



ANNUAL REVIEW 2016



“

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Nigel J Perry MBE FREng  
Chief Executive Officer

## Foreword

Welcome to the Centre for Process Innovation's Annual Review of 2016. While it is customary for us to take the opportunity to celebrate CPI's successes of the past year, this year more than ever, I am particularly excited about the contribution CPI will make to the UK economy in 2017.

In just twelve years, CPI has grown from a company of two occupying a small office at the Wilton Centre in Redcar, into an operation of some 300 people with four national innovation centres across the North East of England. We are 300 people dedicated to making the UK a better, more environmentally responsible, and economically stronger country. A country that is open to global business, yet nurtures its own innovators, entrepreneurs and businesses.

Our track record of successful collaboration with over 1,000 uniquely different companies means that we have established a reputation for delivery, consistency, trustworthiness and credibility that is second to none.

In this exciting period of change, a period rich with opportunity, CPI is helping to ensure that the UK is the go to global destination for the development of new science and technology.

We help research flow out of universities for the benefit of society, enabling them to increase their global impact. We help UK companies turn concepts into market ready products and processes. And we do this in areas that are substantially and significantly important for society, like healthcare, communication, access to new materials, and environmental sustainability.

Our proven contribution to UK manufacturing compliments the work of the rest of the High Value

Manufacturing Catapult, the catalyst for success in UK manufacturing, of which CPI is a proud founding partner. In 2017 we will continue to work with our partners in the Catapult to ensure the UK is the world's number one innovation destination.

This year, an independent study by Oxford Economics has conclusively confirmed that CPI is helping innovation to flourish in the UK. Details of CPI's contribution to the UK economy and the study's findings on what is required to continue stimulating innovation are set out in pages 7 to 10 of this report.

I hope that you enjoy reading about some of the outstanding companies we are proud to have worked with in the case studies across pages 11 to 18, and the fantastic things that we have done this year in our timeline on pages 19 to 24. I look forward to celebrating the continued prosperity of the UK and CPI with you this time next year.

Nigel J Perry MBE FREng  
Chief Executive Officer

## About CPI

CPI is an independent, open-access technology and innovation centre. We bring together technical know-how, specialist facilities, broad networks of contacts, and expertise in accessing finance. This unique offering provides the conditions required to overcome the barriers that inhibit innovation, and translate research into viable business propositions.

We offer our university, SME and large corporate partners the opportunity to de-risk the development and adoption of new and novel technologies.

By utilising our world class facilities and expertise, our partners can develop, prove, scale-up, and commercialise new products and processes in a safe and flexible environment.

At the core of our business sits the exclusive Innovation Integrator® model. This structured business diagnostic tool analyses eleven crucial factors to identify innovation gaps in new products, processes, or technologies, and determines the next steps required to enable businesses to progress to commercialisation.

Utilising our strong network, we bring together diverse, complimentary partners to deliver innovation projects. Whatever our partners' needs, we support them to achieve our goal of strengthening the UK manufacturing industry and economy.

## Technology and Innovation Centres

Our open access innovation centres enable ideas, research and knowledge to be translated into commercial business propositions by helping companies to develop, prove and scale up new products and processes.

With dedicated technology and innovation centres in industrial biotechnology, printable electronics, biologics, formulation and graphene, CPI is able to support major markets such as healthcare, electronics, food and drink, aerospace, automotive, materials and energy.

We have designed an environment that fits the needs of companies whatever their size, allowing our partners to develop their products and processes and prove they are commercially viable before making substantial investments.

With a growing asset base of £90m, companies who work with CPI are able to use our facilities and work with our highly skilled teams. Utilising our strong networks, we can bring together a range of partners to advance technologies, products and processes that require significant innovation or value chain development in order to achieve their full potential.



National Industrial Biotechnology Facility



National Printable Electronics Centre



National Biologics Manufacturing Centre



National Formulation Centre

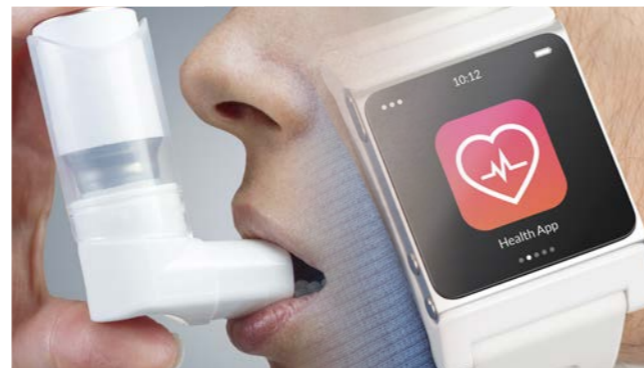


Graphene Application Centre

## Strategic Themes

CPI provides the crucial innovation support required to maintain and extend the UK's position as a world leader in cutting edge technology. We are committed to developing the UK's innovation capacity, technical capability and know-how within the most significant, high-value technology areas.

To achieve this aim we focus on enabling four key strategic themes, each of which offers the potential to bolster the UK's position as a world leader in disruptive innovation.



