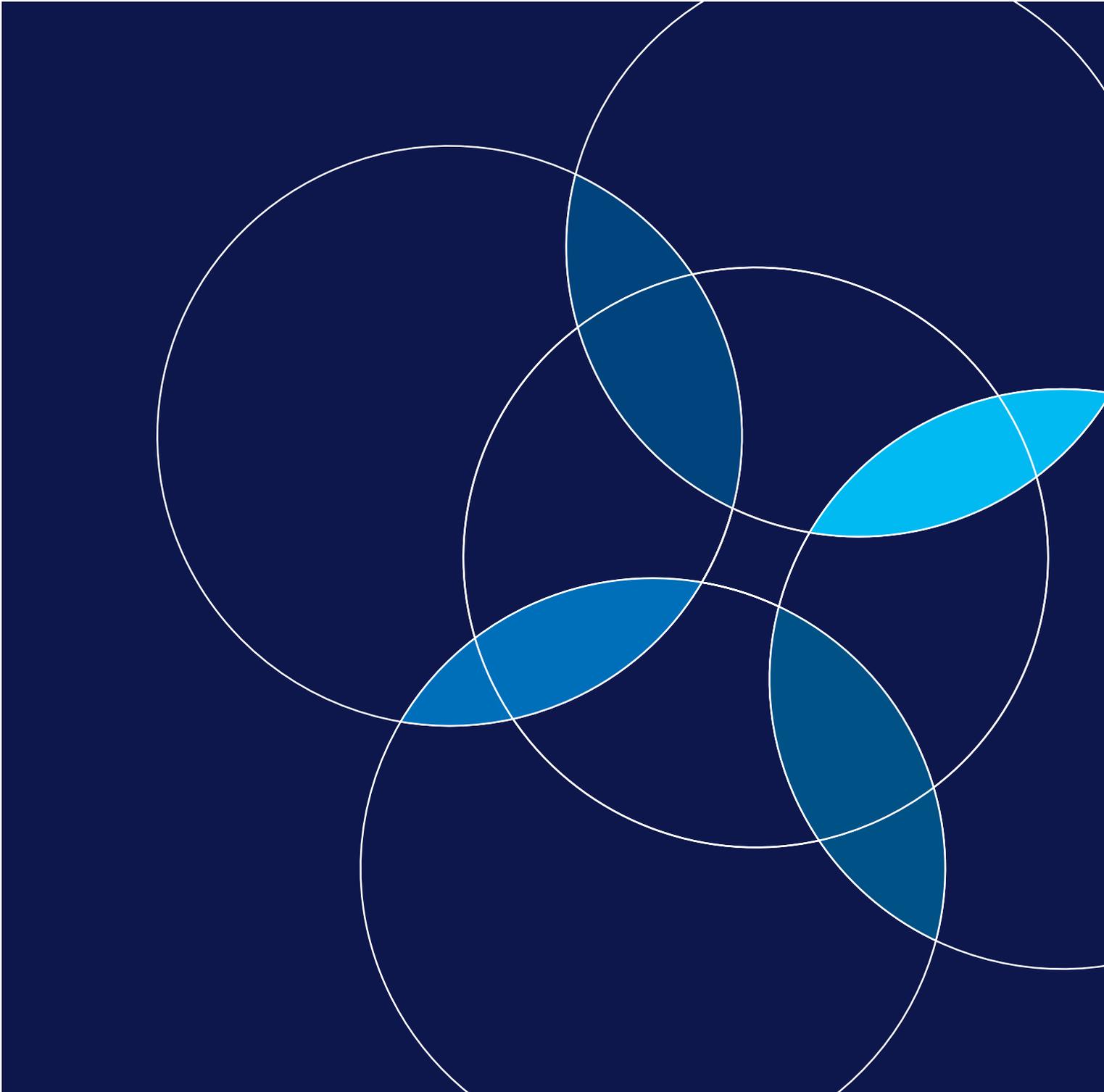


# Connecting to Innovate A Preliminary Report on the Achievements of the AHRC Knowledge Exchange Hubs for the Creative Economy

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Dr. Timothy J. Senior

With Professor Rachel Cooper, Professor Jon Dovey, Professor Georgina Follett, Professor Morag Shiach.





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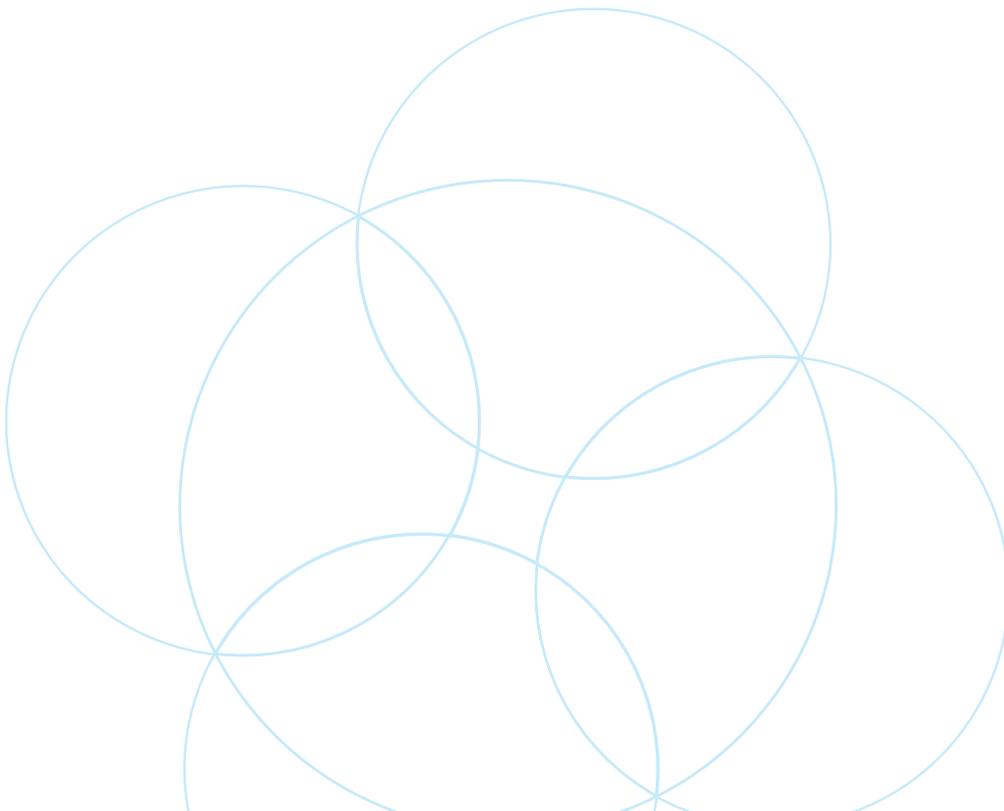
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# Foreword

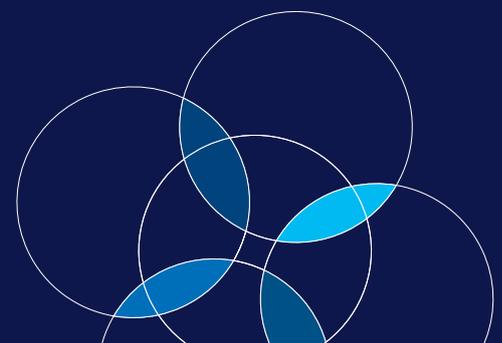
This research is the first step in mapping the achievements of the Arts and Humanities Research Council's four creative economy hubs, a programme that runs from 2012 - 2016. It was conducted by Dr. Timothy J. Senior who was appointed in late 2014 as the preliminary findings of the programme were beginning to emerge. Although distinct approaches have been taken by the four Hubs in their work, both similarities and differences have emerged in their findings so far, something this preliminary report explores through its diverse case studies and examples. Over the next year we will publish a number of comparative working papers to disseminate the impacts of the Hubs more fully.

We are deeply grateful for the painstaking quality of Dr. Senior's research and for the support he received through the Hubs' core teams, with special thanks going to Jana Riedel and Dr. Naomi Jacobs. The Hubs have been a remarkable experiment in academic collaboration with the creative economy; on a day to day level we have been privileged to share an extraordinary journey where generosity, invention, and creativity have led the charge to make universities fit for business in the 21st Century. We are delighted to share with a wider audience our reflections and observations on this process in the hope that others will be able to continue the work of culture change that we have begun.

The Arts and Humanities Research Council (AHRC) funds world-class, independent researchers in a wide range of subjects: ancient history, modern dance, archaeology, digital content, philosophy, English literature, design, the creative and performing arts, and much more. This financial year the AHRC will spend approximately £98m to fund research and postgraduate training in collaboration with a number of partners. The quality and range of research supported by this investment of public funds not only provides social and cultural benefits but also contributes to the economic success of the UK. For further information on the AHRC, please go to: [www.ahrc.ac.uk](http://www.ahrc.ac.uk).

Rachel Cooper  
Jon Dovey  
Georgina Follett  
Morag Shiach

April 2016



# Executive Summary

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The Key Achievements of the Hubs are as follows:

Section

01

## Principles and Actions

- **Activating connections between the Creative, Cultural, and HEI Sectors:** The Hubs have connected talent from across different sectors to engage in the creation of new products, services, and business opportunities. Their focus has been to support innovation as a driver both of the national economy and a better society.
- **Driving Innovation through Knowledge Exchange:** The Hubs have driven innovation through pioneering forms of knowledge exchange between sectors, innovation built on mutual benefit and co-creation. They have worked to broker, facilitate, and help sustain new collaborations that can contribute to a dynamic creative economy.
- **Mobilising knowledge from the Arts and Humanities:** Research from the arts and humanities lies at the centre of this process of knowledge exchange. The Hubs have mobilised this research to provide understanding, content, and skills that can open up new business opportunities, help forge strategic relationships, and drive entrepreneurial activities.

Section

02

## Nurturing Business and Academia

- **Nurturing Small Businesses with Aspirations:** The micro-business sector is the rich, dynamic foundation of the creative economy, a key driver of innovation. The Hubs have developed tailored approaches to support the ambitions and needs of this sector.
- **Stimulating New Academic Research and Teaching:** The Hubs have responded to the ambitions of academics to explore new types of productive cross-sector work. They have helped train a new generation of researchers that can operate across different sectors and disciplines. The hubs are a test bed for how universities could be drivers of innovation in the 21st century.
- **Promoting Culture Change in Academia and Business:** The Hubs have demonstrated their commitment to forging mutually beneficial connections across sectors, those that can promote changes to working practises. The Hubs are beginning to evidence these changes within universities and the creative economy.

Section

03

## Innovating in a Complex World

- **Re-thinking Business:** The Hubs have revealed how the arts and humanities can help position consumers at the centre of business activities. Opening up innovative forms of cooperation in the creation of products and services may lead to more adaptive and sustainable business ecologies.
- **Re-thinking Community:** Digital technologies are creating radically new approaches to support the needs and ambitions of communities, whether physical or virtual. The Hubs have shown how Smart technologies can help re-think public service innovation and digital public space.
- **Re-thinking Regions:** The creative economy is regionally distinct, and its full potential is yet to be tapped. The Hubs have demonstrated how universities can help build R&D-driven regional networks across sectors in order to identify, connect, and nurture creative talent. The Hubs have worked hard to build critical mass from the energy of the creative and cultural sectors by aggregating them into regional and cross-regional R&D-driven collaborative networks.

