

For more information on Creative IDEAS or any aspect of this project please contact Leon Cruickshank.

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Contents

troduction	I
revious Work DEAS at Daresbury DEAS at Daresbury Workshops	
ne Creative IDEAS Project troduction to Creative IDEAS pol & Technique Evolution ne Creative IDEAS Workshops reative Structures uman Interaction sualisation	12 14-49 50 52
npact npact on Research npact on the Wider Community and Businesses ase Study: Halcrow ase Study: The Storey Creative Industries Centre eveloping Resilience Through the Re-Imagination of Public Services	61 63 65
nsights nowledge Exchange and the New Academic o-design for Social Innovation through Community Engagement esign Innovation in Knowledge Exchange	70
articipating Organisations eam Profiles ublications	76

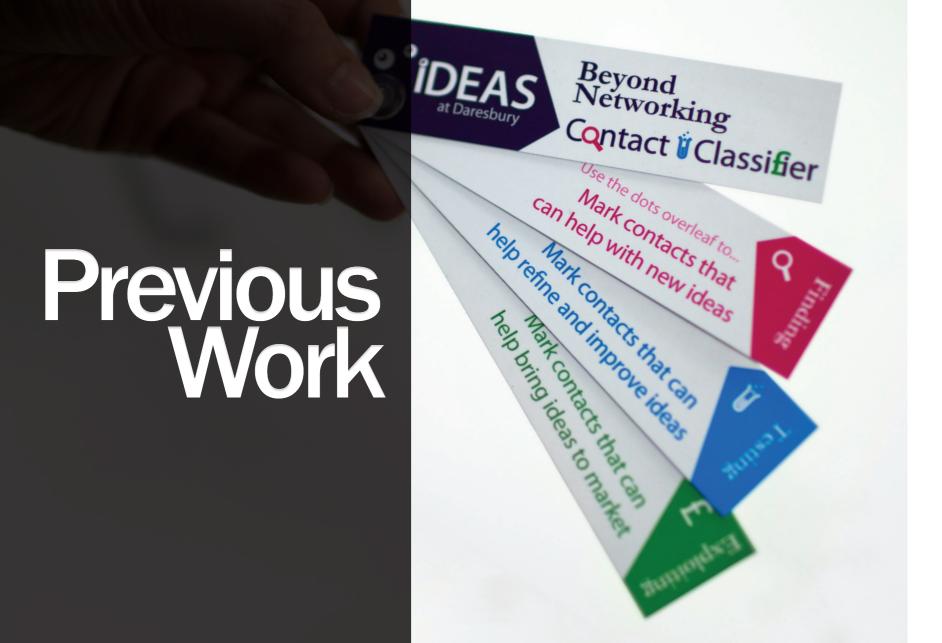


Introduction

This book describes some of the processes, activities and approaches we have developed over the last 18 months as part of the Creative IDEAS knowledge exchange project undertaken by ImaginationLancaster, a creative research lab at Lancaster University. It also articulates the philosophy we are developing around design and its engagement with knowledge exchange. Our approach has a few defining characteristics:

- We design knowledge exchange, using both new and well proven design processes and methods. We facilitate knowledge exchange activity that responds to a specific context and so is different every time, rather than adopting standard approaches and mechanisms.
- We research human to human interaction (knowledge exchange).
 Our activities are informed and inform academic research in design, management and knowledge exchange.
- > We have *no interest in multiple delivery* of an approach beyond one or two iterations to hone and establish the effectiveness of an approach. We do not occupy the same position in the knowledge exchange ecology as consultants, rather we write the papers and books that consultants draw from.
- > We use *visualisation* as one of our core strategic activities in the development and also the delivery of activities with communities, academics, and most of all, business.

This places us at an important crossroads where academic research and business interact to create impact. We aim to remove the tensions between excellent research and highly effective business engagement, developing both in a mutually supporting virtuous circle of reflection and application.



IDEAS at Daresbury

The IDEAS at Daresbury collaboration preceded the Creative IDEAS programme in 2009. ImaginationLancaster led a section of this project with a focus on helping SMEs develop their networks, creative thinking skills and their product/processes innovation through a series of five workshops. This was an unprecedented interdisciplinary and cross-institutional collaboration between the Business and Management Schools of Lancaster, Liverpool and Manchester and ImaginationLancaster. The programme was funded by the Regional Development Fund (NWDA), European Union Structural funding (ERDF) and STFC (Strategic Technology and Facilities Council). It was also supported by and delivered at Daresbury Innovation and Science Campus, Cheshire.

Being tailored towards 40 high-tech SMEs at Daresbury Innovation and Science Campus and within its surrounding network, interactive and highly innovative mechanisms were used to create experiential and transformative methods and tools for knowledge exchange. A collaborative approach to programme design was the foundation of events, the design of activities was then driven forward via graphic and interaction design approaches providing companies with a rich, dynamic experience.

The IDEAS at Daresbury partners from ImaginationLancaster and Lancaster University Management School were awarded the Vice Chancellors Award for Excellence in Knowledge Exchange in 2010.

IDEAS at Daresbury:

Connect Workshop

Theme Effective Networking Partners Lancaster University Management School, Manchester Business School, Liverpool Business School, Daresbury Science and Innovation Campus (DSIC) DSIC Venue

Participants 25 High-Tech SMEs

This workshop looked at Social Networks and how value can be created within them by providing simple and hands-on tools to help participants benefit from their contacts. Networks are an important means through which companies can access knowledge and the resources needed to foster innovation.

Academic literature has established that, if used correctly, social networks can help improve the performance of a company though connections with information and resources.

In order to represent this idea in a simple and concrete way, we introduced a concept of 'nets', an idea specifically developed for this workshop. A net is a way to visualise networks in action and can be defined as the sub-set of contacts that are activated to carry out a specific task. This could be solving a specific manufacturing problem, launching a new product or generating new ideas. Through visualising a network and the nets hidden within it, workshop participants were able to plan future actions in a more strategic and efficient way.







Who are you?

Network Questionnaires

Network Mapping





IDEAS at Daresbury:

Create Workshop

Theme	Group Ideation
Partners	Lancaster University Management School, Manchester Business School, Liverpool Business School, Daresbury Science and Innovation Campus (DSIC)
Venue	DSIC
Participants	25 High-Tech SMEs

Fruit Stickers

Physical Problem Solving

Creative Thinking Hats

Brainstorm

Bad Idea

Creativity Map

Using the experience and understanding developed in the *Connect* workshop the *Create* workshop addressed two issues often overlooked when thinking about innovation, namely creativity and invention.

In the *Create* workshop we explored the requirements and characteristics for creativity to grow and flourish. Applying cutting edge research in creativity and design, we determined that almost by definition anyone involved in business will be creative and have the potential for that creative ability to be amplified and extended.

We introduced a number of approaches to help explore ideas and concepts in the initial 'hard graft' stage of idea development. We did this by allowing all participants to directly experience one of these approaches for enough time to really get a flavour of the experience and then report back to the group as a whole.