### Integrated Healthcare

Integrated healthcare involves a whole supply chain approach, drawing together stakeholders from every level. This enables the identification of innovative solutions that can deliver the cost effective, localised and bespoke healthcare solutions of the future.

CPI partners with clinicians to understand what they and their patients need, and builds networks between our partners and academics, biochemists, engineers, scientists and regulatory experts. We specialise in technologies with the potential to deliver industry changing results, such as biologics, pharmaceuticals, intelligent packaging, medical photonics, and biosensors.



### Internet of Things and Digital Manufacturing

CPI is enabling the internet of things by helping our partners integrate thin-film flexible electronics into 'smart objects' that can sense and communicate with each other and their environment.

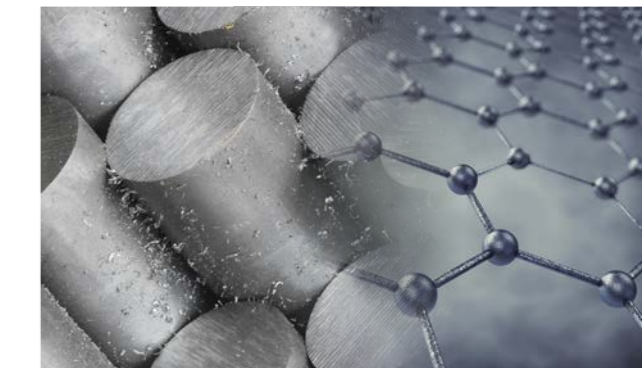
We are leading the development of an integrated supply chain that will establish the UK as a world leader in high volume, low cost, flexible electronic components, to ensure that the country capitalises on the manufacturing paradigm shift towards industry 4.0 and the internet of things.



### Circular Bioeconomy

CPI is dedicated to the development of a low carbon, resource efficient, circular economy. A waste free economy, where resources are used for as long as possible to extract their maximum use, then new, valuable products and materials are created from what remains at the end of their service life.

CPI's integrated, open access demonstration facilities can be used to carry out techno-economic analysis of processes and systems to prove their low carbon, resource efficient credentials, or take by-products from one process for use as feedstocks in another. Thus enabling the development of world leading sustainable products and processes.



### Materials

The UK is a global leader in producing and processing the chemicals and materials necessary for hundreds of industries worldwide. CPI can provide the innovation capability to retain this position, and to ensure that the disruptive materials of tomorrow are commercialised in the UK.

Working alongside our partners from industry, universities and the Catapult centres, we offer specialist assets and expertise in activities such as graphene characterisation, metal alloying, composite chemistry, formulation, and reinforcing material development.

## Measuring Our Impact

A comprehensive independent study by Oxford Economics has confirmed both CPI's significant contribution to the UK innovation landscape, and the importance of a structured innovation strategy for driving year on year growth within the UK economy.

Analysis of a sample of the companies CPI has worked with showed that in one year alone, CPI's innovation support enabled these organisations to contribute more than £900 million to UK GDP which in turn generated almost 5,000 jobs. Since inception, CPI has enabled over 1,000 companies to translate their ideas, knowledge and research into commercial business propositions. Twelve years on, we are now able to look back at what impact CPI's role has played in delivering innovation services to the UK.

Oxford Economics' study highlights the necessity of innovation centres like CPI for overcoming the multitude of barriers that inhibit innovation, namely that:

- Innovation can be risky and uncertain;
- Firms are unlikely to factor the wider benefits to society into their decision on whether to invest in developing new concepts;
- Companies may lack the knowledge and skills to approach innovation in the most effective way;
- Companies may struggle to obtain finance because of a lack of expertise;
- Investors may lack the confidence to invest due to difficulty assessing the risk involved.

Oxford Economics identified a small sample of 27 of CPI's partners for whom financial information was publicly available over a sufficient period of time for an economic impact assessment.

CPI's impact was estimated through three channels; direct economic activity supported by the partner company itself, indirect activity supported in the partner's supply chain, and induced activity supported as direct and indirect employees spend their wages. In 2014 alone these 27 partners generated a direct contribution to UK GDP of £259m, rising to £936m once the effects of indirect and induced activity were included. Their success also resulted in the employment of 4,950 people, or 18,100 including these multiplier effects.

In addition, the report stated that one of the most significant benefits of CPI is its contribution to the economic growth in the Tees Valley and North East regions. CPI is an important provider of highly skilled jobs and attracts national and international companies to locate in the surrounding areas. Many of these organisations subsequently remain in the area as they grow, thereby having a significant impact on supply chains across the region and beyond.