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# Contents

	<b>Page</b>
Foreword	03
Executive summary	04
Introduction	06
<b>Section 01</b> <b>The Hubs: Principles and Actions</b>	<b>07</b>
Introduction	08
1.1 Activating Connections Between the Creative, Cultural, and HEI Sectors	09
1.2 Driving Innovation through Knowledge Exchange	11
1.3 Mobilising the Arts and Humanities	14
<b>Section 02</b> <b>Nurturing Business and Academia</b>	<b>17</b>
Introduction	18
2.1 Nurturing Small Businesses with Aspirations	19
2.2 Stimulating New Academic Research and Teaching	23
2.3 Promoting Culture Change in Academia and Business	27
<b>Section 03</b> <b>Innovating in a Complex World</b>	<b>30</b>
Introduction	31
3.1 Creating AH-influenced Business Models	32
3.2 Re-thinking Community	36
3.3 Re-thinking Regions	39

# Introduction

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This document presents and contextualises key achievements to date of the four AHRC Knowledge Exchange Hubs for the Creative Economy. Through data, case studies, spotlights, and testimonials, we discuss how the Hubs have driven new connections between higher education institutions (HEIs) and the creative and cultural sectors to yield innovative products, services, and research agendas. With a focus on arts and humanities research, we reveal how the Hubs have tapped into the creative economy's enormous potential for addressing economic, social, and cultural challenges.

This document is structured in three parts. Section One explores a number of core principles around knowledge exchange and innovation that has shaped the work of the Hubs. Section Two explores how these principles have been implemented to nurture new ways of working in businesses and academia. Finally, Section Three reveals how this re-thinking of innovative collaboration by the Hubs has played a role in tackling those complex 21st century problems that require multi-sector perspectives.

## The Four AHRC Hubs are:



### Creativeworks London:

As a consortium of 43 London-based universities, museums, cultural institutions, and SMEs, Creativeworks London aims to bring exciting new collaborative research opportunities to London's creative businesses. Together, they are exploring how knowledge exchange can work in practice to give businesses a competitive advantage and drive outstanding innovation.



### Design in Action:

The creative economy thrives on the injection of new ideas, the crossing of boundaries, and the chance encounters that reveal new commercial possibilities. Design in Action is striving to embed design-led business innovation into the Scottish economy, so opening up new pathways for business growth and development.



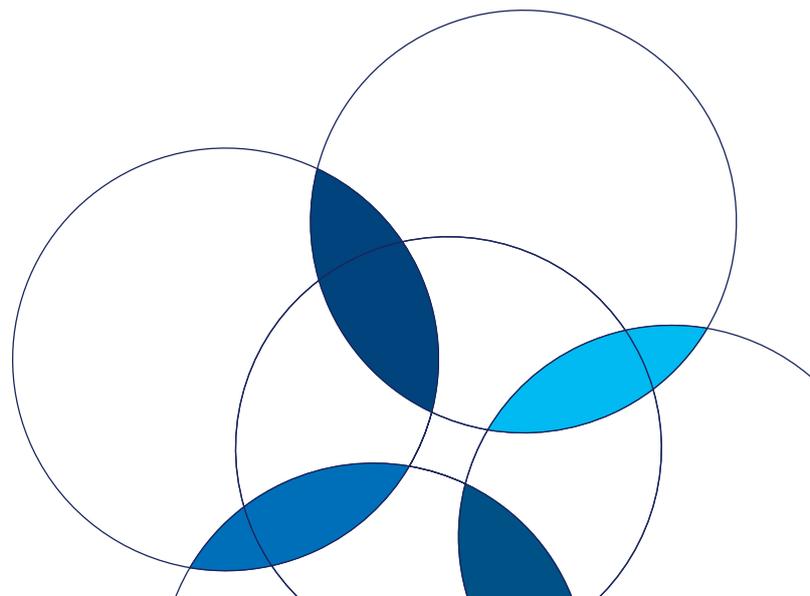
### REACT:

REACT supports researchers in the arts and humanities to work with creative enterprises, collaborations that champion knowledge exchange, cultural experimentation, and the development of innovative digital technologies. Through building new collaborative networks, they are bringing new products to market and driving new research agendas within academia.



### The Creative Exchange:

The Creative Exchange is bringing together pioneering companies and the best academic thinkers to explore the potential of what is being termed Digital Public Space. Through new products and services, user experiences, and business opportunities, they aim to empower everyone to explore and create with digital content.



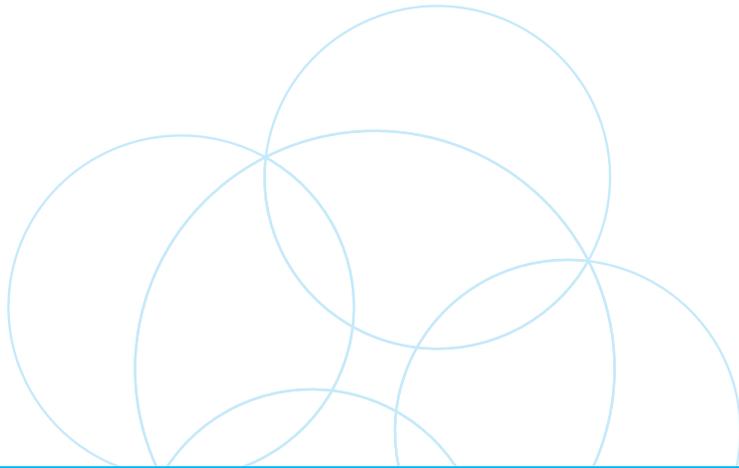
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# The HUBS Principles and Actions

Section

01





## Introduction

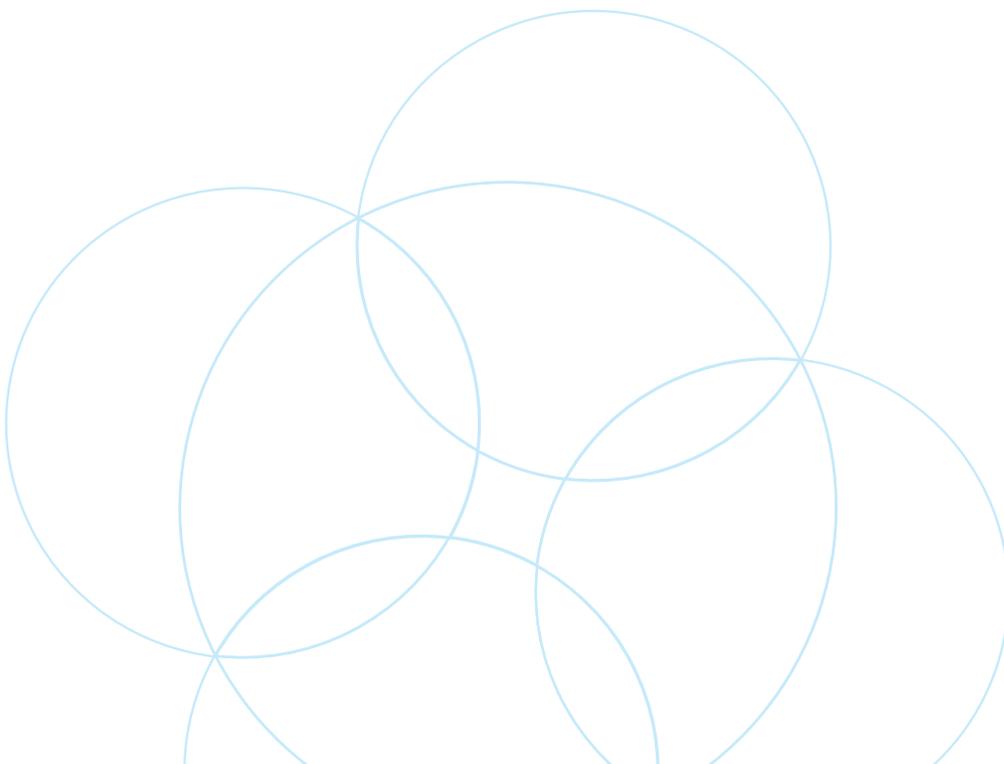
The arts and humanities offer a uniquely valuable resource of knowledge, skills, and methods that underpin the success of the UK creative economy. The importance of this understanding in exchange with other sectors has never been more important as a driver of both cultural and economic value creation. The four AHRC Knowledge Exchange Hubs were founded in 2012 with the aim of tapping and amplifying this potential. Through a substantial body of creative and digital economy projects, the four Hubs have explored how research in the arts and humanities can generate exciting new opportunities within the creative economy through knowledge exchange activities with external stakeholders such as businesses and the public sector.

- **1.1** Activating connections between the Creative, Cultural, and HEI Sectors: The principal aim of the four Hubs has been to connect talent from across different sectors to engage in the creation of new products, services, and business opportunities. Their focus has been to support innovation as a driver both of the national economy and a better society.
- **1.2** Driving Innovation through Knowledge Exchange: The Hubs have driven innovation through pioneering forms of knowledge exchange between sectors, innovation built on mutual benefit and co-creation. They have worked to broker, facilitate, and help sustain new collaborations that can contribute to a dynamic creative economy.
- **1.3** Mobilising knowledge from the Arts and Humanities: Research from the arts and humanities lies at the centre of this process of knowledge exchange. The Hubs have mobilised this research to provide understanding, content, and skills that can open up new business opportunities, help forge strategic relationships, and drive entrepreneurial activities.

## 1.1 – Activating Connections Between the Creative, Cultural, and HEI Sectors

The UK’s creative and cultural sectors are a substantial part of our economy, estimated to contribute 9.7% to the UK’s Gross Value Added<sup>(1)</sup>. Employing more than financial services, advanced manufacturing or construction<sup>(2)</sup>, the creative economy is extraordinarily diverse in its composition, drawing together large-scale corporations, micro-businesses, academic researchers, and public institutions into collaboration. This encounter forms the basis for a strong economic and cultural exchange, driving innovation in the creation of new products and services that impact not only models of business but also forms of social engagement and academic research – a driver both of the national economy and a better society.

Tapping into this enormous potential, the Hubs have invested in innovative research-based knowledge exchange between academia and the creative and cultural sectors to drive new forms of cross-sector collaboration. Through building and nurturing networks of talent, the Hubs have become well placed to identify key issues in these sectors and respond to the needs of target markets, users, and audiences. Whether, for example, exploring the role of Smart technologies in the future of public services or the development of new forms of audience engagement in cultural events, the Hubs are revealing the great potential of activating cross-sector work.



### The Hubs have Activated Connections Between the Creative, Cultural, and HEI Sectors

- The creative economy is a high growth area, employing 2.62m in 2013 compared to 1.81m in 1997, a 2.3% rise each year compared to 0.6% for the wider UK economy<sup>(3)</sup>. It has enormous cross-sector reach, impact, and potential.
- The Hubs have piloted new methods of knowledge exchange that connect creative and cultural organisations with the expert academic knowledge and skills they need; support productive and risk-free exploration of original ideas; and connect innovators to trusted networks of advisors and financial support.
- To date, the Hubs have brought academics from over 80 distinct areas of study within the arts, humanities, and sciences into collaboration with businesses from across the creative and cultural sectors. Together, they have explored new opportunities in the fields of product design, the performing arts, publishing, public services, and the rural economy, amongst many others.
- This collaborative work has engaged 246 academics, 286 businesses and creative practitioners, and 58 third sector organisations, revealing the rich cross-sector links that underlie a vibrant and dynamic creative economy.
- The Hubs have delivered £5.0 million into the development of over 250 creative economy projects to date. This has resulted in more than 70 artistic and creative outputs, and over 150 examples of devices, software, hardware, platforms, methodologies and services. 43 of these innovative products have either been launched or are near to launch.
- The Hubs have invested £5.1 million into academic research and training that supports its knowledge exchange activities. Through an extensive and diverse body of articles, working papers, reports, workshops, and conference activities, the Hubs are capturing and disseminating their learning around cross-sector knowledge exchange.