In addition to 'classical' brainstorming we designed 3 new approaches specifically tailored to creativity in SMEs; Creative Thinking Hats (reacting against de Bono), Bad Ideas (a technique for side-stepping the self-censorship of ideas) and Physical Problem Solving (looking at the fundamentals of creativity and collaboration).









Creative IDEAS Project

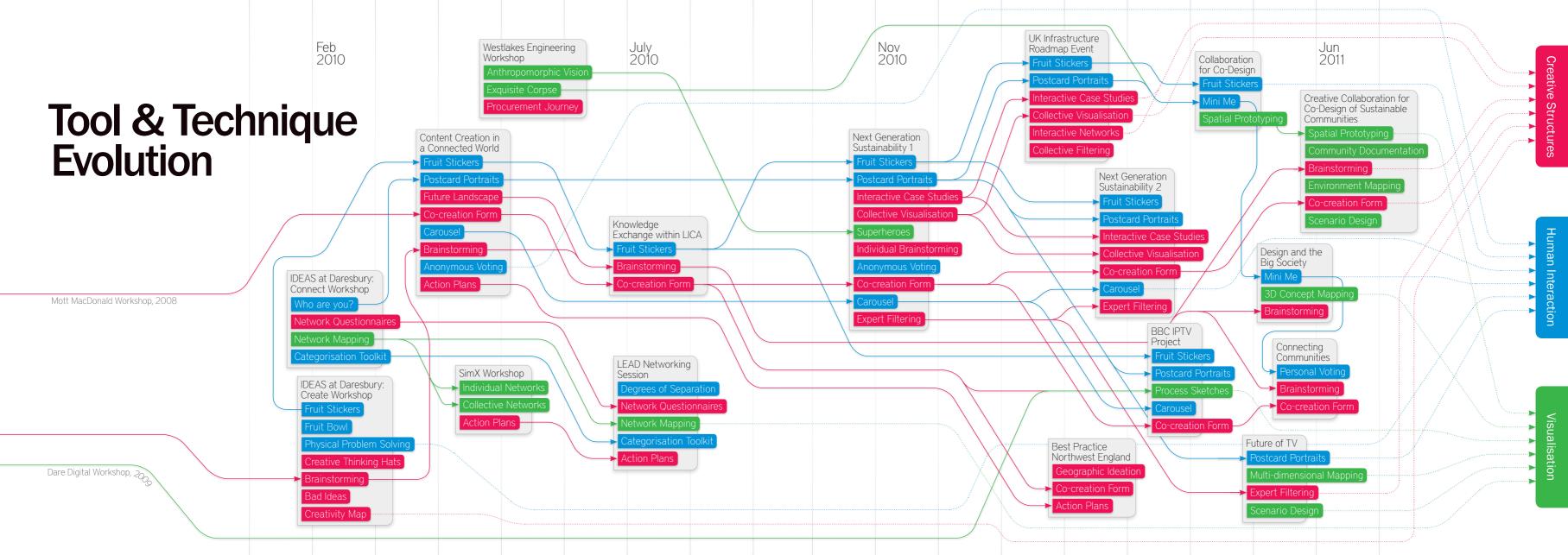




Introduction to Creative IDEAS

Creative IDEAS is a HEIF4 funded project led by Dr Leon Cruickshank. Building on the IDEAS at Daresbury project, Creative IDEAS concentrates specifically on facilitating knowledge exchange between large and small companies. This interaction is vital for business development and growth particularly in a knowledge economy context, but these interactions are also difficult. Small and large companies tend to have different 'clock speeds', perceptions and aspirations. In this project we have started to develop tools to address these tensions and have worked with over 100 companies including The BBC, Halcrow and a wide range of small companies. We have also worked with policy makers such as HM Treasury and the UK Department for Business, Innovation and Skills (BIS).

This project has progressed through the development of a spectrum of tools, techniques and approaches implemented and tested in a series of one-day workshops. We describe these and their evolution in the diagram overleaf and the remaining pages of this section.



Content Creation in a Connected World

Theme HEI-Industry Collaboration
Partner BBC
Venue BBC, Manchester
Participants 8 BBC staff

10 Lancaster

University staff

Fruit Stickers

Postcard Portraits

Future Landscape

Carouse

Brainstorming

Anonymous Voting

Action Plans

The BBC and Lancaster University have a long track record of collaboration. As part of the activity surrounding the BBC's move to MediaCityUK, Manchester, both parties felt that the time was right to explore a more structured plan for future collaboration.

As part of this process ImaginationLancaster developed a oneday workshop with the aim of creating a shared understanding of potential areas for working together. Building on this shared reference point, the aim was to articulate concrete, practical projects, collaborations and activities that could start to make our shared vision a reality in the short term, as well as continuing to strengthen our relationship over the longer term.

The workshop, hosted by the BBC at New Broadcasting House, Manchester, took place on the 26th March 2010, with 10 academics from Lancaster University, predominantly from the Design and Computing departments, working with 8 participants from the BBC with interests ranging from strategic connections and collaboration to HCl and usability to broadcast engineering.





Knowledge Exchange at LICA

Theme HEI - Industry Collaboration
Partner LICA, Lancaster University
Venue Lancaster University
Participants SMEs and NGOs from the creative sector

In this workshop participants identified and generated approaches to address major challenges that creative industries are faced with in the current economic climate using knowledge exchange mechanisms. During a brainstorming session, participants developed a large number of ideas for business development in, and research and education for, the creative sector.

Participants split up into three groups, each of which were assigned to one of three areas of knowledge exchange (KE): KE for business development, KE for research and KE for education. They were then asked to regroup the results of brainstorming by discussing results and agreeing on or formulating one central, most relevant issue for each theme. This central issue was then used as a basis for scenario development. By determining characteristics of a possible scenario, its purpose and realisation, participants were encouraged to develop and draw their knowledge exchange scenario and present it back to the group for discussion.



NEW RESEARCH / EDUCATION COME FEED OR WHOSEN KIMES BEFORE ENGER MENTS SHAROAD MOURTS HA CHI BYTHERE STAND PARASTRI - LONG - PERSONAL

Fruit Sticker

Brainstorming

Co-creation Form

SimX Workshop

Theme Effective Networking

Partner SimX

Venue SimX, Manchester

Participants 4 SimX staff

SimX is an SME from the New Technologies sector, specialising in automation simulation. It is a relatively young company, founded in 2007, that has grown quickly over the last couple of years. Through the *Connect* workshop (see page 4) the CEO Bob Lloyd became aware of the potential of internal networks within his own company. He asked ImaginationLancaster to provide follow-on support on effective network use to draw out the useful network links that his members of staff had brought with them into the company.

We delivered a half-day session that made use of tools developed for the Connect workshop, but in addition extended the scope of network mapping and the concept of 'nets' with a collective mapping activity that brought together individual contacts. Further, an action plan was introduced which enabled SimX to manage the further development and use of its network according to project demands.