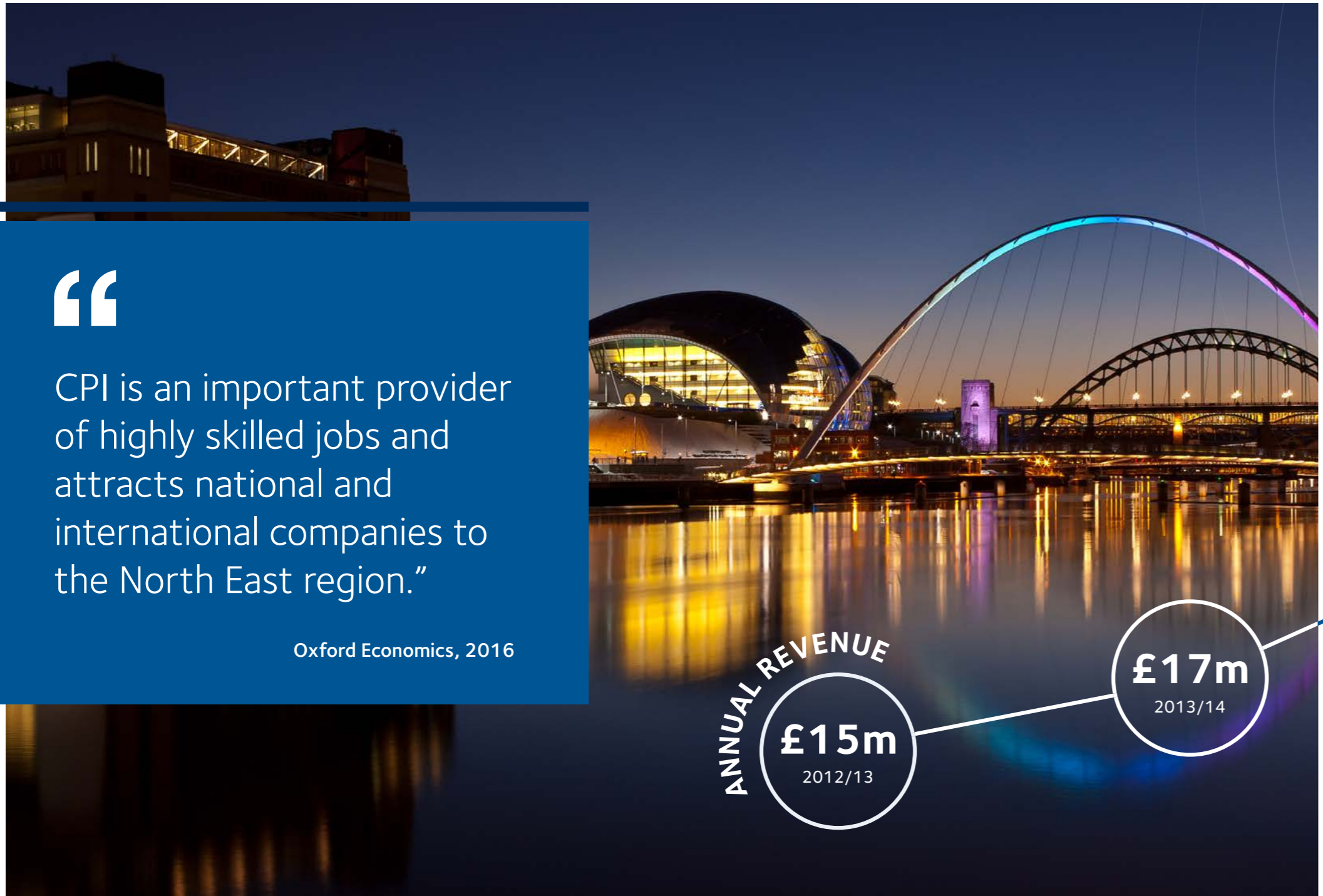
The report concludes that innovation was found to be a major driver of economic growth and delivers substantial returns to both the innovator themselves and society as a whole. The UK needs centres such as CPI, which brings together a unique combination of technical know-how, specialist facilities, expertise in accessing finance, and a broad network of contacts to overcome the barriers to successful innovation.



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Our economic impact analysis has shown that just 27 of the organisations CPI has worked with contributed more than £900 million to UK GDP and supported almost 5,000 jobs in 2014 alone.”

Oxford Economics, 2016



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CPI is an important provider of highly skilled jobs and attracts national and international companies to the North East region.”

