

Plastics Research & Innovation Fund

RWM Exhibition,
NEC, Birmingham
11th & 12th September 2019





Introduction

In March 2018 the UK government committed £20m in research and innovation funding towards reducing problematic plastic waste entering the environment: The Plastics Research & Innovation Fund (PRIF).

A number of funding streams were deployed: academic, competitive R&D, Flagship Projects with WRAP (the Waste Resources and Action Programme) and an Investment accelerator programme co-funded by Sky Ocean Ventures. In addition, a network was formed, supported by the PRIF, to bring the diverse users of plastic products together and realise the best means for reducing plastic waste.

The UK Circular Plastics Network (UKCPN) is an activity supported by UK Research and Innovation, and forms part of the Plastics Research Innovation Fund (PRIF), which is engaging Britain's best scientists and innovators to help move the country towards more circular economic and sustainable approaches to plastics.

UKCPN facilitates the following:

- Reducing the volume of plastic waste arising from within the UK;
- Raising awareness and sharing best practice to improve the rate of UK plastic recycling;
- Sharing best practice to reduce levels of confusion amongst citizens and highlighting user-centred design;
- Showcasing innovation that is focused on reducing the amount of plastic ending up in the environment;
- Unlocking the most critical, short term barriers to plastics circularity.

About KTN

KTN is the UK's innovation network, established to help deliver economic growth for the UK.

We help businesses get the best out of creativity, ideas and the latest discoveries, to strengthen the UK economy and improve people's lives. As a network partner of Innovate UK, KTN links new ideas and opportunities with expertise, markets and finance through our network of businesses, universities, funders and investors.

From materials to energy and from manufacturing to healthcare, KTN combines in-depth knowledge in all sectors with the ability to cross boundaries. Connecting with KTN can lead you to potential partners, horizon-expanding events, bespoke support and innovation insights relevant to your needs.



Exhibitor Profiles



Blue Castle Group

As a leading consultancy in sustainable business solutions, our team of dedicated specialists all believe in the core principle of finding a better way for each of our customers. Blue Castle has spent years of R&D creating our unique PVC Banner Recycling Scheme. In partnership with printable material manufacturer and distributor, Soyang Europe, we have developed a system that enables PVC banner material to be completely recycled, keeping vinyl banners out of landfill at the end of their life and reusing the material responsibly. Our scheme offers a unique solution to recycling vinyl banners, is easy to administrate and effective in its results. It's also the ideal way for print companies to demonstrate responsible print waste management to clients, with a traceable and low carbon footprint solution to disposing of printed vinyl.

@bluecastlenews | 01400 283888
bluecastle.co.uk



Blue Green Vision Ltd

Blue Green Vision is a new spin off company providing devices for high speed, non-contact, non-destructive identification of different types of plastics. This is a vital step in recycling and recovering the maximum possible value from waste plastics. We will offer solutions for difficult to identify black plastics and grades that are difficult to distinguish between using existing equipment.

02032 862639
bluegreenvision.com



Colour Tone Masterbatch Ltd

Colour Tone are a South Wales based colour and additive masterbatch manufacturer who are at the cutting edge of innovation within the sector.

Since 2010 we have pioneered the development of sustainable plastic colouring solutions (both black and colours) which are designed for end of life polymer identification by near infra-red sorting and now hold patents over a number of these novel, NIR detectable, colour packs. We are proud to be supplying this product into a range of global brand owners and packaging manufacturers, enabling sustainable product design for end of life recycling; dispelling the myth that black plastics are not recyclable and preventing potentially thousands of tonnes of packaging from going to landfill each year.

The innovation does not finish here however; Colour Tone continue to expand their range of detectable colour solutions, and their latest innovation in energy saving heat reflective additives. In parallel continuing to advise on product design within the circular economy, to improve the sustainability credentials of products using their colourant, through a variety of new and exciting technological advances currently under development.