► Individual Networks

Collective Networks

Action Plans

LEAD Networking Workshop

Theme Network Development

Partner Lancaster University
Management School

Venue Lancaster University

Participants 19 SMEs

This workshop built on the structure of the Connect workshop (see page 4) by bringing techniques for exploring Social Networks to members of the LEAD programme at Lancaster University Management School. As before, the focus was on identifying and leveraging value within participant's networks of contact though tools introduced and used during the workshop.

After the success of this approach during the IDEAS at Daresbury project, the concept of 'nets' (a means of visualising how a sub-set of contacts can be activated to carry out a specific task) was applied to managers and owners from SMEs across various sectors. We found the technique was just as applicable to this group as it had been with the high-tech SMEs at Daresbury Science and Innovation Campus. Participants used visualisation to identify key contacts in their networks and the nets hidden within them.



Degrees of Separation

Network Questionnaires

Network Mapping

Categorisation Toolkit

➤ Action Plans



Next Generation Sustainability in Civil Engineering 1

Theme Knowledge-Generation for Policy Making

Partner Halcrow, BIS

Venue BIS, London

Participants 11 Consultancies, 1 HE Institution, 2 Charities,

1 Public Body

Fruit Stickers

Postcard Portraits

nteractive Case Studies

Collective Visualisation

Superheroes

Individual Brainstorming

Anonymous Voting

CO Cleation

Carouse

Expert Filtering

Embedding new sustainability thinking into the day-to-day activities of civil engineering can result in substantial social, economic and environmental benefits for all stakeholders but, to date, sustainability in consulting engineering is still more of a reactive activity than a proactive one. A number of institutional hurdles need to be overcome that constrain engineering consultants from embedding sustainability as a fundamental aspect of everything they do.

The Defining Next Generation Sustainability in Civil Engineering series of events contributed to this goal by concentrating on enhancing the relationships between consultancy, education and policy makers. It was planned and delivered as a collaboration between the multidisciplinary Civil Engineering consultancy Halcrow and ImaginationLancaster.

The first workshop invited consultants to reflect on their institutions' role in promoting sustainable behaviour.

Halcrow

BIS Department for Business Innovation & Skills



Future UK Infrastructure

Engineering Roadmap Event

Theme Knowledge-Generation for Policy Making

Partner HM Treasury

Venue BIS, London

Participants 8 Policy Bodies

5 Businesses

5 Higher Education Institutions

Working with representatives from HM Treasury, and thought leaders in environmental infrastructure (e.g. Arup), ImaginationLancaster designed and delivered a bespoke event to help identify and map out key infrastructural challenges facing the UK over the next 40 years and how they related to each other. The participants invited to attend and contribute to the event were all experts in their respective fields, so the key challenge in making the event successful was to efficiently capture the knowledge of the participants and facilitate new synergies and insights amongst them.

The ImaginationLancaster team designed a process for the day which involved guiding participants though a number of structured steps, each building on what had come before. By using bespoke interactive software it was possible for small groups to work independently to one another, then integrate the output of all groups for review as a whole. Alternately divergent and convergent steps allowed groups to explore and develop their own ideas while building towards a consensus at the end of the process.



Postcard Portraits
Interactive Case Studies
Collective Visualisation
Interactive Networks
Collective Filtering



Workshop Process: Future UK Infrastructure

Intro

Expert presentations introduced different dimensions of the UK infrastructure: IT; transport; waste, water & energy.



Critical Infrastructure Challenges

Participants split up into three groups according to their particular areas of expertise.

Each group was asked to think about and discuss future challenges for the UK infrastructure. Bespoke software visualised and captured the results of group discussions.

Plenary Session

The results of individual group discussions were collated and displayed. The whole cohort collectively discussed results and identified significant outcomes.



Infrastructure Interdependencies

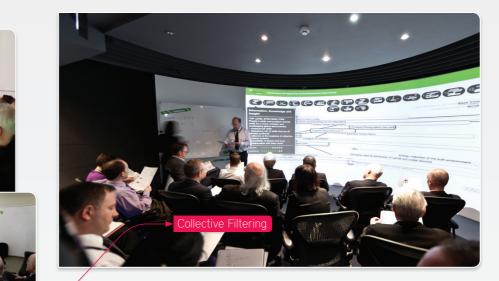
The cohort was split up into cross-disciplinary groups.

At this stage groups identified critical interdependencies between infrastructure challenges. They created and annotated links between selected challenges using large touch screens.

Merging & Prioritising Interdependencies

Here, all interdependencies generated during group sessions were merged into one visualisation.

In a collective discussion process, interdependencies were prioritised according to their severity and likelihood and grouped to form a final outcome for the day.



Best Practice Northwest England

Theme Innovation in Knowledge Exchange

Partner IEED Lancaster University Management School, Daresbury Science and Innovation Campus (DSIC)

Venue DSIC

Participants 18 KE practitioners

This fact finding session at Daresbury Science and Innovation Campus formed part of the ongoing collaboration with partners from the IDEAS at Daresbury project. It brought together knowledge exchange (KE) experts from across Europe and the UK to share insights gained during the IDEAS at Daresbury project. In a taster session led by ImaginationLancaster, participants experienced the innovative and interactive IDEAS approach to KE.

Expert attendees were encouraged to share examples of best practice in KE from across Europe. A geographical representation of the northern region of Europe served as a canvas on which ideas were mapped according to their geographical effect. Ideas were generated according to three dimensions of knowledge exchange: Activities - referring to events, actions, practices or techniques; Concepts - describing ideas, proposals, dreams or aspirations, and Outcomes - stating significant results, impacts or changes achieved. In a second activity, participants were asked to select an activity, concept or outcome and develop an action plan to transfer findings to their own regional context.





Geographic Ideation
Co-creation Form

➤ Action Plans



Next Generation Sustainability

in Civil Engineering 2

Theme Knowledge-Generation for Policy Making

Partner Halcrow, BIS

Venue BIS, London

Participants 10 Education Institutions, 2 Consultancies, 3 Public Bodies, 2 Research and Industry Councils The second workshop in the *Defining Next Generation Sustainability in Civil Engineering* series contributed to the goal of embedding new sustainability thinking into the day-to-day activities of civil engineering by bringing together educators from across the UK to think about the role of their institutions in promoting sustainable behaviour.

Similar to the first workshop (see page 22), this session was highly innovative as it used specifically designed software and interactive technology to facilitate discussions and capture results.

The workshop was split into individual reflections on civil engineering practice and group discussions about stakeholders behaviour in civil engineering projects. During the second half of the day, participants identified opportunities for change towards more sustainable behaviour and pathways to contribution. Impactful outcomes resulted from this and the first workshop as Andrew Kluth explains on page 63.