#### References:

- 1 Bakhshi, H., Hargreaves, I. & Mateos-Garcia, J., (2013). A Manifesto for the Creative Economy London (Nesta), p. 10
- 2 *ibid.*, p. 7
- 3 DCMS (2015). Creative Industries Economic Estimates: Statistical Release, p. 7



## 1.2 – Driving Innovation through Knowledge Exchange

Innovation is widely recognised as a driver of economic development and instrumental to the increase of human well-being<sup>(1)</sup>. One of the Government’s five drivers of productivity, Innovation serves as an engine of business growth, job creation, and knowledge mobilisation<sup>(2)</sup>. In the 2014 Global Innovation Index – in which the UK ranked 2nd – core factors that emerged for elite innovators included the nurturing of creative talent, an openness to collaboration and experimentation, and the support of small dynamic enterprises<sup>(3)</sup>. A well-functioning innovation system is one that constantly generates and experiments with new ideas in the long-term, not only pushing the limits of our understanding, but also revealing where businesses are likely to succeed and where they are not<sup>(4)</sup>. As the pressure in all sectors to innovate increases, more investment is needed in models of collaboration that can broker, nurture, and sustain these conditions for elite innovation.

The Hubs have responded to these conditions in the UK, acting both to implement and further reinforce them. Firstly, the Hubs have pioneered methods for rapid and experimental knowledge exchange between academia and external partners, including the business community. Secondly, through curating cross-sector collaboration, the Hubs have offered offer sustained and far-reaching support that extends from project ideation and product prototyping through to business model development and product launch. Thirdly, in driving knowledge exchange to the mutual benefit of all collaborative partners, the Hubs have driven innovation beyond a single focus to incorporate multiple different targets; beyond the development of new goods and services, for example the Hubs have explored recognised areas of “hidden innovation” such as the impact of cultural concepts on user interface and product content design<sup>(5)</sup>. Through these activities, the Hubs are uncovering best practices for stimulating knowledge exchange, nurturing collaboration, and networking creative talent long-term.

### References:

- 1 Cornell University, INSEAD, and WIPO (2014). The Global Innovation Index 2014: The Human Factor In innovation, p.v
- 2 *ibid.*
- 3 *ibid.*, p.119
- 4 Bakshshi, H., Schneider, P., Walker, C. (2008). Arts and Humanities Research and Innovation (NESTA), p.1
- 5 Miles, I., Green, L. (2008). Hidden Innovation in the Creative Industries (Nesta), p.6
- 6 The Work Foundation (2007). Staying ahead: the economic performance of the UK’s creative industries, p.143
- 7 Dowling, A. (2015). The Dowling Review of Business-University Research Collaborations, p.51-52
- 8 Hughes, A., Kitson, M., Probert, J., Bullock, A., and Milner, I. (2011). AHRC Hidden Connections: Knowledge exchange between the arts and humanities and the private, public and third sectors (AHRC)
- 9 *ibid.* 7, p.4-5
- 10 Sapsed, J., Nightingale, P., Mateos-Garcia, J., Camerani R., Voss, G., Jones, P. and Byford, J. (2013) The Brighton Fuse (AHRC), p.1-2
- 11 *ibid.*, p.32
- 12 *ibid.*, 5

## The Hubs have opened Opening up New Models of Knowledge Exchange in the Creative Economy

### Challenge

**Knowledge Exchange Challenge** – The potential for innovation in the creative economy is seemingly endless, but few enterprises have the knowledge, skills-base, or time to exploit these opportunities alone. Both theory and practice now point towards the significant advantages gained by networking talent, advantages based on tapping external knowledge and pooling complementary skills, sharing risk, opening access to new markets and technologies, and speeding products to market<sup>(6)</sup>.

### Solution

**The Hubs' Solution** – The Hubs have developed a range of knowledge exchange methods aimed at bringing diverse sector partners together into tailored collaborative environments. The strength and flexibility of these approaches is demonstrated through the wide range of cross-sector and cross-disciplinary projects successfully supported to date. Learning from the Hubs is revealing the importance of adopting and tailoring a range of knowledge exchange methods, helping to codify best practices for supporting a diverse creative economy long-term.

### Challenge

**Knowledge Exchange Challenge** – Universities should be seen as key partners in driving innovation, with technology transfer offices playing an important role in supporting knowledge transfer to other sectors for exploitation<sup>(7)</sup>. Models of knowledge transfer are, however, increasingly seen as unfit for purpose in supporting connections between HEIs and external partners in the creative and cultural sectors. Here, contacts with universities emerge through more complex formal and informal networks, and knowledge exchange can lead to unpredictable outcomes and insights for all parties involved. Taken together, knowledge exchange activities in this area need to be nurtured and supported in a different way<sup>(8)</sup>.

### Solution

**The Hubs' Solution** – At the centre of the Hubs' different collaborative models is the target of creating shared knowledge across sectors rather than the "passive" transfer of knowledge from one sector to another. Their evidence indicates that this new approach, one based on a parity of opportunity, trust, and respect, can build enduring collaborations that encourage participants to engage in future cross-sector collaborative activities. It is the mutual benefit to all partners involved that will drive a culture of innovation and a process of culture change that will support it<sup>(9)</sup>.

### Challenge

**Knowledge Exchange Challenge** – The arts and humanities can accelerate invention, innovation, and business creation through the knowledge, skills, and methods they offer<sup>(10)</sup>. However, new forms of collaborative R&D support are needed to open up these fields of expertise to entrepreneurs in the cultural and creative sectors, to demonstrate the rich potential they offer for supporting a healthy innovation system, and to reveal the many ways in which cross-sector collaborative work can contribute to cultural and economic value creation.

### Solution

**The Hubs' Solution** – The work of the Hubs has demonstrated the role of the arts and humanities in the many forms of innovation that dominate an intense creative sector<sup>(11)</sup>. This includes not only supporting businesses to develop new goods and services, business models, and skills, but also exploring areas of "hidden innovation" that often go under the radar<sup>(12)</sup>. Such areas include the development of novel forms of content delivery and user interfaces, the understanding of cultural concepts that make such developments possible, and the building of strategic relationships with universities that can drive long-term transformations in their R&D capacity and capability. This work has been further invigorated through the scholarly research papers, lectures, exhibitions, campaigns, advocacy work, and documentary work created by the Hubs, pushing the frontiers of our understanding both in the wider creative economy and academia itself.

## Design in Action Case Study: The Chiasma

“It is very exciting to be part of a team that is pursuing a business idea that 3 days ago I personally wouldn’t even have been able to conceive of.”

**Creative Currencies ICT Chiasma (Feb 2015)**

“I thought the level of conversation and discussion was exceptional. This always offers a fertile environment on which good design outcomes strive.”

**Sustaining Rural Scotland Chiasma (Oct 2014)**

Since June 2012, Design in Action has worked with over 240 businesses, academics, and designers through its flagship knowledge exchange method, delivering projects in areas such as food, sport, rural economy, information and communications technology (ICT), wellbeing, legal services, digital imaging, the circular economy and crypto-currencies.

The Design in Action collaborative model is built on a foundation of agile and rapid knowledge exchange. The first stage of engagement is a six month sector-scoping exercise that typically brings together different communities of interest, including business, academia, government, and the third sector. Scoping events, such as workshops, round tables and interviews, see academic researchers introduce bespoke tools to drive collaborative exchange, leverage up-to date knowledge, anticipate ‘live issues’ and identify near-future challenges and opportunities. The understanding gained feeds into a Design in Action call for a participatory residential innovation event – the Chiasma – an arena for convening and trading in ideas in which participants from multiple sectors apply design-led methods to explore areas of shared interest with commercial potential. Teams forged at the Chiasma continue to develop their ideas after the event, register their IP, and apply to Design in Action for the funding and support they need to further test their ideas and bring them to market. The process of knowledge exchange and co-creation at Chiasma is understood as “research in action”, each event enabling the design-led methods used to be further tested and refined. A network of designers, academics, policymakers, funding organisations, and businesses are both created and maintained in this way. These are networks that stretch across the creative economy, supporting future scoping exercises and the creation of new business opportunities.



## 1.3 – Mobilising the Arts and Humanities

Business-University collaborations are an important component of the UK innovation ecosystem<sup>(1)</sup>. Although connections across the breadth of industry have emerged, it is the creative and cultural sectors that have been the dominant target of HEI knowledge exchange strategies<sup>(2)</sup>. The position of the arts and humanities is increasingly clear: They are an important source of innovation and potential economic growth<sup>(3, 4)</sup>. This relevance is no clearer than in the field of digital innovation. From the design of Smart technologies to public services we are witnessing a move from a technology-heavy understanding of digital innovation to one that must make sense of the aesthetic, cultural, and social contexts in which digital technologies operate. In the exploration of new cultural and creative markets, the human story has never been so important. Through their human-centred research methods, arts and humanities researchers are best equipped to understand that story and develop the knowledge exchange tools needed to respond to it.

The full potential of cross-sector collaborations with HEIs is not being harvested<sup>(1)</sup>. The Hubs have revealed where this potential lies for the arts and humanities, demonstrating that they can provide original content for commercial adaptation and exploitation that opens up new channels between businesses and consumers; offer expertise in understanding different target audiences essential to the development of effective products and services; develop design-led methodologies that enable collaboration across sectors, so making many advances in digital innovation possible; provide a wealth of methods that can find application in other industry sectors; and sustain university-wide networks essential to nurturing long-term innovation and cross-sector collaboration.

### References:

- 1 Dowling, A. (2015). The Dowling Review of Business-University Research Collaborations, p.2
- 2 PACEC and CBR (2009). Evaluation of the effectiveness and role of HEFCE/OSI third stream funding, p. 66
- 3 Sapsed, J, Nightingale, P, Mateos-Garcia, J, Camerani R, Voss, G, Jones, P and Byford, J (2013) The Brighton Fuse (AHRC)
- 4 Channer, J., Owens, P., Lee, C. (2013). Connecting and Growing Creative Businesses through Engagement with Higher Education Institutions (AHRC and Creative England).



## Research Assets from the Arts and Humanities are Valuable to the Creative Economy

1

**The arts and humanities provide new content – such as narratives, characters and events – for adaptation into new products and services. The rich understanding around this content provides a foundation for the design of content delivery, user experience, routes to commercialisation, and new business models.**

Spotlight

**REACT spotlight:** JtT125 is a playable documentary exploring the story of Jack the Ripper on the 125th anniversary of the murder of Mary Jane Kelly. Developed by Auroch digital at the React Hub, the game draws on archival materials, expert commentaries, and game design that captures the social and cultural dimensions of living and working in Whitechapel in the 1880s. Central to its development was the collaboration with Dr. Patrick Crogan and Professor Janet Jones, experts in Digital Cultures and Practices. Through their work, the project asks questions about the nature of evidence, interpretation, and ethics that is so central to documentary making.

2

**Research in the arts and humanities gives rise to methods that can find valuable application in other sectors. Work at the Hubs has shown how these methods can help with the identification, managing, and analysis of cultural and social assets.**

Spotlight

**Creativeworks London spotlight:** At Creativeworks London, arts and humanities methods have helped to better manage the digitisation of content for an online craft-product customisation program (Prospector Media); to investigate the use of biometric data in gaming and retail to create user experiences that are both immersive and socially cohesive (Seren); to develop new approaches in communicating archival materials (Geffrye Museum); to better evidence where different values lie in complex urban-regeneration projects with many stakeholders (Public Works); and to reveal points of convergence between literature and gaming, so linking writers and computer game developers more effectively (Spread the Word).

3

**The arts and humanities offer expertise in the understanding of target groups, cultural contexts, and social movements. This is central, for example, to helping businesses de-risk product development and increase user-reach and satisfaction. Such expertise is vital for uncovering and reaching new audiences.**

Spotlight

**Creative Exchange spotlight:** Research at the Creative Exchange has explored a range of user groups. They have asked, for example, how digital technologies can be better designed to support children in heritage spaces (Playful Narrative Realms); how an understanding of our biorhythms can lead to tools for improving work-life balance (Rhythmanalysis); how digital spaces based around shareable data can create the potential for interaction, mapping of interests and the exchange of ideas (Paths of Desire); and how the use of technology in performance and exhibition spaces can help in understanding audience experience, so enabling events that are more responsive to their needs (On the Precipice).