[@ColourToneWorld](#) | 02920 888910
colourtone-masterbatch.co.uk



CRALEY Group
Innovators in
Smart Infrastructure

CRALEY Group

A radically new, highly cost-effective, rapid install and 'green' approach to pipe re-lining, using a multi-layer pre-cursor, laminated within the pipe using non-contact magnetic energy. Liner incorporates micro-ducts for simultaneous delivery of fibre optics within urban areas. The product made entirely from thermo-plastic polymer re-cyclate, solving three key issues in one go, a) a trenchless technique to re-habilitate the large amounts of failing pipe infrastructure, b) delivery of fibre throughout urban areas (for Next Generation Fibre Broadband) with rapid roll-out and minimal disruption and c) a high volume manufacturing requirement for polymer re-cylcate.

(+34) 931 315633
craley.com



Impact Solutions

Impact Solutions is an independent materials testing and innovative problem solving provider. Our dynamic team are flexible and adaptable in using their diverse range of knowledge and skills to offer bespoke solutions. Whether you need product or material testing, to develop an idea into something tangible or want to know more about recycled material, Impact Solutions can offer you a 360° service. We will work with you and believe in developing commercially focused and sustainable results for our customers.

Visit us at RWM 2019 to learn more about our innovative approach to plastic recycling through our InnovateUK funded POLYMET project which offers a solution for removing colour from plastic, and our BioCycle project which is improving the state of art for biodegradable plastic testing.

@impactsol | 01324 489182
impact-solutions.co.uk

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In-Cycle Ltd

In-Cycle will be showcasing 'The Closed Loop Innovation in Fused Filament Fabrication (CLIFFF)' project. The aim of CLIFFF is to enable industry and academic 3D-print farms and service bureaus to reprocess discarded 3D-prints back into high value new 3D-printing filaments creating a fully circular business model for the Additive manufacturing sector.

01509 550161
in-cycle.com



Interface Polymers Ltd

Our innovation is a new generation of additive technology that compatibilises and improve processing of mixed plastic waste so that it can be recycled. Until now this plastic waste has had no commercial value and ends up in landfill or being incinerated.

01509 635234
interfacepolymers.com



ocean ventures

Sky Tv

We are a media powered impact investment company. Investing in early stage companies to accelerate alternatives to the Single Use Plastic crisis affecting our oceans.

0033 100 0333

skyoceanventures.com

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Topolytics

Topolytics is a 'A Smart Grid for Waste'. We aggregate data on the world's industrial and commercial waste and use data science, machine learning and mapping to drive better commercial and environmental outcomes for this material. The waste management industry is not data driven and its business model is not fit for the demands of the 'circular economy'. That is why Topolytics is creating a global, trusted data set on the generation, movement and fate of this material that will drive new models of waste management, recycling and recovery. Our data platform, WasteMap, ingests and qualifies data then generates powerful insights into the type and quantity of this material, where it is generated and moved for processing and disposal.

WasteMap is used by waste producers to fulfil duty of care and drive waste and cost reductions. It is used by recyclers to identify feedstock and inform investments in capacity. Topolytics is an Ellen MacArthur Foundation CE100 innovator and in May 2019, won the Google Cloud and SAP Circular Economy 2030 competition. This set out to find a commercially scaleable technology that could drive the circular economy globally.

@geogroves
topolytics.com

Academic projects funded under the Plastics Research & Innovation Fund

Exeter Multidisciplinary Plastics Research hub: ExeMPLaR

University of Exeter - led by Professor Peter Hopkinson

RE3 - Rethinking Resources and Recycling

The University of Manchester - led by Professor Lin Li

Designing-out Plastic Waste

University College London - led by Professor Mark Miodownik

Evolving a circular plastics economy

University of Hull - led by Professor Carl Redshaw and Dr Pauline Deutz

UKRI Circular Economy Approaches to Eliminate Plastic Waste

University of Cambridge - led by Professor Erwin Reisner

Advancing Creative Circular Economies for Plastics via Technological-Social Transitions (ACCEPT Transitions)

Queen's University of Belfast - led by Professor David Rooney

Plastics: Redefining Single-Use

University of Sheffield - Grantham Centre for Sustainable Futures - led by Professor Anthony Ryan

Holistic integration of technology, design and policy for a greener plastic future