Halcrow

BIS Department for Business Innovation & Skills

Fruit Stickers

Postcard Portraits

Interactive Case Studies

Collective Visualisation

Co-creation Form

Carousel

Expert Filtering



BBC IPTV Workshop

Theme Corporate-SME collaboration

Partner BBC, Manchester

Venue The Lowry, Manchester

Participants 8 BBC Staff

7 SMEs

This workshop helped SMEs and BBC producers work together on interactive TV service commissions. Working with these two groups of professionals right at the beginning of a collaboration, we wanted to create a better understanding of the contracting processes and the motivations at play as a starting point for more productive collaborations.

Participants were asked to think about the way they do things either in their own company or within the BBC. This incited thinking about different stages, stakeholders and activities that shape development processes. Individual development processes were then shared and discussed among groups of SMEs or BBC staff. By identifying and combining significant characteristics from individual processes, groups articulated development processes that made explicit the differences between SMEs and the BBC. This was the basis of project-specific discussion between producers at the BBC and specific SMEs.

Related to those generalised processes, participants identified requirements, structural constraints and other factors that have either a direct or indirect impact on how SMEs or the BBC are doing things.



Fruit Stickers

Postcard Portraits

Process Sketches

Carouse

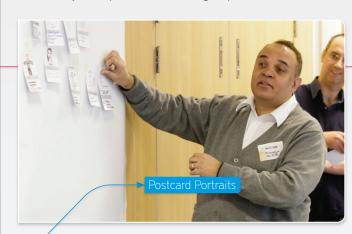
Co-creation Form



Workshop Process: BBC IPTV Workshop

Familiarisation

The aim of the Postcard activity was to familiarise participants from different organisations with each other quickly. Individuals drew a portrait of themselves and noted details about themselves on a blank, bespoke postcard which they then presented to the group.



Individual Process Mapping

For the Individual Process Mapping activity, participating organisations created representations of their development processes by sketching out their way of doing things.

As group formations would change from this to the next activity, we used name labels with different fruits to allocate individuals to tables.



Group Mapping Process

At this stage groups combined each other's processes and, through discussion, co-created a desirable vision of an ideal collaboration process.

Regrouping participants ensured a consistent mix of organisations for the Group Mapping activity on each table.

Report Back/Discussion

Each of the four groups presented a desired collaboration process by highlighting significant findings.

A lively group discussion followed, considering findings from all presentations. Outcomes informed one-to-one discussions in the afternoon.





The Future of Television

The Future of Television Workshop brought together experts from the BBC's R&D department with students from the HighWire doctoral programme at Lancaster University. HighWire is a doctoral training centre exploring innovation in the digital economy that crosses between Design, Computing and Management.

During the workshop participants generated visions beyond today's use of the TV medium and developed alternative futures for TV in the home. Based on findings from group activities, opportunities for research areas and collaboration between the BBC and Lancaster University were identified and research processes outlined.

Lancaster University and the BBC's R&D department share a long and successful history of collaboration. This engagement activity built on the strength of the relationship and took advantage of the expertise in future technologies within the BBC and its outstanding role in the media landscape as well as Lancaster University's potential for generating radical ideas.





Postcard Portraits

Multi-dimensional Mapping

Expert Filtering

Scenario Design



Workshop Process: The Future of Television

Introduction & Familiarisation

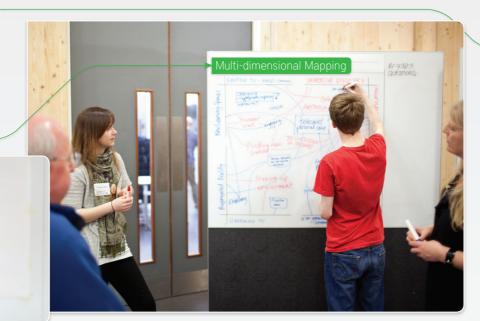
Presentations by BBC staff introduced themselves and their work.

Following this, each participant was introduced to the group by completing a Portrait Postcard with a self-portrait sketch and key characteristics.

Dimensions & Research Questions

Through brainstorming the group generated a large number of ideas about issues, opportunities and new technologies that will shape the future of TV.

From this pool of ideas, every participant selected two pairs of dimensions before reconvening in small groups. Each group used their participant's selected dimensions to create a matrix which served as a framework for the development of research questions.



Research Mechanisms

Through Expert Filtering by the BBC, a set of four research questions that would feed into the next activity were selected from those generated in the previous activity.

During the afternoon session, individuals formed groups around research questions they favoured and developed research scenarios and mechanisms to address them.

Ideas Pitch

At the end of this workshop, each group was challenged to pitch their research design to the whole cohort. To make this competitive in a fun way, prizes were awarded for the best presentation and best research methodology.





Collaboration for Co-Design

Theme Co-Design Partner The Storey Creative Industries Centre Venue Storey Centre, Lancaster Participants 8 SMEs 3 Charities 2 HighWire Students

The Designing Spaces for Creative Collaboration and Co-Design workshop brought together a multidisciplinary group of designers, designer-makers and craftspeople to spend a half-day within the shell of the 3rd floor 'art school' space in The Storey Creative Industries Centre, generating design proposals for refurbishment of the space.

The workshop took the form of an exploration, creative reflection and discussion of potential design elements which would allow the area to function as a space for creative community collaboration. The purpose of the space is to allow people from local communities, creative industry professionals, academics, public services and third sector employees to work together to identify the specific challenges facing communities, and collaborate to propose design solutions.

STOREY CREATIVE INDUSTRIES CENTRE





Design & the Big Society

Theme Co-Design

Partner School of Computing and Communications, Lancaster University

Venue ImaginationLab, Lancaster University

Participants 8 Higher Education Institutions
3 Charities
2 SMEs
1 HighWire Student

Big Society Research is a project funded by Research Councils UK (RCUK) under their Connected Communities cross-council funding programme. The aim of Big Society Research is to harvest current research either directly or tangentially linked to the 'big society' and place it under a single banner that can become an effective avenue for disseminating and achieving impact in local and central government, policy-makers and communities themselves. Four interdisciplinary, themed workshops were held to bring together multidisciplinary groups of researchers and practitioners in each of four themed areas: Technology; Design; Inclusion and Finance.

The Design and the Big Society workshop was the second of these four workshops and involved participants from a wide range of backgrounds with different perceptions of the term 'design'. The focus was on how design might contribute to help support a society that allows people to innovate and change their world using participatory and co-design approaches to develop local responses to public services.

School of **Computing** and **Communications**



Mini Me

3D Concept Mapping

Brainstorming

Connecting Communities

Theme Community Engagement

Partner Lancaster City Council

Venue St Chad's Hall & Ryeland's Primary School

Participants 12 Residents
7 Third sector/charities
19 Public sector
5 SMEs

Participants from the local community, local council and other public services and third sector groups were brought together in these workshops to consider the impact of the Connecting Communities project in the area and make decisions about how some of the identified priorities could be taken forward.