4

**The development of methods for supporting collaboration lies at the heart of arts and design practices. Ranging from all-purpose 'tool kits' to uniquely tailorable solutions, methods developed by the Hubs for bringing diverse participants into collaboration offer great potential for the wider creative economy.**

Spotlight

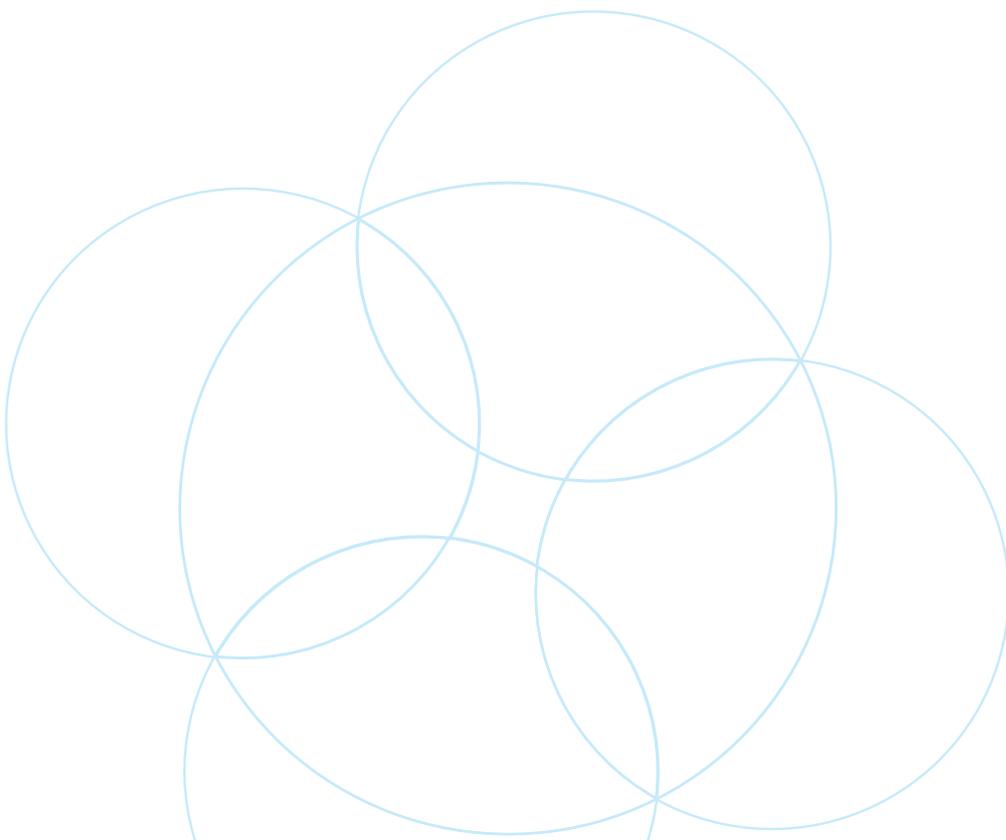
**Design in Action spotlight:** At Design in Action, design strategies for creative problem solving are applied throughout their work, from scoping the problems that will form the basis of a call for collaboration, through project research and development to product prototyping. Critically, these design strategies become embedded into the businesses that are formed through the work of Design in Action, strategies that are taken forward with them through their future work. For example, the project 'Know Sugar Shop' - a campaign for raising awareness around type-2 diabetes in Scotland - have used design methods to open up consultation with the public, helping in the development of a communication strategy to explore shared values around the issue of sugar consumption.

5

**The networks of expertise that constitute the arts and humanities can help to build new connections between HEIs and external partners. The Hubs have worked to connect these networks to different sectors, supported projects that advance these connections further, and undertaken the development of a new generation of arts and humanities researchers (see Section 2.2) able to mobilise knowledge between them.**

Spotlight

**Creativeworks London spotlight:** Projects supported through Creativeworks London have worked to build new cross-sector social networks. This has resulted in research that can improve knowledge exchange between established industries and new graduates in the design community (The Power of the Collective); the building of university-led networks to help broaden the training of arts practitioners, so diversifying routes into employment in the sector (Creative Routes); and the implementation of a pilot program to help practitioners in the creative industries use immersive performance, game design and digital storytelling as tools for enriching audience engagement (Stellar Network).



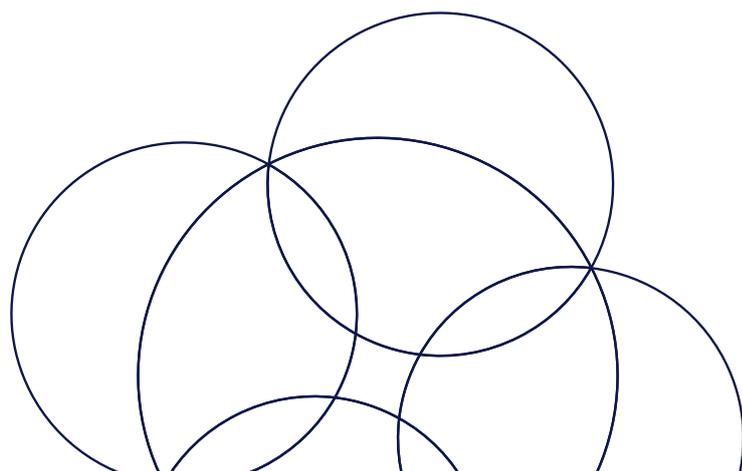
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# The HUBS

## Nurturing Business and Academia

Section  
**02**





## Introduction

Through their unique approach to knowledge exchange, the Hubs have developed new opportunities for mobilising knowledge from the arts and humanities within the wider creative economy. In recognising the importance of mutual benefit in sustaining productive collaborations, the Hubs have targeted innovation that can generate value for, and positively impact on, all collaborative partners involved. Working with small businesses and academics who want to pursue their ambitions through collaboration, the Hubs are striving to improve mutual understanding between these communities and help support a new generation of talent for whom cross-sector work is highly desirable. The Hubs have explored three core routes to fostering connections between HEIs and business:

- 2.1** Nurturing Small Businesses with Aspirations: The micro-business sector is the rich, dynamic foundation of the creative economy, a key driver of innovation. The Hubs have developed tailored approaches to support the ambitions and needs of this sector.
- 2.2** Stimulating New Academic Research and Teaching: The Hubs have responded to the ambitions of academics to explore new types of productive cross-sector work. They have helped train a new generation of researchers that can operate across different sectors and disciplines. The hubs are a test bed for how universities could be drivers of innovation in the 21st century.
- 2.3** Promoting Culture Change in Academia and Business: The Hubs have demonstrated their commitment to forging mutually beneficial connections across sectors, those that can promote changes to working practises. The Hubs are beginning to evidence these changes within universities and the creative economy.

## 2.1 – Nurturing Small Businesses with Aspirations

The UK economy is built on a foundation of micro-businesses. Supporting 0-9 employees they account for 96% of all businesses in the UK <sup>(1)</sup>. Although the sector contributes only 19% to UK turnover, its sheer scope and size make it an important generator of new ideas in the economy. Small businesses are often more agile and innovative<sup>(2)</sup> and play an important role in identifying new ideas to commercialize and create jobs<sup>(3)</sup>. With the right support, micro-businesses can capitalise on their position to fulfil both their ambitions and potential for growth. Yet, investment in this sector is geared towards businesses that are ready to scale, and away from the experimentation that characterises micro-businesses in their early phase. It is here – in the biggest part of the economy – where we see the greatest failure to sustain value. More needs to be done in this sector to develop the confidence and capability small businesses need to succeed<sup>(4)</sup>.

The Hubs are ideally placed to access and support small businesses in their pursuit of new R&D. They have carried out deep sector-scoping to better understand what these businesses value, responding with a range of tailored approaches to support their ambitions. This has included brokering access to the expert knowledge and skills they need to realise the development of new products and services; the creation of collaborative environments that support a systemised and risk-free exploration of original ideas outside of an economic context; providing workflows that best respond to the limited resources and short timescales of micro-business activity; linking enterprising small businesses to trusted networks of advisors, investment expertise, hands-on business mentoring, and PR; offering supporting from product conception through to product launch, so giving small businesses greater credibility; and providing access to additional follow-on funding for the most successful projects to commercialise their ideas and scale when the time is right.

### References:

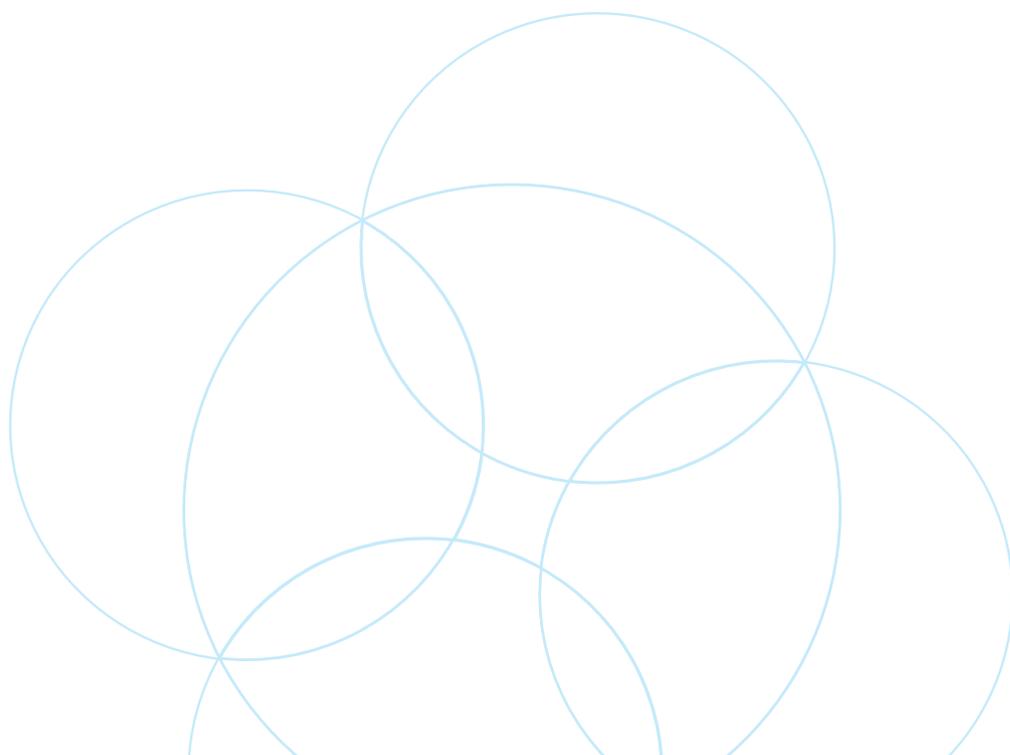
- 1 House of Commons Library (2014). Small Business and the UK Economy, p.3
- 2 Lord Young (2013). Growing your business: A report on growing micro businesses, p.40
- 3 Cornell University, INSEAD, and WIPO (2014). The Global Innovation Index 2014: The Human Factor In innovation, p.119
- 4 Lord Young (2013). Growing your business: A report on growing micro businesses
- 5 European Commission (2014). Small Business Act for Europe Fact sheet UK, p.2
- 6 *ibid.* 2, p.6
- 7 *ibid.* 2, p.11

### Micro-Businesses Make up the Biggest Proportion of the Economy

- Micro-businesses, those supporting 0-9 employees, number around 5 million and account for 96% of all businesses in the UK<sup>(1)</sup>. The creative economy is built on a large, diverse, and dynamic micro-business sector.
- The micro-business sector accounts for 33% of UK employment and 19% of turnover (£655 billion)<sup>(1)</sup>
- The GVA of the micro-business sector has been estimated as 19% of the UK economy (€199 billion)<sup>(5)</sup>
- There is a long-term trend in the increase of micro-businesses in the UK, rising from 0.8 million in 1971 to 4.8 million today. This includes a rise of around 0.5 million since the onset of the recession<sup>(6)</sup>
- There is a record 30.8 million people in work. Of the jobs created each year between 1998 and 2010, small firms and start-ups created around two-thirds<sup>(7)</sup>

### The Hubs have nurtured Micro-Businesses

- The Hubs have developed tailored models of knowledge exchange to support the aspirations and growth potential of the micro-business sector, providing the skills, resource, and expertise they need.
- The Hubs have unlocked around 77,000 hours of collaborative R&D, supporting micro-businesses to experiment with innovative ideas and develop new products and services.
- Over 150 innovative outputs with commercial potential have been created to date, including hardware devices, product designs, software apps, and a range of platforms and services that reflect the scope of the creative economy.
- Collaborative projects have helped micro-businesses to secure a further £3.4 million in investment to date, putting them on a more stable footing to realise their ambitions and reach SME stability.