Imperial College London - led by Professor Jason Hallett

Projects funded under the Plastics Research & Innovation Fund

Reducing single use plastic-aluminium packaging for <50ml sachets through development and scale up of the Ooho seaweed sachet

Skipping Rocks Lab Ltd. - led by Lise Honsinger

Development of a technology to produce rigid food packaging pots for high temperature applications using Recycled Polyethylene Terephthalate

GR8 Engineering limited - led by Peter Clarke

Closed Loop Innovation for Fused Filament Fabrication (CLIFFF)

IN-Cycle Ltd. - led by Michael Lee

Efficient plastic size reduction

Impact Laboratories limited - led by Steven Burns

Inorganic Sustainable Alternatives to Plastic Microbeads

Lucideon limited - led by Gilda Gasparini

A new method of recycling PVC

Blue Castle Business Services Ltd. - led by Marie Hartley

Project ENVPac

Reed Thermoformed Packaging Ltd. - led by Jonathan Catto

Projects funded under the Plastics Research & Innovation Fund

Polarfin-Blue: compatibilisation of polymers to enable recycling

interface Polymers Ltd. - led by Rebecca McDowell

Remora Cobalt - a turbomachinery system to collect micro and macro plastics to clean up rivers and oceans

Remora Marine Limited - led by Inty Gronneberg

Recycling up to 376,000 tonnes of waste per annum that would otherwise have gone to landfill/incineration through a new sustainable multi-life NIR sortable polymer pigment and recycling system

Colour Tone Masterbatch Limited - led by Simon Atterby

Self Removing Polymer Packaging with Active Function

PVOH Polymers Limited - led by Peter Morris

PROMOTE: Advanced pipe relining technology manufactured from plastic waste recyclates

Craley Group Limited - led by Andy Harris

ReCLAIM: Recovery of polymers containing legacy additives in MEP

AXION Recycling Ltd. - led by Samuel Haig

A novel additive-based technology to biotransform polypropylene packaging to be compostable

Polymateria Limited - led by Christopher Wallis

Projects funded under the Plastics Research & Innovation Fund

ROTOCYCLE - Novel use of hard to recycle plastics in rotomoulded applications

Harlequin Manufacturing Limited - led by Laurence Coey

Recovering value from contaminated plastic wastes

Recycling Technologies Limited

Oceanium: Seaweed-based compostable, marine safe bio-packaging

Oceanium Ltd. - led by Karen Scofield Seal

Enhanced Hyperspectral Recycling System (e-HyReS)

Phase Photonics Limited - led by Andrew Tomlinson

Development and scale-up of the Choose Water recycled paper bottle -the world's first long-shelf life, plastic-replacement bottle made from 100% biodegradable materials

Choose Water Limited - led by Bella Rigg

A microbial system that degrades polyethylene, polypropylene and related plastics at high rates

Mellizyme Biotechnology Limited - led by Douglas Kell

Reducing Microfibre Ocean Plastic Pollution by Biodegradable Material Substitution

H. Dawson Sons and Company (WOOL) Limited - led by Kaye Yeomans

Projects funded under the Plastics Research & Innovation Fund

Flexi-Hex E-Commerce Packaging for Bottles

Flexi-Hex Ltd. - led by Will Boex

Research and Development of a Hollistic Circular Packaging System

Sanitary Owl Ltd. - led by Celia Pool

Measuring the commercial value of plastic offsetting as an incentive to change consumer behaviour towards advertising

Bagboard Limited - led by Byron Hancock

Petit Pli - Expanding Clothes that Grow

Petit Pli Limited - led by Arabella Turek

Scale up of cellulose microbeads production for the replacement of plastic ingredients in eprsonal care and cosmetic products

Naturbeads - led by Giovanna Laudisio



Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas.

We connect businesses to the partners, customers and investors that can help them turn ideas into commercially successful products and services and business growth.

We fund business and research collaborations to accelerate innovation and drive business investment into R&D. Our support is available to businesses across all economic sectors, value chains and UK regions.

Innovate UK is part of UK Research and Innovation. For more information visit innovateuk.ukri.org

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innovateuk.ukri.org

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UK CIRCULAR
PLASTICS NETWORK



UK Research
and Innovation

Knowledge Transfer Network

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