Following an introductory exercise participants were asked to indicate which ideas inspired and motivated them, and what they were passionate about, using the head, hands, heart, feet graphics. They then formed project groups around the ideas which most interested them (such as young people's activities) and completed a project blueprint outlining how the projects might be progressed to become active services. Participants were encouraged to take ownership of the projects they were interested in and set up frameworks for moving these forward which would last beyond the workshops.





Brainstorming

► Co-creation Form



Creative Collaboration

for Co-Design of Sustainable Communities

Theme	Community Engagement
Partner	Lancashire County Council
Venue	Heysham High School, Skerton High School & ImaginationLab
Participants	32 Pupils 2 SMEs

A series of four workshops were conducted with two schools, both in areas perceived as materially deprived, in Lancaster and Morecambe. The intention of the workshops was:

- 1. To explore tools and methods to evaluate local environments, with focus on health and wellbeing.
- 2. To enable young people to understand that design can be used as a method to explore challenges and opportunities and develop solutions to improve the local area.
- 3. To introduce the concept and practice of co-design through a series of activities such as prototyping of design ideas.

The workshops in each school were conducted as half-day sessions on the same day over four consecutive weeks. In the first school, twenty Year 8 and 9 pupils were involved, eight of the pupils were recent Polish immigrants, two had hearing difficulties and the rest were local English pupils. In the second school, twelve Year 8 pupils took part.

The outcomes of these workshops fed into ongoing discussion with the local council.

Spatial Prototyping

Community Documentation

▶ Brainstorming

Environment Mapping

Co-creation Form

Scenario Design





Workshop Process: Creative Collaboration

WS 1: Understanding Health and Wellbeing

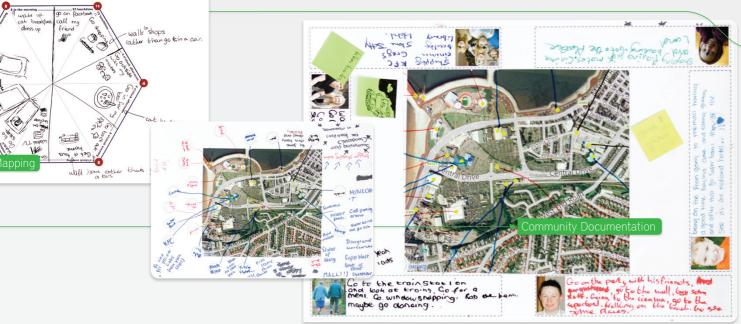
The first workshop used visualisation to raise awareness of personal behaviours in relation to health and wellbeing. Pupils mapped their personal environment and activities on a form representing their activity over a typical day.



WS 2: Mapping Health and Wellbeing

Equipped with camera phones, pupils explored their environment, and identified and documented areas for desired improvement in their community. Special emphasis was placed on physical activities.

The groups then indicated those areas on geographical maps and developed future user scenarios for different personas.

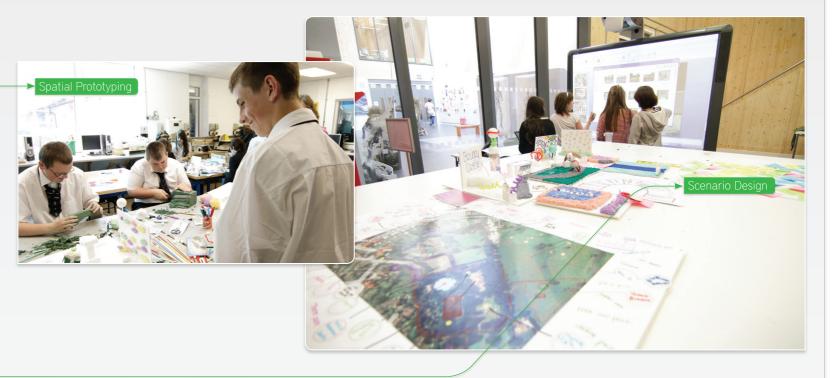


WS 3: Imagining Health and Wellbeing

In the third session, the same groups built prototypes of ideas that would improve their community and offer more opportunities for physical activities. This took place at Heysham High School.

WS 4: Improving Health and Wellbeing

Based on the developed prototypes, scenarios of how pupils anticipated the proposed changes to become reality were created using interactive white boards, presented to the group and discussed.



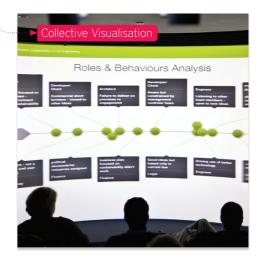
Creative Structures

As designers we know that structures and boundaries are just as important to creativity as freedom and openness. We have used this understanding to develop a series of approaches that draw out and enable the sharing of knowledge and understanding. This could appear to workshop participants to be a relatively simple method, such as creating poster-sized proformas to facilitate group discussion and the presentation of outcomes between groups. At the other end of the spectrum this could be a piece of software allowing CEOs to collaboratively generate complex networks of ideas.

We also use processes as structures for knowledge exchange. For example Bad Ideas, is a technique that requires the abandonment of good sense (and all the filters and restrictions that come with accepted wisdom) as part of a cognitive strategy that facilitates highly original thinking and, after subsequent convergent stages, results in highly practical but unexpected results. This cycle of divergent and convergent thinking is one well established in design research that has not been widely applied in knowledge exchange thinking. This forms part of our overarching approach to creative structures in knowledge exchange in which we construct interesting conceptual and physical frames to provoke, shape and ultimately make explicit, knowledge and understanding individually and in groups.

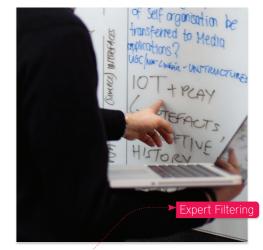












Human Interaction

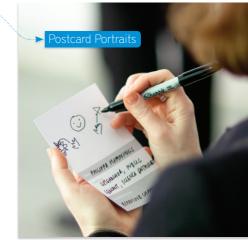
These tools, techniques and approaches depend on human interaction for their effectiveness. Of course in a general sense all knowledge exchange tools depend on interaction, but for these techniques, it is the interaction itself that is primarily important. The impact of these interactions is often difficult to quantify explicitly but we believe they have a disproportionately large overall effect on knowledge exchange activities.

An example of this is the *Content Creation in a Connected World* event with the BBC in March 2010 (see page 14). This workshop involved a mix both of very senior and brand new members of BBC R&D. A key part of the workshop was to select which potential project interventions would be taken forward.

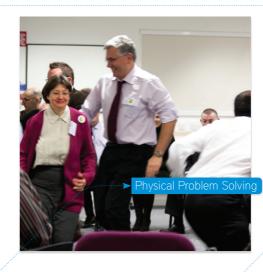
While the selection of the interventions was important, the potential for this to disrupt the flow of the day was just as significant. Each contributor was given red 'yes' and black 'no' dot stickers. We then flooded the room with only green light, making it impossible to differentiate between the black and red stickers. Participants could move freely between the proposals on the walls, voting in the open but still anonymously.