## REACT Case Study: Reach Robotics

“Product development has a life cycle of prototyping, testing, manufacture but REACT’s Play Sandbox had a built in feedback loop which was really important.... Being able to have an opinion at every stage and not rely on second guessing; I think every company should be doing it”

**Silas Adekunle, CEO of Reach Robotics**

Reach Robotics builds gaming robots for young people – the first in the world to do so. Its game-to-life Mecha Monsters are controlled via an app on a smartphone and come with developer software that lets users experiment with custom robot behaviours.

Founded by Silas Adekunle while still an undergraduate at the University of the West of England, Reach Robotics has now been offered a place on the prestigious Qualcomm Robotics Accelerator in San Diego, worth \$120,000 in investment plus \$350,000 in mentorship support, helping Adekunle to bring his product to market. Central to the development of Reach Robotics was a REACT Prototype Award and subsequent participation in the Sandbox scheme – REACT’s principal knowledge exchange process. Adekunle credits the roles of the Play Sandbox producer and business mentor with helping him take his R&D forward. The curated, collaborative space of Play Sandbox also made it possible for him to test his ideas with a group of 7–12 year olds, Young Coaches who were key partners in the knowledge exchange process. Critical to developing Mecha Monsters has been project’s collaborative partners Dr. Seth Giddings and Dr. Esther MacCallum-Stewart. As arts and humanities researchers their work on models of imagination and creativity amongst game players helped Adekunle to add character and narrative into the product’s appeal. Their research expertise helped Adekunle give his start up a richer and more robust understanding of users in his marketplace. A final round of REACT funding through the Alumni Scheme in collaboration with incubator Station 12 is now supporting Adekunle and MacCallum-Stewart to extend their research findings and pursue product commercialisation.



## Design in Action Case Study: Beer 52

“Being part of Design in Action’s Chiasma has allowed me to appreciate that design principles, such as engaging with users and customers to continuously improve and refine their experience, are a must-have for companies that want to grow. Strategic design adds value to what we do and separates us from our competitors.”

**James Brown, CEO of Beer 52**

Beer 52 is an online craft beer subscription service launched in 2013 that delivers exclusive batch beers from over 12,000 microbreweries to craft beer enthusiasts across the UK. Its founder, James Brown, was named one of Forbes’ Six Most Exciting Young Entrepreneurs 2014.

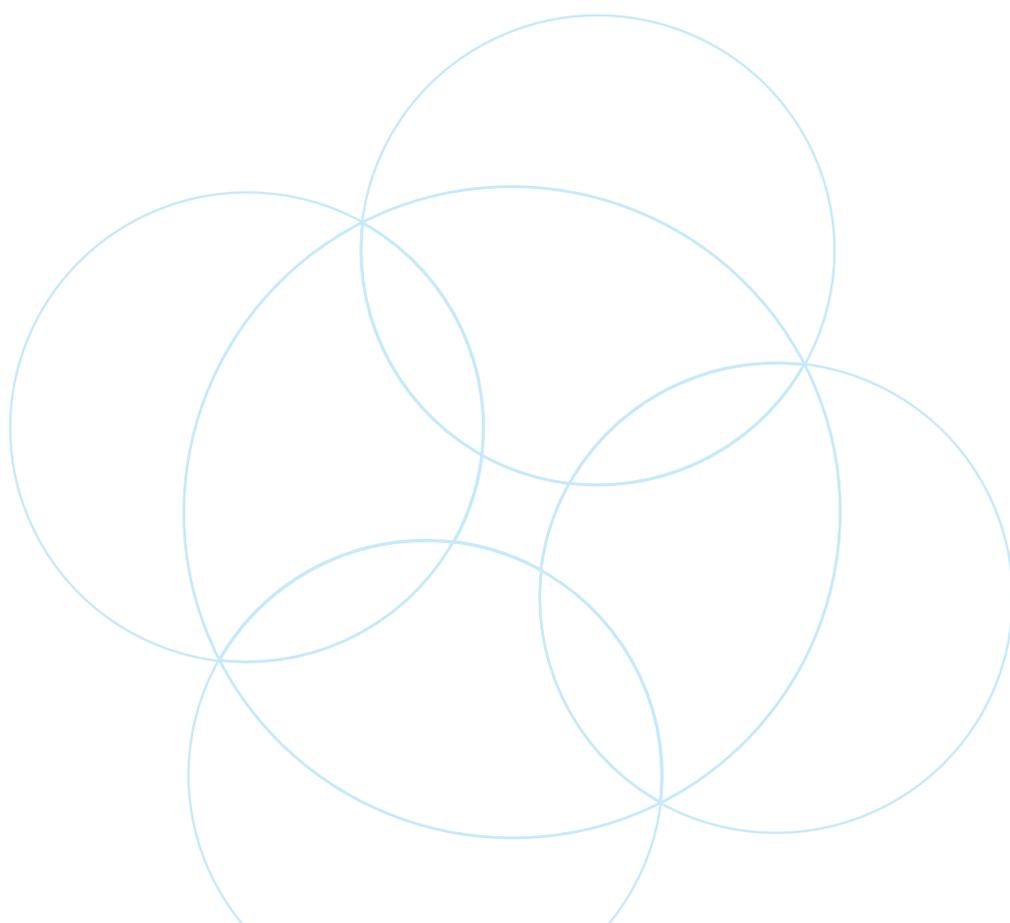
The concept for Beer 52 materialised through the Chiasma knowledge exchange event at Elgin in the Scottish highlands run by Design in Action. James had already received an Entrepreneurial Spark award and was forging on with a number of ideas, yet to be met with success. At the end of the Chiasma process, he successfully pitched his idea to receive a £20,000 grant and the professional support that has proven so essential in developing his idea into a commercially viable proposition. The company was launched within three months of the Chiasma, generating £2.0 million turnover by the end of their second year. Now the largest craft beer club in the UK - with 13 full-time employees - they are set to grow further in a UK market beer market worth around £18bn annually. Design in Action’s contribution to the development of Beer 52 has been manifold, providing hands-on mentoring in the development of a tailored business model, opening up showcasing and speaker opportunities, supporting market research, and offering networking opportunities to pursue additional expertise and funding. At the centre of Design in Action’s support has been the realisation of a user-centred business model based on generating a more personal and engaging experience for the customer. Their understanding of this approach (underpinning an arts and humanities business model - see Section 3.2) has proven powerful in keeping customers on board as the company has developed; by incorporating and valuing customer participation, the company can keep on track and remain responsive to its market.



## 2.2 – Stimulating New Academic Research and Teaching

With the cultural and creative sectors recognised as an increasingly important part of the UK economy (Section 1.1), understanding how best to nurture collaboration between HEIs and external partners becomes a key priority. The enormous scope and experimental nature of the creative economy requires, however, research perspectives that stretch traditional conceptions of academia. It needs academics to get closer to the work being done on the ground, whether to get directly involved in collaboration itself, or to analyse how such collaborations unfold.

The diversity of collaborative projects supported by the Hubs has resulted in a rich network of relationships across sectors, allowing academics to become immersed in mutually beneficial cross-sector R&D. The Hubs have helped support and expand current research into the creative economy, connecting research with creative businesses from the earliest stages of project development through to the analysis of project outcomes. Hub activities have created new opportunities for sourcing and disseminating ideas beyond the academic community, deepening research quality and demonstrating real-world impact. Finally, the Hubs are producing the next generation of arts and humanities researchers able to work collaboratively with businesses, researchers who are passionate about exploring new connections between disciplines and sectors.



### The Hubs have Broadened Academic Involvement in the Creative Economy

- The Hubs have supported the work of 26 Principal and Co-Investigators. 19 early career researchers have further helped to advance research into the creative economy and sustain the core knowledge exchange activities of the hubs. Through their work, the Hubs are gaining insight into the complexities of cross-sector collaboration and developing best practices.
- The Hubs have invested in 35 full-time doctoral positions, tying the development of new research agendas closely to the interests and aspirations of collaborative partners from other sectors. Research projects span the creative economy, from games development to interactive documentaries, from social networking tools to wearable technologies.
- Creative Works London has further supported 22 Entrepreneurs in Residence and 21 Researchers in Residence, connecting businesses to the academic expertise they need to explore new ideas and conduct research and development.
- The Hubs have produced over 80 journal articles, working papers, book chapters and reports to date, and given nearly 300 paper presentations at industry and academic conferences. Helping to disseminate Hubs' findings, these activities are essential in raising awareness around the potential for cross-sector work and seeding new ideas beyond their own networks.
- Over £26 million of additional funding has so far been raised for university-based collaborative projects, innovation programs, academic research, and postgraduate training based on work originating with the Hubs.



Case Study:  
Page 25

#### The Hubs are Driving New Research into the Creative Economy

The work of the Hubs has generated material for existing research initiatives into the creative economy, establishing new testing grounds for that research in turn. These activities are opening up wholly original lines of inquiry, so helping mobilise research into new areas of application. It is through the intensity and quality of the Hubs' collaborative networks that this higher-level of research can be supported. These networks give currency to researchers working in previously underexplored areas of the creative economy, and help to attract talent from creative and research communities into collaborative work.



Case Study:  
Page 26

#### The Hubs are Nurturing a New Generation of Researchers with Cross-Sector Ambitions

Nurturing a new generation of researchers with a deep understanding of cross-sector collaboration, experience of undertaking entrepreneurial activities in the creative and cultural sectors, and with the skills to design research with a range of impacts and beneficiaries in mind has been central to the work of the Hubs. This new generation of arts and humanities researchers will be better positioned to move between sectors and connect research in the creative economy with external organisations, including the business community.

## **Creativeworks London Case Study: Dr. Mariza Dima**

“Creativeworks London has been, for me, a bustling and energetic home of creativity, ideas generation, and fertile collaboration, much of which is owed to the people that make up the hub. Being part of a large and vibrant network of researchers, practitioners, entrepreneurs, and professionals in the creative industries has been a rewarding experience, one which has led me to fruitful collaborations, broadened my research interests, and equipped me with valuable tools, knowledge, and a network of collaborators that will help me advance my academic and professional practice well beyond the project.”

**Dr. Mariza Dima, Queen Mary University of London.**

Dr. Mariza Dima is an Interaction designer and researcher at Creativeworks London (CWL). Her research focuses on the creative application of technology in collaborative situations found in a wide range of social and cultural contexts, such as in performance art, theatre, and cultural heritage.