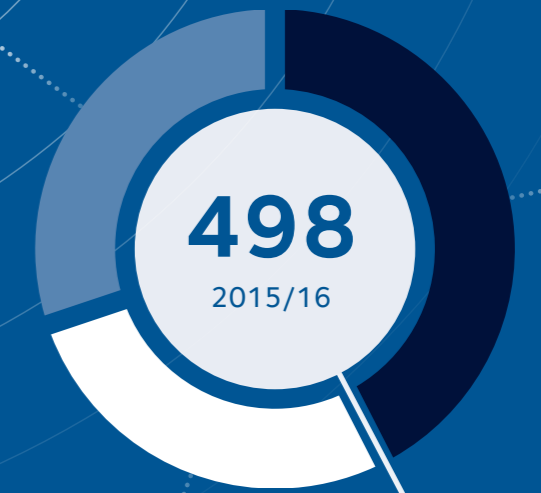
Oxford Economics, 2016



£21m  
2014/15

£32m  
2015/16

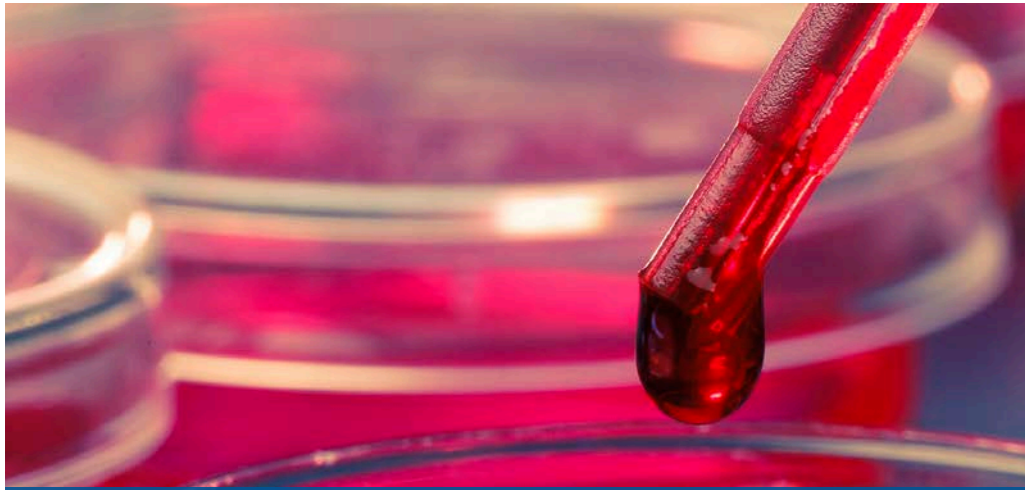
163  
Academia



206  
SME

PARTNER  
ENGAGEMENTS

129  
Large Corporates



We are very pleased to collaborate with CPI, which allows us access to their new state of the art process development facility and expertise in biologics manufacturing, complementing our own capabilities in GMP manufacturing.”

**Heike Lentfer**  
Head of Bi therapeutics Development & Drug Supply,  
Cancer Research UK



CPI is delivering two projects for Cancer Research UK to help the charity de-risk early stage testing of new drugs with the potential to treat cancer.

The next generation of drugs currently under development are large, complex molecules which must be produced in living cells. The complex manufacturing processes result in long lead times and high prices. Many potentially successful drug candidates are abandoned at a very early stage in development due to the economic infeasibility of investigating them further.

Cancer Research UK has engaged CPI to carry out pre-clinical development of two cancer drug candidates, enabling the charity to reduce the risk of early stage development. If the results are positive, Cancer Research UK will continue with further scale up studies and GMP manufacture leading to clinical trials.

This programme illustrates the important work that Cancer Research UK is pursuing to achieve its charitable purpose of funding the discovery of disruptive cancer treatments.

CPI is proud that Cancer Research UK has chosen to utilise our National Biologics Manufacturing Centre as part of this oncology drug development programme. The facility provides the open access assets and low risk environment required to enable academics, developers and manufacturers to bring innovative biologics products to market.



CPI played a fundamental role in getting us to our current position. Working with CPI enabled us to concentrate on our strengths and have a partner explore and deliver in areas where we are more limited.”



**Alan Shaw**  
CEO, Calysta

## CALYSTA®

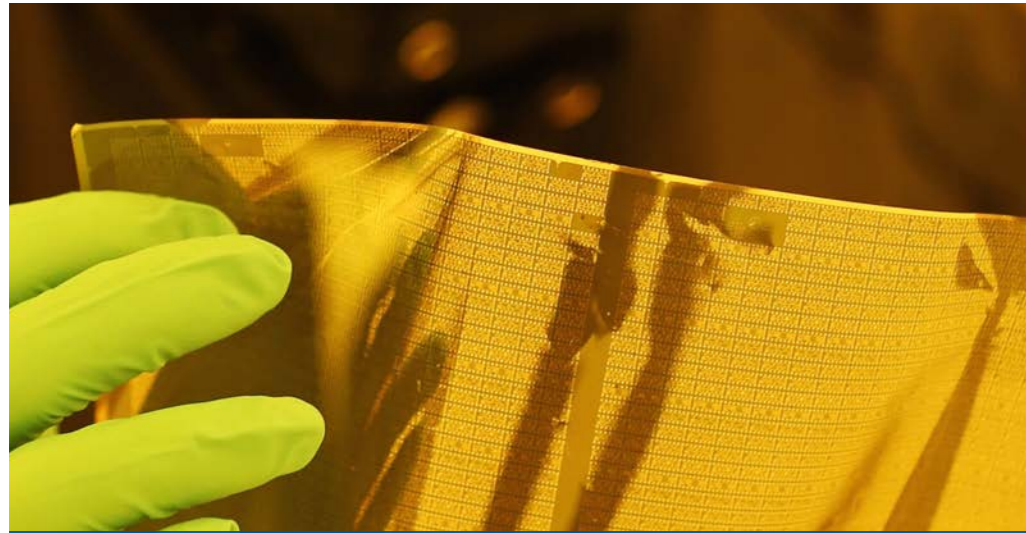
Californian biotechnologists Calysta produce Feedkind®, an ingredient which could improve sustainability in the animal feed market. Calysta chose CPI's National Industrial Biotechnology Facility as the base for its first Feedkind® market introduction plant.