This technique transformed a potentially awkward part of the day into one of the most successful and productive parts of the workshop and really 'lifted' group contribution in a part of the workshop where there would be a tendency for fatigue to set in. This is an example of the power of thinking in terms of interaction and experience rather than outcomes.













Visualisation

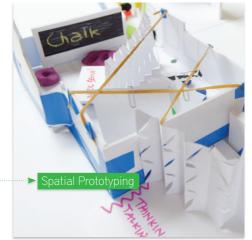
We are committed to the power of visualisation as an approach that can help everyone gain new insight and understanding both individually and collaboratively. Supported by both our experience and by the research literature, one of the key benefits of visualisation is that it allows for the perception of many points of information at once rather than though the linear experience of reading. This prompts a wider understanding and connection-making that can be more difficult with text or conversation.

We use visualisation in two different modes. One mode is to create highly developed visualisations of complex data, such as the tool and technique evolution diagram on page 12 of this book, but we also do this in real time using digital technologies. In particular we have used this successfully to aggregate the activities of multiple working groups into one overarching interactive image for shared group discussion in a larger group (see our work with the UK Treasury on page 24).

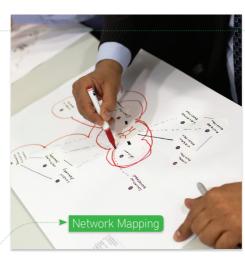
Our other mode of visualisation involves stakeholders and participants creating their own visualisations. We find that although this is not always as aesthetically pleasing, there is the potential for this approach to be extremely powerful, and that the act of visualising directly can give profound insights. We developed a visualisation tool called *Nets* to help companies understand and consciously shape the networks they use in the act of innovation. In facilitating the categorisation and visualisation of connections between elements in their innovation cycle, we gave them a powerful tool for training within the company with well-established impacts and effectiveness.

Both modes of visualisation allow us to draw on the skills we have as practicing designers, indeed our approach in Creative IDEAS is defined by our active design of knowledge exchange processes.

















Impact on Research

Prof. Rachel Cooper

Co-Director, ImaginationLancaster, Lancaster University It is recognized that research is of value to business and society in general and connecting to the 'real world' has never been more important for academics. Governments, funders and industry are looking for benefit and impact. This is underscored by the criteria for research council grants and national research assessment.

Creative IDEAS is an excellent example of how both undertaking research and working with wider stakeholders in academic, social and business communities can be mutually beneficial without compromising quality.

Here we can see sometimes rather abstract theory from social networking, innovation and philosophy being used to inform knowledge exchange models and techniques. The application and evaluation of these in real word environments and the insights gained from these interventions feed back into theoretical development across a wide range of disciplines. Illustrating the value of the multiple dimensions of an impact agenda

The next project 'PROUD' where new knowledge exchange activities also include design professionals as well as academics and businesses, will develop this approach further and deliver impact in relation to knowledge exchange research and professionals who are involved in the engagement.



Impact on the Wider Community and Businesses

Dr Leon Cruickshank

Senior Lecturer, ImaginationLancaster, Lancaster University The challenges society is facing today are characterised by complex requirements, rising expectations and stakeholder demands and rapid technological evolution. Knowledge exchange has to be innovative to address these issues by identifying and generating those links necessary to unite resources and expertise needed for effective solutions.

Engagement sessions delivered during this project used design expertise for the creation of experiences that would have a long-term impact on participants' ways of doing things, but equally introduce immediately implementable tools and methods.

The following case studies will demonstrate the impact tools, methods and experiences have had from a personal perspective of three of the partners we worked with. Andrew Kluth, formerly Group Director for Sustainability with Halcrow, will share insights from the *Next Generation Sustainability in Civil Engineering* workshop series in which knowledge to inform policy making for sustainability had been co-created.

Tom Clark, CEO of The Storey Creative Industries Centre, was organising partner of the *Designing Spaces for Creative Collaboration and Co-Design* workshop. He reflects on results and impact generated towards the creation of a communal hub for creative interventions.

Richard Tulej, Head of Community Engagement, Lancaster City Council, describes the innovation potential of knowledge sharing activities in a social context.



Case Study Halcrow

Andrew Kluth

Former Group Director for Sustainability, Halcrow The Next Generation Sustainability in Civil Engineering workshops were conceived to explore the emerging view that the civil engineering supply chain and, in particular, engineering consultants, could play a very much greater role in leading thinking on how to embed sustainability in projects. The workshops identified the lack of joined up thinking between different elements of the civil engineering supply chain; the lack of any clear understanding about who is responsible for driving the case for sustainability in projects; and the discomfort of consultants and others when challenged to recommend solutions when future conditions are so uncertain.

There was a strong consensus that the civil engineering community could and should play a more active role in all aspects of education for sustainability in civil engineering as well as actively embedding better practice.

Participants extended across government departments, academia (including from the USA), consulting firms, client organisations, think tanks and NGOs.

Perhaps the great surprise was the degree of agreement among those who participated, given the diversity of interests they represented. The basic findings have been fed back into the Institution of Civil Engineers as a key input into the major rewrite of the engineering sector strategy for sustainability that is being developed over 2011/12, and have also been used and reported into seminars and talks with the Environment Agency, the Construction Industry Council and others.



Case Study The Storey Creative Industries Centre

Tom Clar

CE

The Storey Creative Industries Centre

Since my appointment as Chief Executive at The Storey, we have had significant collaboration with Lancaster University, specifically The Creative IDEAS Project and ImaginationLancaster. It has been invaluable to me and to our organisation in helping position The Storey and in finalising our business plan, giving a clear vision and mission for the future.

We had been searching for a clear identity for our organisation, as a creative hub. Our involvement with Lancaster University made this happen. A number of workshops were held at our offices that were facilitated by the Lancaster University and attended by our Board and Executive, that gave a clearer view of direction and mapped the options available in a concise way. Following these workshops we had the assistance of a PhD student and later a group of HighWire MA students to further expand the project including a number of workshops to identify and implement branding for The Storey. This was completed successfully.

We have also been involved with ImaginationLancaster in a co-design project (PROUD). We were successful in getting funding for this project from the ERDF via INTERREG IVB NWE. This has been instrumental in furthering our development and in assisting in the finalisation of our identity and future program. We are looking forward to further collaboration with Lancaster University. The support provided and level of knowledge transfer achieved has been significant and opened our eyes to the benefits of working with an academic body together with the overall benefits of knowledge transfer in this arena.



Developing Resilience Through the Re-Imagination of Public Services

Richard Iul

Head of Community Engagement, Lancaster City Council Local government is facing twin long term and complex challenges – to renew public services and their relationship with citizens, and to manage significant reductions in funding.

Lancaster City Council has begun to re-think its role, transform its services and develop radical solutions to meet future challenges in partnership with other public sector bodies and our local communities.

Over the past year we have learnt that strength-based dialogue involving the whole system produces new and innovative solutions that are achievable and that inspire people into action.