Working in the Capturing Audiences Strand of CWL has helped Mariza to position her research in parallel with real-world projects, making the simultaneous development and application of new understanding possible. Mariza credits CWL with opening up new directions in her work, creating opportunities for experimentation (including a “critical thinking lab” around the future of wearable technologies), supporting her professional academic development, and revealing new outlets for her expertise through consultancy roles allied with CWL’s projects and partners. One of Mariza’s key research projects is the design and implementation of an online digital platform – a creative commons – for performance artists, one that best responds to their needs, aspirations, and concerns around privacy, data security and intellectual property. A series of roundtables, symposia, workshops, and publications have been planned, including national and International activities targeting the creation of a trans-European network of artists and scholars involved in this area. Her work has been published widely in journals and leading academic conferences.

## Creative Exchange Case Study: PhD program

“The CX PhD program allowed me to apply my existing skills, aptitudes, and curiosity in a structured way through collaborative projects. The broader PhD enquiry and supervision, alongside training in designing and communicating research activities, has enabled me to work effectively with industry, academia, and policy organisations. The immediacy of live projects and the rigour of the expected outcomes has allowed me to work on, and learn to manage, research with impact and real-world application.”

**Hannah Stewart, Creative Exchange PhD program.**

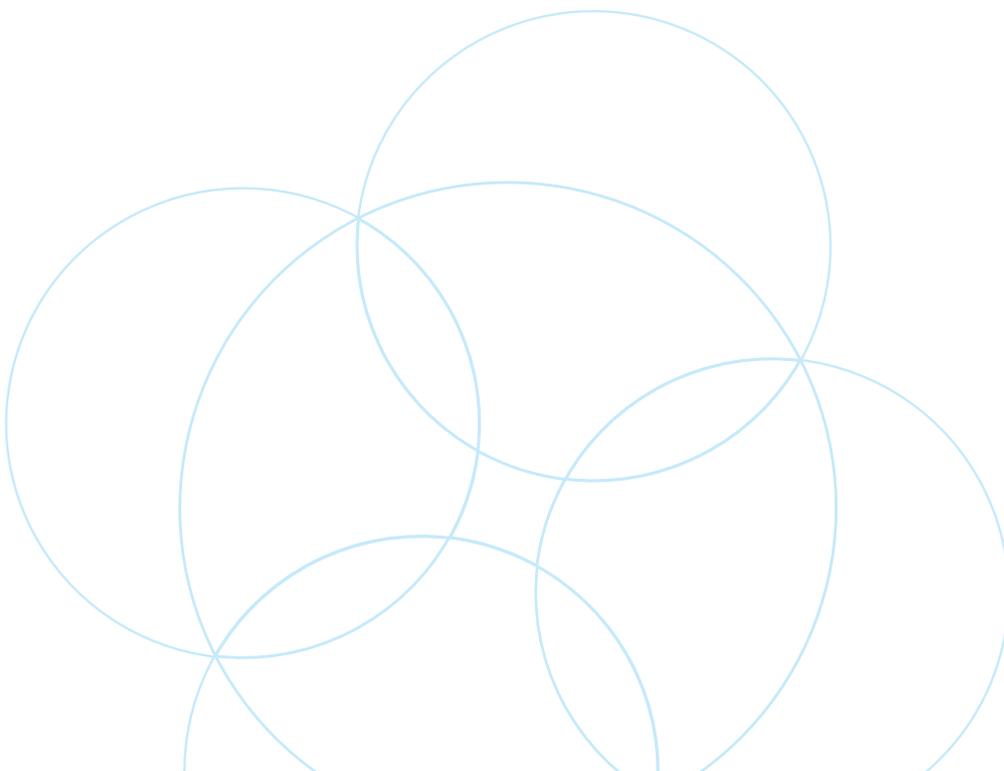
The CX PhD model places 21 doctoral students at the centre of the knowledge exchange process, emphasising the development of expertise in ideation, engendering exchange, managing cross-sector relationships, and developing collaborative design-based research.

By working with academic and non-academic partners, the students build expertise in different specialisms, gain entrepreneurial skills, and develop an agility to work across sectors as they carry out their research. An example of a CX PhD Journey is Hannah Stewart. Coming from a background in the creative and cultural industries, her research at CX has focused on the role of digital public space in relation to the maker movement, exploring issues around procurement, open data and communities, political activism, and the implications of data privacy and copyright in the digital age. Through a research tender from NESTA she has also undertaken a comprehensive survey of UK maker spaces and their networks of activity. Building on this work, Hannah has been offered a position at the Royal College of Art as Research Associate for the EPSRC project ‘Future Makespaces and Redistributed Manufacture’. The Creative Exchange PhD program has helped Hannah gain a position where she will be able to move more easily between academia and business. The CX PhD model is now being further developed by the Hub’s partner institutions. At Newcastle University, for example, the model is the foundation of a new £6.5 million EPSRC-funded Centre for Doctoral Training in Digital Civics. In this program, doctoral students will work with academics from across several disciplines, local government, and third sector partners to explore the creation of community-driven digital technologies and services.

## 2.3 – Promoting Culture Change in Academia and Business

The mutual benefits that collaborative work linking academic research and business can bring is increasingly clear, diverse, and desirable. In driving new forms of innovation, more work needs to be done to improve the mutual understanding between HEIs and businesses, and to make it easier for researchers to move between sectors<sup>(1)</sup>. This is a process of culture change, one that will require more cross-sector links to explore the potential benefits of collaborative work and a new generation of researchers that have both business and academic knowledge.

The Hubs have demonstrated their commitment to forging these mutually beneficial connections. Through curating cross-sector collaborative teams, small businesses have been supported in expanding their ambitions (Section 2.1), and academics have been connected to the right businesses to advance their research agendas (Section 2.2). In pushing models of knowledge exchange towards an understanding of collaboration as co-creation, the value of collaborative work extends far beyond the mere “exchange of knowledge” between sectors. The power of these approaches is now being demonstrated in those academics and businesses who are changing their own working practices to better exploit cross-sector opportunities. Culture change of this form will re-shape the boundaries between academia and business. It will impact on how we train future generations of creative practitioners/researchers to tackle 21st century issues that lie not only across traditional sector boundaries but touch upon the full scope of university and business expertise (Section 3.0).



## The Hubs are Driving Culture Change in Micro-business

University research is a powerful driver of business innovation. Research is now revealing the extent to which graduate employees – including those from the arts and humanities – stimulate business growth by strengthening their ability to identify, adapt, and integrate new ideas<sup>(2)</sup>. For a number of micro-businesses, the experience of working with the Hubs has revealed new ways of working that bring them closer to academic research in their everyday operations.

### Creative Exchange Case Study: Red Ninja

“The access to a multi-disciplinary team and thought leaders in design and co-creation methodology has been important in our growth as a design led technology company. Having direct access to work with a local authority in a paid capacity gave us confidence and credibility, which enabled us to design and develop a solution that enables more visibility for citizens living in urban environments”

Lee Omar, Director of Red Ninja.

**Working with CX:** Red Ninja is a design-led technology company based in Liverpool. In their first year of trading, with one part-time employee when they approached the Creative Exchange, the company was keen to invest in their own R&D as a way of building a more sustainable future. Through a collaboration with academics from Liverpool University, CX doctoral researchers, and Liverpool City Council, Red Ninja developed the Open Planning project, a re-thinking of the urban planning process in the digital age. The CX PhDs were pivotal in connecting Red Ninja to the academic community, public interest groups, and businesses they needed to develop a credible prototype mobile application. The Open Planning app has led directly to new collaborative work with utility companies wishing to better use planning application data in the implementation of large infrastructure investment projects.

**Culture Change Beyond:** Red Ninja credits the role played by the CX PhDs with accelerating the business by three years. The company has now expanded internationally, creating thirteen new graduate jobs. Wishing to keep working with imaginative, flexible, and well connected academics, Red Ninja are now funding a part-time postdoctoral position linked with Lancaster university – the home of CX – and sponsoring three full-time PhD positions of their own. This allows Red Ninja to conduct R&D in the areas of mathematical modelling, electrical engineering, and creative coding, helping them shape academic research around the questions they need answered. In supporting creative young minds who wish to pursue both academic and business ambitions, Red Ninja is best understood as a learning organisation in its own right, one that is driving a culture change in the capacity for academics and creative practitioners to operate across sector boundaries.

## The Hubs are Driving Culture Change in Academia

Through exposure to the workings of other sectors, the Hubs have enabled academics to expand their research ambitions, develop new research methods, adapt teaching practices, and explore new roles in the world of business. The insights gained into the value of co-producing work across sectors has helped a number of academics to reappraise their role as researchers and educators, and has led them to test what universities could be in the 21st century as drivers of applied research and innovation.

### REACT Case Study: Professor Tim Cole

“Being involved in REACT has made me rethink and, in a sense, reinvent myself. Working collaboratively in an intensive way with creative industry partners, the boundaries between ‘academic’ and ‘creative’ quickly became blurred. There is a freedom in these disruptive ways of working and opportunity for reinvention. As well as rethinking my sense-of-self as an academic, this has caused me to rethink my sense of the university as an institution focused around research and teaching.”

**Professor Tim Cole, Bristol University.**

**Working with React:** Tim Cole is Professor of Social History at the University of Bristol. Through REACT, Cole collaborated with the interactive design micro-business Stand + Stare to develop an exciting new type of travel diary. Building on their shared interest in travel and new narrative forms, the Mayfly Sound Journal enables users to link sound recordings with travel memorabilia through a physical book and accompanying iPhone app. Described as a “true collaboration,” Cole is credited with injecting new energy and skills into the business. Now an equal partner and company co-director, the team are working with business accelerator Upstarter through the REACT Alumni Scheme to prepare for a first seed investment round.

**Culture Change Beyond:** Extensive involvement with REACT and other co-produced research projects has led to Cole repositioning his work towards histories of technologies and research into co-production and cross-sector innovation. Drawing on his experiences of the REACT process, Cole is now teaching The Business of the Humanities, an undergraduate course in which students work with external university partners to design solutions to “live challenges” generated by local organisations. This forms part of the ambitious Bristol University Innovation degrees that Cole has also helped create, a new cross-disciplinary program enabling students to pursue their academic specialism and apply it to key innovation areas. This repositioning of Cole work is perhaps best reflected in his lead of the GW4’s Creative Economy theme and Bristol University’s new Brigstow Institute, a centre committed to cross-sector and co-produced research in the investigation 21st century societal challenges.

#### References:

- 1 Dowling, A. (2015). The Dowling Review of Business-University Research Collaborations, p.5
- 2 CFE research (2014). The Impact of Doctoral Careers, p.4

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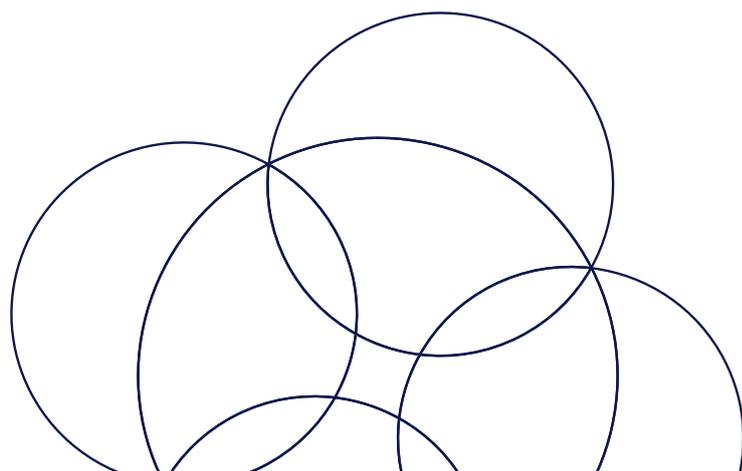
# The HUBS

## Innovating in a Complex World

Section

# 03





## Introduction

As a basis for strong cultural and economic exchange, the creative economy can point towards radically new ways of organising many of the essentials of life in the 21st century – from money and health to democracy and education. This underlies how the cultural and creative sectors can enrich life in the UK through creating social, cultural, and economic value<sup>(1)</sup>. The question today is how new forms of knowledge exchange can connect up creative talent to drive innovation in areas that cross multiple sectors and, increasingly, evade traditional solutions. This is at the core of the Hubs' endeavour: Their knowledge exchange models have increased and diversified the flow of creative ideas across sectors, enabling academia, business, and the public sphere to cultivate mutually beneficial partnerships for our 21st century lives. Three important areas addressed by the Hubs include:

- 3.1** Re-thinking Business: The Hubs have revealed how the arts and humanities can help position consumers at the centre of business activities. Opening up innovative forms of cooperation in the creation of products and services may lead to more adaptive and sustainable business ecologies.
- 3.2** Re-thinking Community: Digital technologies are creating radically new approaches to support the needs and ambitions of communities, whether physical or virtual. The Hubs have shown how Smart technologies can help re-think public service innovation and digital public space.
- 3.3** Re-thinking Regions: The creative economy is regionally distinct, and its full potential is yet to be tapped. The Hubs have demonstrated how universities can help build R&D-driven regional networks across sectors in order to identify, connect, and nurture creative talent. The Hubs have worked hard to build critical mass from the energy of the creative and cultural sectors by aggregating them into regional and cross-regional R&D-driven collaborative networks.