Feedkind® will help to reduce the levels of natural resources used in animal feeds. The so called 'food vs. fuel debate' as to the ethical and environmental implications of using natural commodities to produce biofuels is a familiar one. However, Feedkind® - which is created from a process of converting low cost methane into a single cell protein feedstock - flips this dilemma on its head.

The farmed fish market currently relies on fishmeal made from wild fish, soya, wheat, or corn for its protein source. Projected increases in global demand indicate that these sources will not be sustainable in the future. Feedkind® is a sustainable alternative to these ingredients, with production processes using almost no farm land and 77-97% less water than vegetable based ingredients.

CPI led commissioning of the facility which will produce samples of Feedkind®. The new plant was built adjacent to CPI's National Industrial Biotechnology Facility, and Calysta will continue to use their plant and CPI's facility for further development and optimisation of their production process.

Locally, the new facility supports between 35 and 40 skilled jobs in the North East. On a national scale, successful demonstration of this process will provide know-how and incentives for technologists and investors to commercialise other disruptive gas phase fermentation processes to improve sustainability in the food industry.



Working with CPI saved us at least 18 months of development time and allowed us to defer our own capital investment until our technology platform and its market potential were both fully proven.”



**Scott White**  
CEO, PragmatIC



In just 6 years, PragmatIC has established its position as a world leader in the production of ultra-low cost integrated circuits that are thinner than a human hair. The company has described CPI as instrumental in both the scale up and commercialisation of this technology, and its progression as a business.

Founded in 2010, PragmatIC currently employs 35 staff across two locations in the UK. The company has headquarters in Cambridge while its research, development and production facility is based at CPI's National Printable Electronics Centre in Sedgefield.

PragmatIC started working with CPI in 2012. The company had a basic proof of concept process for making transistors on plastic, but needed to develop the reliability and repeatability of the process in order to scale up to manufacturing level. At this early stage, PragmatIC did not have the assets or dedicated facility required to achieve this. Utilising CPI's open access equipment on a pay-as-you-go basis provided PragmatIC with the infrastructure and support required to further develop its flexIC integrated circuit technology.

Over the previous four years, CPI has worked closely with PragmatIC by providing open access facilities as well as participating in several collaborative research and development projects. This relationship enabled significant increases in the reliability and production throughput of PragmatIC's flexIC process.

The technology has now developed into an end-to-end process for pilot production, and PragmatIC has obtained the technological results



and market readiness data necessary to commence manufacturing in mass market volumes.

In December 2014 PragmatIC secured £5.4m of investment from sources including semiconductor IP global leader ARM, and venture firm Cambridge Innovation Capital. PragmatIC's ability to access CPI's facilities and services gave them the credibility required by their investors to offset the risk associated with the investment.

In October 2016 PragmatIC announced that it had obtained a further £18 million of private investment. Participants in this round of

funding comprised previous investors and Avery Dennison, a Fortune 500 company with leading global positions in radio frequency identification (RFID), labelling and packaging materials. Avery Dennison's willingness to take a strategic equity position is a clear validation of the market demand for PragmatIC's technology, and will further strengthen the company's relationship with the whole supply chain for delivering flexICs into key applications for brands and other end customers.

This latest capital injection will predominantly fund the development and procurement of FlexlogIC™, a unique 'fab-in-a-box' system designed by

PragmatIC for fully automated flexIC manufacture. The company is on target to achieve volume production of FlexlogIC™ by 2018.

To facilitate this production, PragmatIC plan to establish a FlexlogIC™ manufacturing facility in the North East. The company estimates that this will take its headcount to over 50 employees.

Proximity to CPI was a key factor in PragmatIC's decision as to the location of their facility and they will continue to use CPI's supportive environment to carry out further research and development programmes.





The repercussions of the work we carried out with CPI are absolutely massive; our turnover has quadrupled. We got a lot more out of working with CPI than we ever would have thought.”

**Michael Wood**  
Founder, Mayhems Solutions Limited



In just seven years, Mayhems Solutions Ltd has evolved from start-up to world leader in the manufacture and development of nano-coolants for high-end computer and server applications.

Mayhems is an SME based in Darlington, County Durham. The company started working with CPI in 2013, and during this time, CPI has provided Mayhems with expertise in material characterisation, process development and scale up. CPI facilitated an increase in Mayhems’ production from bench scale, to over 1,000 litres of coolant per week, as well as helping Mayhems to significantly improve the heat removal performance of its products and to optimise its supply chain.

The company now imports approximately 30% less of their raw materials from overseas. Mayhems credits CPI with providing a fundamental understanding of how it’s chemical formulations work.

The underpinning knowledge gained through Mayhems’ work with CPI enabled the company to extend its product range. It now manufactures and sells 210 products in the UK and abroad, exporting 95% of its products to markets such as China and the USA, and servicing the full cooling system supply chain.

