged goods industry.

## DOMINO

Web: [www.domino-printing.com](http://www.domino-printing.com)



At Domino Printing Sciences we do more.

You might see us supporting manufacturers in their move to sustainable packaging and leading the charge on coding automation.

That's because we are out to do more than just provide variable data printing technology.

Our goal is to be the leading global variable data printing brand through applying our variable data printing expertise and reliable solutions to help the world's manufacturers be sustainable and cut waste, while attracting, informing, and protecting their consumers.

We've been a part of the global variable data printing story for a long time, and our solutions help ensure the success of the world's leading brands.

## ExxonMobil



Web: <https://corporate.exxonmobil.com/>

The need for energy is universal. That's why **ExxonMobil** scientists and engineers are pioneering new research and pursuing new technologies to reduce emissions while creating more efficient fuels.

We're committed to responsibly meeting the world's energy needs.

We aim to achieve #netzero emissions from our operated assets by 2050 (for Scope 1 and 2 greenhouse gas emissions) and are taking a comprehensive approach to create emission-reduction roadmaps for major operated assets.

## BoxWay Packaging Group Ltd.



Web: <https://boxwaygroup.com/>

**BoxWay Packaging Group Limited** is an independent corrugated packaging business, made up of two well established manufacturing plants in Exeter and Peterlee. Our focus is to deliver creative solutions to yield new innovations in corrugated packaging.

## Thermo Fisher Scientific



Web: [www.thermofisher.com/](http://www.thermofisher.com/)

Thermo Fisher Scientific Inc. is the world leader in serving science, with annual revenue of approximately \$40 billion. Our Mission is to enable our customers to make the world healthier, cleaner and safer. Whether our customers are accelerating life sciences research, solving complex analytical challenges, increasing productivity in their laboratories, improving patient health through diagnostics or the development and manufacture of life-changing therapies, we are here to support them. Our global team delivers an unrivaled combination of innovative technologies, purchasing convenience and pharmaceutical services through our industry-leading brands, including Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific, Unity Lab Services, Patheon and PPD.

## The Co-op



Web: [www.co-operative.coop](http://www.co-operative.coop)

We're one of the world's largest consumer co-operatives, owned by millions of members. We're the UK's fifth biggest food retailer with more than 2,500 local, convenience and medium-sized stores.

We're also:

- the UK's number 1 funeral services provider
- a major general insurer
- a growing legal services business

As well as having clear financial and operational objectives and employing nearly 70,000 people, we're a recognised leader for our social goals and community-led programmes. We exist to meet members' needs

and stand up for the things they believe in. So, the more successful we are, the more we can give back to you and your local community.

## Bimbo Bakeries USA



Web: [www.bimbobakeriesusa.com](http://www.bimbobakeriesusa.com)

**Bimbo Bakeries USA** is part of Grupo Bimbo, the world's largest baking company with operations in 32 countries. Bimbo Bakeries USA employs 20,000 associates across the U.S. in bakeries, sales centers, corporate offices and on sales routes to ensure our consumers have the freshest products to feed their families at every meal. But our associates come to work for much more – the chance to feed their own lives through exciting work that offers the opportunity to make a real difference in their professional and personal lives every day.

## Pulpex



Website: [www.pulpex.com](http://www.pulpex.com)

**Pulpex** is a proven, patented and scalable packaging technology company ready to be deployed globally and promising to herald in an exciting and greener future.

## RESINEX



Web: [www.resinex.com](http://www.resinex.com)

We are Resinex, a proud member of the Ravago Group. Since our inception in 1988, we have been at the forefront of distributing plastics, beginning with distributing polypropylene for Shell in Belgium. Our journey has been marked by continuous growth, expanding our customer base, and broadening our supplier network. Today, Resinex stands as the only polymer supplier covering all European countries, Turkey, and the FSU, offering a unique blend of localised expertise and pan-European reach.

## The Bridge Advanced Engineering Materials R&D Centre - University of Lincoln

Web: [www.thebridge-lincoln.org](http://www.thebridge-lincoln.org)



**The Bridge** is a brand new centre for cutting-edge materials and engineering research & development based in Lincoln, UK.

We act as a Bridge between businesses, the **University of Lincoln** and other institutes to enhance the capability of Lincolnshire's community to compete on the world stage.

We are a self-sustaining, not-for-profit facility attracting all sizes of businesses into long term partnerships which strengthen the business community, R&D and research base of Lincolnshire to create a sustainable, high value industrial base.

We link engineering and materials science businesses across the East Midlands and beyond both with each other and with experts at the University of Lincoln to undertake world-leading, collaborative research and development.



## KluraLabs



Web: [www.klura.com](http://www.klura.com)

**Klura** finds technological solutions for the challenges posing risks to life and the environment. Born in response to the Coronavirus pandemic, we are developing innovative technologies to work towards a safer, healthier and more sustainable world for all life.

## Central South University



Web: <https://en.csu.edu.cn/>

**CSU** was formed in April 2000 through the amalgamation of three institutions - Hunan Medical University (HMU), Changsha Railway University (CRU), and Central South University of Technology (CSUT). The predecessor of CSUT was the Central South Institute of Mining and Metallurgy founded in 1952 and that of CRU was the Central South College of Civil Engineering and Architecture formed in 1953. Their main disciplines originated from Mining & Metallurgy and Civil Engineering - two disciplines of Hunan Industrial College established in 1903. The predecessor of HMU was Xiangya Medical University founded in 1914, which was one of China's earliest colleges offering Western medicine courses.