### References:

1 The Warwick Commission (2015). Enriching Britain: Culture, Creativity and Growth

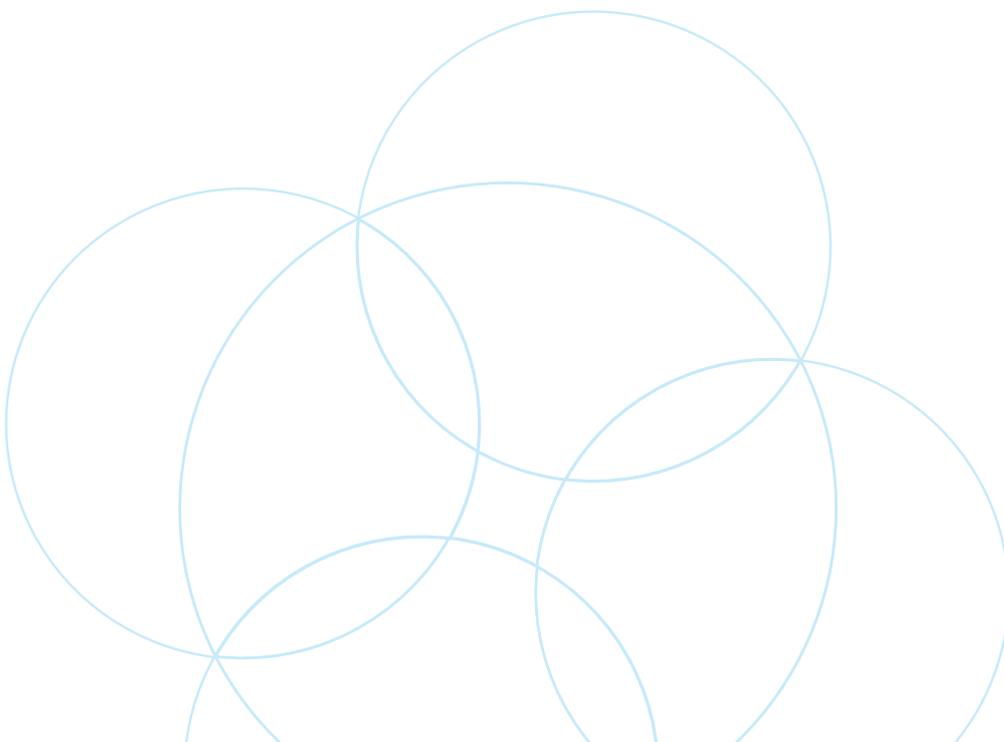
## 3.1 – Re-thinking Business

We are witnessing the emergence of the ‘pull economy’ where business growth is built on the support, experience, and values of its users<sup>(1)</sup>. Placing the customer at the centre of business activities opens up new forms of innovation such as in the co-production of products and services<sup>(2)</sup>. Research from the Hubs shows that small businesses can play an important role in this movement. Agile in responding to changes in markets, and more flexible in incorporating multiple perspectives into their work, small businesses are well placed to de-risk product development and increase user-reach and satisfaction (Section 2.1).

The importance of the arts and humanities as a rich resource of knowledge, methods, and skills (Section 1.3) for the small business community becomes clear in the development of new user-centric business models: In providing diverse and original content for commercial adaptation, new channels between businesses and consumers can be opened; through expertise in understanding different target audiences, new products and services can be co-developed. As a bridge between HEIs and business, the Hubs have proven successful in brokering and facilitating this process of knowledge exchange. Research undertaken by the Hubs into regional business contexts, funding landscapes, and IP models has supported the often unpredictable nature of knowledge exchange, further supporting businesses to innovate and grow.

### References:

- 1 Identifying an Arts and Humanities Business Model and Practice (Design in Action Hub, 2015)
- 2 Staying ahead: the economic performance of the UK's creative industries (The Work Foundation, 2007), p.17



### The Hubs have Tested new Arts-and-Humanities-Influenced Business Models



- The Hubs have helped businesses to understand the fine-grain of their target users in the conception and development of new projects. This is made possible through the careful brokerage of collaboration with arts and humanities researchers. This understanding is essential in a 'pull economy' if a business is to respond to user values and enter new markets with sensitivity and confidence.
- Based on this understanding, projects at the Hubs have developed new ways of engaging producers and researchers with consumers through the co-creation of products and services. Innovative forms of participation in publishing, documentary making, data-delivery, heritage, communication, marketing, product development, and manufacturing have emerged as a result.
- Research at the Hubs has shown how these new forms of value sharing can be a powerful force for amplifying good business practices. This is a key factor in helping businesses build in the capacity for growth and develop sustainable business ecologies that are capable of supporting future innovation.

### The Hubs have Conducted Research that Supports Business Model Development



- The Hubs have worked to define regional business contexts, profile business support, and chart changing business landscapes. This is knowledge that can help micro-businesses identify new trajectories for innovation and growth.
- The Hubs have worked to understand the diverse social, cultural, and economic valuing practices at play in the creation of new products and services in the pull economy, so helping micro-businesses to better-reach target audiences and consumers.
- The Hubs have worked to develop knowledge exchange processes and early-stage Intellectual Property models, so helping to support micro-business R&D. This is research that is not originating from within the sector itself.
- The Hubs have worked to advance an understanding of sector-specific knowledge landscapes and networks, helping micro-businesses to develop strategies for sector entry and integration.

## Design in Action Case Study: UAN Wool

“There is an ever-increasing pool of people I work with. The blend of skills we have now is what’s making UAN Wool work, and it’s the Hub that brought that together.”

“Rhoda, one of my seamstresses, has been able to move to a bigger premises based on the one solid day of work I can give her a week. She knows that one day will pay her rent, and that confidence allows her to move forward.”

**Julie Hermitage, UAN wool**

The award-winning micro-business UAN is utilising wool’s natural health and anti-allergen properties to create a line of high-quality products that includes cushion pads, duvets, mattresses, and contoured orthopaedic pillows. Through these products, UAN are targeting not only the high-end retail market with luxury goods, but aiming to enter the healthcare market as well. Following a successful launch at the Royal Highland show in 2015, UAN are now focusing on opening their online store and securing Allergy UK certification with the long-term aim of becoming an approved NHS supplier. A business that has come into existence through the Design in Action programme, UAN now employs two full-time and five part time staff.

Design in Action has played a vital role in the development of UAN, providing extensive business mentoring, investment expertise, and funding support. In addition to the original project funding, an innovation voucher is now supporting UAN to work with a textiles academic at Heriot-Watt university in developing the anti-microbial properties of her wool products. Through this support, UAN has been developing a business model based on a positive feedback loop between the values of the company, its clients, and customers. By working with creative agents that can broker solutions to the needs of informed clients, UAN has been building connections of trust between all parties involved in the development and testing of new products. UAN is also aspiring to support product traceability and ‘upcycle’ solutions, so offering the strong green credentials that customers have indicated is so important. By aligning an interest in people’s wellbeing alongside the creation of a low-impact carbon economy, UAN hopes to help create smart and sustainable communities that can support rural economies involved in the manufacture of wool products.

## **Creativeworks London Case Study: Beatwoven**

“Through the financial support of Creativeworks London, my collaboration with academic partners has not only taken my business to a whole new level, but catapulted me into a world of support that I never knew existed. I now have complete assurance that I can grow my business idea without infringing on copyright, and the opportunity to develop my technology further, thanks to the Creativeworks BOOST fund. With each step my confidence grows, and soon I will have the skills, tools and business evidence I need to pitch to an investor, apply for more funding and take the next steps to grow my business further.”

**Nadia-Anne Ricketts, BeatWoven.**

BeatWoven is a multi-award-winning textiles label offering luxury goods that fuse together woven design with music visualization. Chosen to encapsulate different moods, the audio structure of individual songs is captured through customised software and transformed into bespoke woven patterns.

BeatWoven is one of the first businesses to make use of these new digital methods to carve out an existing resource for creative and commercial benefit. To achieve this, BeatWoven worked closely with researchers at Queen Mary University to investigate the complex intellectual property questions surrounding creative freedom in design and music copyright law. This collaboration has not only given BeatWoven the assurance it needs to work in the market place, but has equipped its founder, Nadia-Anne Ricketts, to address questions from the public on these issues with confidence. Such work will be of considerable benefit to other businesses that wish to use existing cultural artefacts in user-centred, innovative product design in the future.

Through the success of the Creativeworks scheme, BeatWoven has expanded its product range and now boasts sales at Harrods, the Southbank centre in London, and ABC carpets in New York. With an increase in turnover of 250%, exclusive exhibitions in Paris and Dubai in the pipeline, and conversations with six interior design companies ongoing, BeatWoven has big plans to capitalise on the development that CreativeWorks London has made possible.

## 3.2 - Re-thinking Community

Digital technologies are opening up radically new ways for communities to identify and respond to the unique challenges they face<sup>(1)</sup>. Digital tools are beginning to change the way we think about creative and cultural engagement; how we address pressing issues around social cohesion and democracy; what we understand the role of community building (whether physical or virtual) to be; and how we might re-model public services to respond to changing lifestyles and the emergence of new economies. Recognising that we are more connected than ever before in a technological space that creates both opportunities and challenges, a common perspective is now emerging on how digital social innovation as a means of creating value can be driven forward<sup>(e.g. 2)</sup>. Centre stage is experimentation with new products and services that embrace emerging technologies and are underpinned by a collaborative approach that engages with businesses, researchers, and the public. Cross-sector engagement can reveal not only where innovation is needed, but also help identify those ideas with the potential to transform at scale.

The collaborative models developed by the Hubs have proven well suited to support engagement around the different perspectives and needs of stakeholders. They have explored the role digital technologies can play in supporting a rich cultural, social, and creative life. The Hubs have tested new approaches to driving innovation, highlighted trajectories for development, and revealed concrete examples of what can be achieved.