Recognition of Mayhems’ outstanding success came earlier this year, with the company winning the 2016 North East Business Award for Innovation.



The project consortium brings together for the first time the expertise and facilities needed to develop to pilot scale a methodology and commercial rationale for harvesting the UK’s seabed as a source of sustainable biomass and renewable energy.”

**Dr Elizabeth Ashton**  
IBIS Research Fellow, Queen’s University Belfast



CPI is leading a collaborative research and development project exploring the feasibility of using seaweed as a feedstock for anaerobic digestion in the production of biogas.

The three-year Innovate UK funded project, entitled SeaGas, will investigate the use of seaweed instead of land biomass to produce bioenergy, and as a digestate suitable for use as fertiliser. Seaweed is currently an under developed, sustainable biomass resource with significant potential for growth on the UK’s coastline.

Anaerobic digestion processes traditionally use feedstocks such as maize and sugar beet, as well as agricultural, industrial and food wastes for methane production. The negative economic and environmental implications of this include high water consumption, use of artificial fertilisers, and competition for food production.

Seaweed production does not require fertiliser, fresh water, or dedicated land that could be better utilised for food production. It also offers potential environmental benefits such as improved water quality and bio-diversity in and around seaweed farms. A country-wide shift towards the use of novel supply chain feedstocks such as seaweed would reduce the UK’s consumption of virgin resources, freeing arable land to be used for food production, easing supply chain bottlenecks and dependency on imports, ultimately lowering carbon emissions.



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The ReMediES project is already playing a significant role in our work to transform the medicines supply chain in the UK and this investment moves it into the important phase of technology application. We are confident that the project will ultimately result in real benefits to patients.”

**Ian McCubbin**  
SVP Global Manufacturing and Supply, GlaxoSmithKline



CPI is playing a key role in the ReMediES project which aims to improve medicine manufacture and supply, and offer personalised, faster, and cheaper drug delivery.

GlaxoSmithKline heads the project with research led by the University of Cambridge's Institute for Manufacturing. It integrates key players in the pharmaceutical supply chain to bring new emerging technologies to market that have the potential to improve medicine manufacturing and supply and offer more personalised, faster and cheaper drug delivery.

The ReMediES project seeks to redefine the supply chain of the future, provide innovative ways to tackle inefficiencies and capitalise on new opportunities to position the UK as a global leader in pharmaceutical manufacturing. The project spans both ends of clinical and commercial supply chains and addresses active pharmaceutical ingredient manufacturing, primary to secondary manufacturing, supercritical fluid technology, agile packaging and printed electronics. CPI is facilitating the development and scale-up of smart packaging concepts. These integrated smart devices have the potential to improve patient compliance and outcomes during treatment by streaming instructions for usage to users' smartphones, and providing anti-counterfeiting and fitness for consumption validation.



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Working together combines our prestigious research University's perspectives with those of CPI, a major technology innovation centre, and we hope the partnership will lead in the field of science and innovation.”

**Stuart Corbridge**  
Vice-Chancellor and Warden, Durham University



CPI and Durham University have launched a strategic partnership to boost research and investment in the North East. The partnership formalises the excellent relationship that the two organisations have built up over the years.

Together, CPI and Durham University will seek out strategic opportunities for collaboration with significant impact in order to attract inward investment and support recruitment, training and retention of the best talent in the region. Working collaboratively, Durham University and CPI will provide the know-how and facilities required for developing research into market ready products, supporting growth and product commercialisation for innovative companies locally and nationally.

Existing collaborative projects between the parties include CHARIOT. Working alongside six expert partners from academia and industry, including Procter & Gamble, the project is accelerating the commercialisation of new and improved powder based consumer products, and cementing the UK's status as a world leader in the manufacture of super fine powders.

Durham University is ranked 23<sup>rd</sup> in the World Top 100 Collaborators of the Nature Index 2016 - the second highest UK university overall. The Index measures the world's most fruitful research and collaborative institutes.

## Timeline

From breaking ground at the site of our National Formulation Centre, to supporting countless research and development projects, 2016 has been another productive year for CPI. Over the past twelve months we have worked with SMEs, universities, large corporates, and our partners in local and national government to build innovation infrastructure and enable the translation of ideas and concepts into robust, market ready manufacturing processes.

Take a look back at our greatest successes of 2016.

January 2016

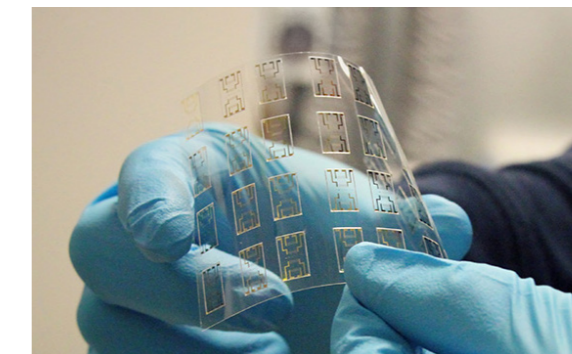


### Developing high value nano-powder structures

CPI is part of a €5.3 million, European funded project which has built a High Energy Ball Milling pilot plant to overcome the low productivity and high cost barriers that prevent commercialisation of advanced nanomaterials. The pilot plant facilitates advanced powders with ultrafine crystalline structures, optimising products to enhance strength, reduce weight, and provide excellent wear, corrosion and thermal resistance.