Developing real solutions to the problems our communities face requires sustained meaningful local engagement. Working with *ImaginationLancaster* has helped us frame and think creatively about the issues we face. They have had a direct creative input into our 'Connecting Communities' work and with real energy and commitment facilitated new processes that have enabled all stakeholders to take part in the 'conversation.'

Working with *ImaginationLancaster*, exploring local and societal challenges in collaboration with our communities using co-design in an innovative and imaginative way is helping to encourage more cohesive and resilient communities.



Knowledge Exchange and the New Academic

Dr Leon Cruickshank

Senior Lecturer, ImaginationLancaster, Lancaster University As someone with close to 20 years researching activity in user centred, user led, citizen engaged design I hardly qualify as a new academic but the impact agenda has offered me and others in my position the perfect opportunity to start to develop an alternative academic practice. This is based on the premise that high quality, reflective academic research is absolutely compatible with engaging with real world concerns, activities and perspectives. Creative IDEAS has facilitated the development of new practices and growth in the team, with business facing KE associates leaving to take up cross disciplinary PhDs and academics working with schoolchildren and HM Treasury and BIS.

New approaches often lead to tensions with conventional modes of activity. This causes local but still significant logistical issues; when business engagement was added to our workload model the axis had to be extended to accommodate the time commitment, our workload was literally off the scale. This new mode of operating also raised bigger issues around the definition of academic activity, the relationship of academia to business (and the realisation slow to dawn on some that universities are businesses already) to challenges to the lone scholar and their position in an ecosystem where they draw on resources but have no obvious impact.

All these issues are probably going to take a generation to work themselves out, this is not to say that there are not examples of a range of people working in this way (and Lancaster is strong in this respect) but the culture of academia needs to shake off the 1950s isolated boffin or romantic eccentric and embrace the fact we have a place in the wider world, and we need to be engaged to claim this place.

Co-design for Social Innovation through Community Engagement

Dr Valerie Carr

Senior Researcher, ImaginationLancaster, Lancaster University Since publication of Arnstein's ladder of citizen participation in 1969, the question of citizen influence on public services has gained increasing prominence in western democracies. The recent focus on more personalised, responsive and accountable public services has evolved from dissatisfaction with the perceived lack of effectiveness and efficiency in both local government and the National Health Service (NHS). Linked to these discussions, but differing in a fundamental way, are calls for citizens to take more responsibility for their own health and wellbeing, and for the social cohesion and effective functioning of their local communities.

The design of frameworks for meaningful engagement is key to sustaining motivation for continued involvement which overcomes compassion fatigue. Can designers contribute by designing 'pathways to participation' which make it more rewarding for disinterested, disengaged citizens (who often place the highest demands on services) to become involved in co-designing and co-delivering these very services? How can tools and methods drawn from user-experience design, service design and transformation design be used to best effect in these challenging situations?

This project drew methods from the Scandinavian work-oriented participatory design approach, which is based on an emancipatory perspective, acknowledging the expertise and skill of those (workers) involved in the day-to-day activities under consideration for redesign. Methods and tools related to co-design and active collaboration were explored to understand their impact and usefulness for the citizens, communities, third sector groups and public services.

Design Innovation in Knowledge Exchange

Lorenz Herfurth

Research Associate, ImaginationLancaster, Lancaster University The Creative IDEAS project investigated and demonstrated the use of design approaches to foster innovation potentials across sectors and disciplines. Challenging traditional perceptions of knowledge transfer and the established Open Innovation paradigm, activities focused on empowering individuals to contribute to idea generation by joining resources and sharing knowledge outside of institutional structures and processes. Here designing consistent and meaningful experiences is core to building trust in activities and empathy amongst participants.

Activities were characterised by a high level of interactivity and strong stakeholder participation reflected in outcomes that had an impact beyond the sessions themselves. Through design techniques, like visualisation, we were able to create artefacts that would provoke participation and incite communication. Believing that everyone is an expert in his or her own right, the developed visual and contextual structures encouraged contributions as they involved participants in completing the design experience. Creativity Forms, for example, were intentionally designed incomplete to offer a void space for participants to complete the design by collaboratively generating ideas.

This has proven highly efficient in generating relevant outcomes, though it is an approach that is dependent on appropriate allocation of resources within the project team and partners involved. Not only does the emphasis on interaction require a high level of facilitation, further, the co-creation of activities is reliant on a fruitful and trusting relationship between all partners involved. Here, differences in organisational and process structures can cause a challenge for the parties involved.

70

Participating Organisations

Many thanks to all of the individuals and organisations who participated in the Creative IDEAS workshops

AECOM - Civil engineering
consultants - www.aecom.com

BBC FM&T - BBC Future Media and Technology - www.bbc.co.uk

Fat Media - Digital marketing company

Folly (Digital Arts) - Digital arts organisation - www.folly.co.uk

Adult College - Further education college - www.theadultcollege.org

Arup - Civil engineering consultants - www.arup.com

Atkins/ICE - Civil engineering consultants - www.atkinsglobal.com

Bay Vets - Veterinarians - www.bayvets.co.uk

BBC R&D - BBC Research and Development - www.bbc.co.uk

BBC Vision - BBC content production - www.bbc.co.uk

Birmingham University - www. birmingham.ac.uk

BIS - Department for Business, Innovation and Skills - www.bis.gov.uk

BRE - Consultants for the Built Environment - www.bre.co.uk

Bristol University - www.bris.ac.uk

Buro Happold - Civil engineering consultants - www.burohappold.com

Circle Leasing - Car leasing - www.circleleasing.com

City University - www.city.ac.uk

Construction Industry Council - www.cic.org.uk

CPNI - Centre for the Protection of National Infrastructure - www.cpni.gov.uk

CPSL - University of Cambridge Programme for Sustainable Leadership - www.cpsl.cam.ac.uk

Cranfield University - www.cranfield.ac.uk

Creative Lancashire - Creative business development initiative - www.creativelancashire.org

CreatTV - Media training and consultancy - home.btconnect.com/creatv

CTI - Digital agency - www.ctisn.com

Daedalian Glass Limited - Glass design - www.daedalian-glass.co.uk

DCLG - Department for Communities and Local Government - www. communities.gov.uk

Dennison Trailers - Trailer manufacturer - www.dennisontrailers.com

DfT - Department for Transport - www.dft.gov.uk

DetoxPlus - Health and wellbeing - www.detoxplus.org

Digital Eye Films - Film production services - digitaleyefilms.co.uk

Dreams Bazaar Films - Film production services

DT3 at The Dukes - Performance space for young people - www. dukes-lancaster.org

EPSRC - Engineering and Physical Sciences Research Council - www.epsrc.ac.uk

Expedition Engineering - Civil engineering consultants - www. expedition-engineering.com