### References:

- 1 Bria, F. et al., (2015). Growing a Digital Social Innovation Ecosystem for Europe, p.4
- 2 European Commission, Directorate-General for Research and Innovation (2013). Powering European Public Sector Innovation: Towards A New Architecture, p.6

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### Connecting with Audiences

**Digital technologies and social networks are changing the ways in which people can participate in live events, broadcasts, and public spaces. The Hubs have developed innovative digital prototypes that explore these new forms of dynamic connection. Projects supported by the Hubs have asked where new possibilities lie in the co-creation of work between audience and producer – whether in relation to opera, dance, theatre, or cross-over genres. Responding to audiences’ desire to capture their experiences of an event, new software apps and innovative physical-digital devices have been developed that allow real-time events to be captured, documented and curated for posterity. In parallel, research at the Hubs has led to new methods for analysing audience behaviour, with the goal of enabling the design of more responsive and interactive cultural events.**

#### Spotlight

**Creativeworks London Spotlight:** Co-Curate is an online platform through which contemporary art can be inspired and made by its audience. Developed as a collaboration between Kingston University and the London Sinfonietta, audiences are invited to respond to a range of briefs conceived in collaboration with educational institutions, composers, and artists. Through the submission of new materials – sounds, words, and still or moving images – audiences can participate in the creation of original work and step closer to the act of artistic creation. The platform has been developed through an open-submission pilot project around the theme of Beauty in Imperfection. The submitted work has contributed to the development of a new solo cello piece (composed by Samantha Fernando and performed by Oliver Coates) and accompanying multi-media showcase presented at The Asylum Chapel in Peckham in June 2015.

2

### Revealing the Past. Documenting for the Future

**The UK possesses an extraordinary wealth of archives, collections, and built heritage, laying an important foundation for shared understanding and the promotion of cultural and social exchange. The Hubs have developed innovative digital approaches to engage contemporary audiences with this heritage, thinking beyond a passive encounter with the past to support new forms of living engagement and reflection. Responding to contemporary cultural and social contexts, these projects explore a wide range of heritage and educational needs, support diverse age groups as well as cross-generational exchange, and are leading to new developments in the recording of rare oral cultures and musical traditions.**

#### Spotlight

**Creative Exchange Spotlight:** Playful Narrative Realms is a project exploring the potential for playful digital games and storytelling in a heritage setting. Through CX, English Heritage collaborated with researchers at Newcastle university to develop a new approach to encouraging families and young children to explore Belsay Hall, an empty country house in Northumberland. The resulting iphone game brings to life the mythical Wild Man of Belsay, guiding the player through challenges and responding to their actions as they explore the site. This multi-disciplinary group brought together researchers in games and interaction design, a professor of 18th Century Studies, and an interior designer. An evaluation of the game in January 2015 revealed that it had enhanced visitors’ enjoyment and interest in heritage, making the site more engaging, enabling play, and encouraging learning.

3

### Innovation in Community Services

**Faced with challenges in the provision of public services and the support of local communities, new spaces for digital technologies are beginning to emerge. A central theme in the work of the Hubs has been the use of creative approaches to help strengthen connections between cultural organisations and the groups they support, and to develop services that can connect and empower minority, disadvantaged, or vulnerable groups. Going further, the hubs have explored the role of participatory design in civic and societal issues, looking at citizen journalism, attitudes to data privacy and security, and online games for democratic engagement, amongst others. These new capacities come together in a re-thinking of public services. The Hubs have addressed the role communities can play in urban planning and re-development, the use of Smart technologies in managing health and wellbeing, and the development of circular and sustainable rural economies.**

Spotlight

**CreativeWorks London Spotlight:** The project Re-valuing Temporary Urban Use connected urban researchers with art and architectural practitioners from the social enterprise Public Works to explore the development of temporary urban spaces in London. Although temporary re-use is favoured by a range of organisations and policymakers, the lack of a critical space to discuss competing aims, values, and material conditions makes it difficult for practitioners to identify barriers to re-use. The project has led to the development of tools for Public Works to demonstrate these different values in relation to the wider dynamics of urban transformation, so helping them better address their needs and those of the networks in which they operate. The study of temporary urban uses is an emerging field. It is hoped that in opening up a space for critical reflection with policy-makers, practitioners, and residents, user-led strategies for promoting urban resilience can be developed.

### 3.3 – Re-thinking Regions

Although the national benefits of investing in the creative economy are clear, there is no ‘one size fits all’ solution to driving regional development in this sector. Benefits can be seen in terms of wealth generation, employment opportunities, social inclusion, and regeneration strategies, but each region has its own creative strengths and cultural resources, its own existing clusters of energy and capacities for growth<sup>(1)</sup>. Supporting and growing regional clusters is a key challenge to building a dynamic and adaptable creative economy. The 21st Century University has a crucial role to play in supporting this process, acting as ‘anchor institutions’ within a regional economy to connect them to rich networks of knowhow, technology support, and investment advice through a range of collaborative models best suited to this complex innovation landscape (Section 1.2).

The university-led Hubs have worked hard to build critical mass from the energy of the creative and cultural sectors by aggregating them into regional and cross-regional R&D-driven collaborative networks. This has helped to build in new connections that both strengthen existing networks and add diversity, opening them up to new ideas. The Hubs have responded to unique regional strengths by adopting flexible approaches to knowledge exchange that can identify key topics and build the right collaborative teams. Most importantly, the Hubs have shown that arts & humanities researchers can build and lead these dynamic networks to create long-term value for the creative economy. Finally, through the diversity of creative economy projects supported, the Hubs have shown how their collaborative models and networks support value creation in terms of place-making, cultural regeneration, community building, and economic growth.

References:

- 1 The Work Foundation (2009). Investing in Creative Industries: a guide for local authorities
- 3 DCMS (2014). Creative Industries: Focus on Employment, p.17
- 4 Ibid., p.15
- 5 Scottish Government (October 2015). Growth Sector Statistics
- 6 Ibid. 3, Appendix C, p.68

## The Creative Economy is Regional

- The creative economy has a strong regional focus, representing over 5% of all jobs in any given UK region. Over two thirds (71.9%) of jobs in the sector are based outside of the capital<sup>(3)</sup>
- Between 2011 and 2013, the proportion of UK jobs in the creative economy increased by 8.8%, reaching 2.6 million<sup>(4)</sup>.
- In 2014 the creative industries in Scotland employed 71,800 people – a 4.7% increase on 2013 and a 12% increase since 2011<sup>(5)</sup>.
- Between 2011 and 2013, the biggest increase in creative economy jobs – of over 10% – was found in Yorkshire and the Humber, East Midlands, West Midlands, and the East of England<sup>(6)</sup>.
- There are many regional differences. For example, whilst employment in Music, Performance and Visual arts is around 8% in Northern Ireland, the figure is nearly 16% in Wales. Similarly, Craft sector employment is around 1% in London, but over 7% in the West-Midlands<sup>(6)</sup>.

## The Hubs have Built Regional Creative Networks

### Achievement

**1** – The four Hubs have drawn together 56 partner institutions, each with a different regional or cross-regional focus. Together they have networked creative agents from across the UK. Each hub has demonstrated their capacity to identify the strengths of their creative cluster and deploy tailored knowledge exchange models to capitalise on the opportunities they offer. In demonstrating the strengths of each cluster, productive areas for future investment are being revealed.

### Spotlight

**Design in Action Spotlight:** Design in Action has five principle partners, drawing together some of the best Scottish universities for Art and Design: University of Abertay, The Glasgow School of Art, Robert Gordon University, University of Edinburgh, and St Andrews University. With a focus on key issues facing Scotland today, Design in Action have driven collaborative exchange on topics such as Made in Scotland (capitalising on cultural heritage), Health and Wellbeing (type 2 diabetes and self managed health), and Food and Rural Economies. The Chiasma – their collaborative knowledge exchange process – has been tested across Scotland, the scoping and development of each theme closely tied to the requirements of the sector under the spotlight. Design in Action's collaborative process has drawn over 650 businesses into contact with its network, and has resulted in the creation of a host of new business ventures.

Achievement

**2** – The Hubs have succeeded in helping small businesses with new project ideas grow through becoming part of larger networks. The Hubs have achieved this through profiling and connecting actors in the wider creative economy through diverse events for scoping potential themes and collaborative partners, a large body of projects funded over the life-span of the Hubs, and an expanding network of advisors, funders, and partner institutions.

Spotlight

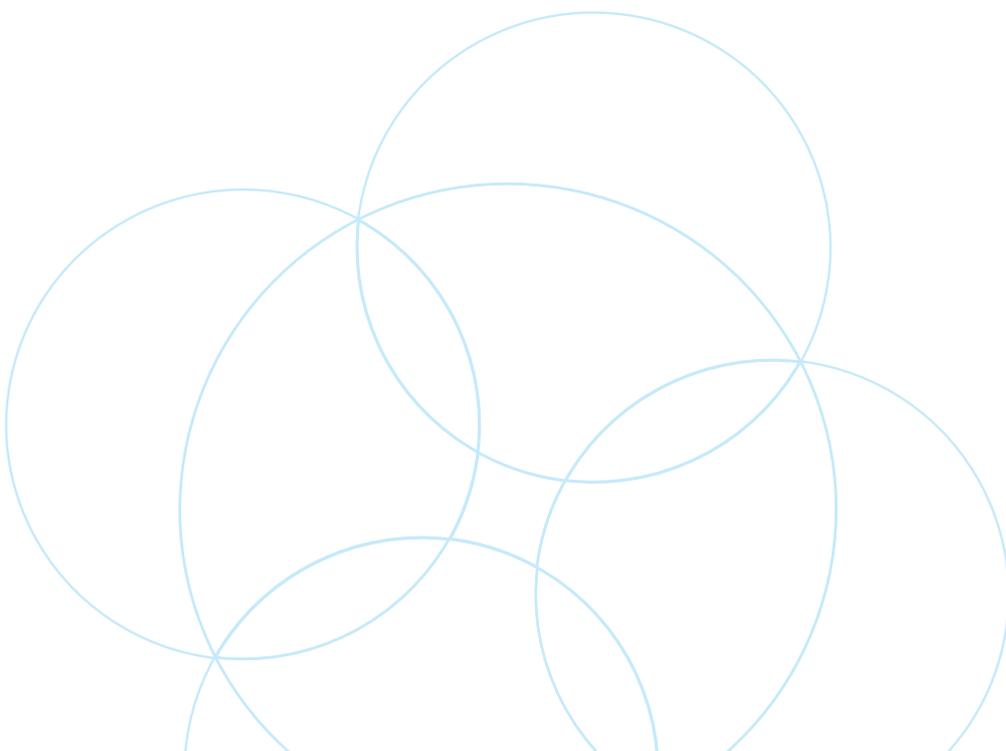
**REACT Spotlight:** Bow Software is a small design agency based near Dartmoor. Through support from REACT, they teamed up with Dr. Nicola Thomas at Exeter University to produce a bespoke, prototype e-biography linking archive material with rich multi-media content. REACT business mentors helped Bow to take the project further and develop the NFC bookmark, a physical-digital device that unlocks additional content in an e-book, opening up new revenue streams after download. Bow have now been accepted into SETSquared at Bristol's Engine Shed, Europe's no.1 high growth business incubation venture program, with Bow's founder Charlotte Quickenden featuring in "42 under 42" entrepreneurs to watch in the South West. With a growing reputation in the South West, Bow Software are an example of how a young enterprise can be connected to a regional creative economy hotspot through brokerage by a university-led Hub.

Achievement

**3** – The four Hubs have involved over 2,800 people in their signature knowledge exchange events, with over an additional 13,000 people attending conferences, showcases, and public lectures focused on the work of the Hubs. An even wider audience has been reached through the various exhibitions and shows that have stemmed from individual collaborative projects. Through revealing both the potential for, and successes of, cross-sector collaboration, these events play an important role in sowing new ideas across sectors. The Hubs are currently investigating the importance of these networks for supporting growth in the creative economy and supporting cultures of innovation.

Spotlight

**Creative Exchange Spotlight:** Time & Motion: Redefining Working Life was a major CX exhibition, symposium, and publication produced in 2013-14 in collaboration with the new media arts centre FACT Liverpool. Building on a major research strand conducted at the CX Hub, the exhibition used artworks, research projects, archival materials, and interventions to track individual journeys through the world of work and explore how technology is affecting the way we work. A total of 16,605 people visited this exhibition from a wide range of sectors – general public, academic, industry, and third sector. The exhibition has since gone on to be presented in Berlin as part of the Transmediale 2015 festival.





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