The ten partner PilotManu project launched in 2013. January saw reports of excellent results in the performance of advanced powders for various high value manufacturing applications such as cutting tools, medical implants, aerospace and automotive.

February 2016



### Printing biosensors for needle free diabetes treatment

CPI and UK SME Applied Nanodetectors Ltd announced a project to develop a biosensor for a novel, non-invasive glucose level testing device for diabetics. Drawing upon CPI's expertise in low-cost printed biosensors, the companies will determine the feasibility of designing and printing a sensor for incorporation into a breathalyser that measures glucose levels in human breath.

The collaboration builds upon results from an Innovate UK funded project completed by the companies in 2015. Applied Nanodetectors' diagnostic device could represent a key breakthrough in the monitoring of glycemic levels, potentially spelling the end of painful needle based testing methods.



### CPI's Graphene Application Centre opens for business

In February, CPI's Graphene Application Centre opened for business at NETPark, County Durham, delivering support for growth in the UK graphene industry. Integrating with existing capabilities at our printable electronics and formulation centres, the Graphene Application Centre offers access to scale-up assets and expertise for graphene incorporating products and applications.

The new centre boasts a dedicated laboratory for the functionalisation and characterisation of graphene at significant scale, offering material assessment capability across key properties such as mechanical, morphological, electrical and thermal conductivity.



### Manufacturing novel regenerative medicines and cell therapies

CPI and Cobra Biologics announced a new project which will increase and accelerate novel gene therapy products into clinical testing and ultimately production. The focus of the project will be the development of an industrial manufacturing platform for Adeno-Associated Virus (AAV) production, the delivery vehicle of choice for gene therapy treatments.

The companies will develop a scalable, flexible manufacturing process for the production, purification and characterisation of a range of AAV vectors. It is hoped that the project will increase the opportunities for successfully developing novel treatments for currently intractable diseases.



### Printing sensors for improved metal manufacture

The Intelligent Tooling project launched in February and CPI is helping the consortium of eight to develop printed sensors that monitor real-time conditions in metal machining at a lower cost and higher resolution than is currently possible.

The project output will be a prototype tooling sensor insert that withstands and exceeds the harsh conditions of metal machining. Successfully embedded sensing will improve machining capacity and productivity, reducing cycle times, human intervention, and process variation for electronic components within high value machining applications for market sectors such as defence, space, rail, automotive, marine and energy.



### Helping Europe establish an open access OLED lighting pilot line

CPI is leading a project which will create a Europe-wide open access pilot line that enables companies of all sizes to quickly and cost effectively test and scale up flexible OLED lighting concepts into market ready products. Launched in March, the PI-SCALE project will receive €14 million of funding from the European Commission as part of the Photonics Public-Private Partnership.

Flexible OLED technology enables lighting to be embedded into surfaces of any shape and size, presenting exciting design and product opportunities in markets such as architecture, automotive, aerospace and consumer electronics.



### Developing solar power and heat generating windows

CPI commenced work on a project which will ultimately enable intelligent windows that generate solar power and offer improved thermal control. In partnership with materials supplier Merck and leading building integrated photovoltaic (BIPV) producer Polysolar, CPI will help to develop the BIPV devices necessary for enabling these intelligent windows.

Intelligent windows will facilitate the drive towards zero carbon buildings by reducing energy costs without compromising freedom in structural design for architects.



### Establishing world class smart packaging capability for the UK

SCOPE, a research and development project led by CPI, launched in March. The project will develop the manufacturing capability required to position the UK as a world leader in the production and commercialisation of smart products.

Key to the project is developing printed near field communication (NFC) components capable of production at less than 1¢ per unit to enable high-volume manufacturing. The technology is essential for the internet of things where trillions of 'smart objects' sense and communicate with each other, their environment, and consumers via their computers, tablets and smart-phones.



### Improving tyre maintenance and safety with printed sensors

UK SME Silent Sensors moved into incubator space at CPI's National Printable Electronics Centre in April, enabling the company to utilise CPI's assets and expertise for scaling up their patented tyre sensor technology. The Silent Sensors' product measures variables such as tyre pressure and temperature in real time using radio frequency identification sensors.

Adoption of this technology offers substantial improvements in vehicle performance, fuel efficiency and road safety.



### Building the National Centre for Healthcare Photonics

CPI announced the official start of its project to build and manage the UK's National Healthcare Photonics Centre with the commencement of the building design phase. Set to open in 2018, the centre will provide the facilities, expertise, and supply chain networks required to help companies of all sizes develop photonic based technologies for healthcare and turn them into commercially viable products. One of the most interesting and fastest developing areas in the industry, healthcare photonics involves the use of light to diagnose and treat medical conditions and illnesses. The technology has the potential to deliver the next generation of non-invasive, cost-effective, rapid and personalised treatments.



### Collaborating to develop novel metal cutting fluids

CPI announced its participation in a three year project to develop groundbreaking metal cutting fluids for the aerospace and nuclear industries. Four of the High Value Manufacturing Catapult's centres; CPI, the Advanced Manufacturing Research Centre, the Nuclear Advanced Manufacturing Research Centre, and Warwick Manufacturing Group, will collaborate on the project with advisory input from Rolls-Royce and BAE Systems.

The project will address problems with cutting zone heat generation, and develop a higher performing additive that not only significantly increases the speed of metal cutting, but provides substantial cost and energy savings.



### Launching the South Tees NHS Bio-Incubator

August 2016 saw the official launch of the South Tees Bio-Incubator, an open access space offering specialist equipment and expertise to early stage biotechnology and life sciences companies. The initiative will provide the support required to nurture the development of disruptive innovations and technologies in biomedical research and the healthcare sector.

Located at James Cook University Hospital in Middlesbrough, the South Tees Bio-Incubator is led by the South Tees Hospitals NHS Foundation Trust, with CPI and the Northern Health Science Alliance acting as strategic partners.



### Enabling the production of sustainable fish feed proteins

Calysta opened a state-of-the-art plant at CPI's National Industrial Biotechnology Facility for manufacturing sample quantities of FeedKind®. Created by converting low cost methane into a valuable single cell protein feedstock, Calysta's competitively priced new fish and animal feed ingredient aims to replace fishmeal. It could help to reduce the levels of natural resources used in applications other than human foodstuffs.

The project will enable CPI to integrate Calysta's novel loop reactor with the National Industrial Biotechnology Facility, extending the capability of CPI's equipment and the know-how of our scientific, engineering and operating staff.



### CPI and Durham University announce strategic partnership

Durham University and CPI officially entered a strategic partnership to boost collaborative research and development and attract investment into the North East.

The two organisations will work together to proactively seek out strategic opportunities with the potential to benefit the region. The partnership will provide the know-how and facilities required for research to be developed and translated into market ready products, helping companies to accelerate product development and supporting the growth of new, innovative companies, while attracting more investment into the area from national and international sources.



### Breaking ground at CPI's National Formulation Centre

Ground was officially broken at the site of CPI's National Formulation Centre at NETPark, County Durham. The new national innovation centre will provide a combination of world class open access facilities and expertise, enabling companies to develop, prove and scale up new formulated products. The new facility will enable UK businesses to tap into this high growth, highly profitable global market.

The centre is expected to be fully operational from December 2017, and the team has a pipeline of projects, several already ongoing from incubator offices, that will help businesses to develop new, innovative products for years to come.

## The Future

After 14 years, this is my final year as the Chairman of CPI, and what a great journey it has been.

In 2002, I was asked to create and lead a Board that would deliver a UK vision of an innovation centre to bridge the gap between university invention and the needs of the process industry. The North East of England was our obvious starting point because of its strong position in the industry, but frankly it was also an industry under threat from international competition, and the innovation centre was our way of reinvigorating the industry.

The Board was formed and I am delighted to say that all those people who joined that journey are still with us today. I thank them for their support, guidance and wise counsel over the years. I also had the great fortune to recruit a fantastic CEO in Nigel Perry and I cannot give enough praise to Nigel and his management team for the creation of the CPI we see today.

We determined that while CPI would have its roots in the North East of England, its ambitions would be truly international. We set a standard that we have held to this day of 'one of four dots on the world map'. In other words, we had to be internationally excellent in every technology we targeted, and I can proudly say that we have achieved that ambition.

Today, CPI is a force in our industry. It has strength in technologies that are the future of the process industry and major businesses worldwide look to us as partners. I am particularly proud that we are seen by small businesses as a reliable partner, giving them access to facilities and expertise that are beyond their individual resources. Over the years, we have been strongly supported by business and government of every party. We have truly delivered the promises we made in 2002.

Looking forward, I still see fantastic opportunities for CPI to establish itself as the world leader in chosen sectors; with the capability to grow into new technology areas; and an ability to spin off many more new businesses. As always, the future will have its challenges, but CPI is strong enough to have confidence that it can continue to succeed.

I wish my successor as Chairman all the success and enjoyment that I had from the creation and growth of CPI and will watch with pride as CPI goes from strength to strength.



Bob Coxon OBE  
Non-Executive Chairman



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CPI is a force in our industry. It has strength in technologies that are the future of the process industry and major businesses worldwide look to us as partners.”

**Bob Coxon OBE**  
Non-Executive Chairman

Centre for Process Innovation  
Wilton Centre, Wilton, Redcar,  
Cleveland, TS10 4RF, United Kingdom

T: +44 (0)1642 455 340  
E: [info@uk-cpi.com](mailto:info@uk-cpi.com)  
W: [www.uk-cpi.com](http://www.uk-cpi.com)

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