Father's House - Christian charity - fathershousetrust.com

Finishing Techniques - Supplier of finishing solutions - www.fintek.co.uk

Lancashire Fire and Rescue Service - www.lancsfirerescue.org.uk

GAPP Developments - Estate and letting agency

Gencoa - Manufacturer of production tools - www.gencoa.com

Glasshead - TV and multimedia production - www.glasshead.co.uk

Green Close Studios - Visual art organisation - www.greenclose.org

Halcrow - Civil engineering consultants - www.halcrow.org

Help Direct - Help and support service - www.helpdirect.org.uk

HM Treasury - www.hm-treasury.gov.uk

lan Childs Design - Furniture design - childsandco.co.uk

IBM - Business consultants - www.ibm.com

Institute for Sustainability - Civil engineering charity - www. instituteforsustainability.co.uk

Interactive Wallpaper - Wallcovering products - www.interactivewallpaper.co.uk

Kendal Upholstery - Furniture restoration - www.kendalupholstery.co.uk	Mid-Pennine Arts - Arts charity - www.midpenninearts.org.uk	Onteca - 3D solutions and interactive software - www.onteca.com
Kimbolton School - www.kimbolton.cambs.sch.uk	Mitie - Strategic consultants - www.mitie.com	North Lancashire Primary Care Trust - NHS - www.northlancshealth.nhs.uk
Lancashire County Council - www.lancashire.gov.uk	Modern Built Environment KTN - Knowledge transfer	PFBE - The Prince's Foundation for the Built Environment - www.
Lancaster Chamber of Commerce - www.lancaster-chamber.org.uk	network - ktn.innovateuk.org Morban - Home automation - www.morban.co.uk	princes-foundation.org Printed Space - Interior design - printedspace.com
Lancaster City Council - www. lancaster.gov.uk	MPP - E-commerce solutions - www.mppglobal.com	Pure Creative - Graphic design and web development - pure-creative.com
LD & K Bowtell Ltd.		
Litfest - Charity - www.litfest.org	NDY - Civil engineering consultants - www.ndy.com	Reading University - www.reading.ac.uk
Loughborough University - www.lboro.ac.uk	North Lancashire PCT - NHS - www.northlancshealth.nhs.uk	ReaLife - Coaching - www.realifeltd.co.uk Skanska - Civil engineering
Magma Digital - Web application development - www.magmadigital.co.uk	Nu Blue - Digital agency - www.nublue.co.uk	- www.skanska.co.uk
Magnetic North - Digital design company - mnatwork.com	Ofcom - Regulator for UK communication industry - www.ofcom.org.uk	- Community services Skerton Community High School - www.skertonhigh.lancsngfl.ac.uk

Solution Perspective Media	University of Southampto		
Sprocket DC - Engineering design - www.sprocketdc.co.uk	University College Londo		
St Chad's Church - www.saintchadsskerton.org.uk	University of Exeter - ww		
	University of Greenwich		
Stardotstar - Interactive content, tools and toys - stardotstar.com/home	Vision + Media - creative industry development agwww.visionandmedia.co.u		
Storey Creative Industries Centre - www.thestorey.co.uk			
Storey Gallery - Contemporary visual	Wash-Design - Graphic de - wash-design.co.uk		
art - www.storeygallery.org.uk The Recycle Works - Online retailer - www.recycleworks.co.uk	Westlakes Consulting - Ci engineering consultants - westlakes-engineering.co		
Thorp Creative - Visual communication - www.thorpcreative.com	White Room - Creative ed consultants - www.thewh		
Tre Solutions - Digital media	Wordsworth Trust - Char www.wordsworth.org.uk		
UK Energy Research Centre			
- www.ukerc.ac.uk	Workshop Media - Video - workshop-media.co.uk		

Southampton c.uk ege London - www.ucl.ac.uk xeter - www.exeter.ac.uk Greenwich - www.gre.ac.uk a - creative and digital opment agency dmedia.co.uk Graphic design co.uk nsulting - Civil onsultants - www. ineering.co.uk Creative economy www.thewhiteroomcec.com rust - Charity rth.org.uk dia - Video marketing

WSP - Civil engineering consultants - www.wspgroup.com Ziona Strelitz Ass. - Civil engineering - www.zza.co.uk Harvard Graduate School of Design -Zofnass Programme for Sustainable Infrastructure - www.gsd.harvard.edu/ research/research_centers/zofnass/

Team Profiles



Dr Leon Cruickshank

Leon is a Senior Lecturer in Design interested in interaction and specifically the design of knowledge

exchange and how design thinking can be used to help companies communicate, collaborate and innovate more effectively.

He is an associate director of ImaginationLancaster and HighWire Doctoral training centre who works with companies in addition to publishing widely on design knowledge exchange and innovation.

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Lorenz Herfurth

Lorenz joined
ImaginationLancaster
as a Research
Associate in 2009
after graduating
from a masters

in Design Management and Policy at Lancaster University. He has a background in industrial design and worked for the transportation industry for several years. His research interest is centred around internal networks. The use of design approaches to facilitate participation in decision-making processes is one of his core interests.



Roger Whitham

Roger Whitham
is a visualiser and
researcher within
ImaginationLancaster
with experience in
both academic and

commercial settings. His specialisations include information design, visualisation, interaction design and group facilitation.

He is currently undertaking a PhD in Human-Computer Interaction and Design with research interests around Information Visualisation and Personal Information Management to investigate individual work practices and their support through digital information technologies.



Dr Valerie Carr

Valerie is a Research Associate with ImaginationLancaster working on the Creative IDEAS project. Her research

interests include design for health and wellbeing, design of healthcare facilities, therapeutic environments, and occupational stress and workplace design. Valerie is an interior designer with a background in workplace and healthcare design. She uses mainly qualitative and ethnographic methods to investigate the transactional nature of relationships between environments (built, natural and socially constructed) and behaviour.



Prof. Rachel Cooper

Rachel is a
Professor of Design
Management
and her research
interests include
design policy, new

product development, design in the built environment, urban regeneration, design against crime and socially responsible design.

She is Chair of the Lancaster Institute for the Contemporary Arts (LICA) and Co-Director of ImaginationLancaster, and has authored several books in the field of Design and more than 200 research papers. She is also editor of The Design Journal and Chair of the European Academy of Design, and has undertaken several advisory roles to government and NGOs, as well as national and international universities.



Dr Marzia Mortati

Marzia was a visiting PhD student with ImaginationLancaster in 2009. She did her PhD on the subject of Collaborative

Networks of SMEs, communities of practice and innovation. She looked at the role of design in these topics and its links with creativity, invention and innovation. The main aim of her PhD research was to identify how designers and design research can have a role in fostering innovation through networking, developing tools that - by design - can help SMEs benefiting from the openness provided by a knowledge economy.

Publications

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Lancaster University

> www.lancaster.ac.uk

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ImaginationLancaster

> imagination.lancaster.ac.uk

ImaginationLancaster is an open and exploratory research lab within Lancaster University that investigates emerging issues, technologies and practices to advance knowledge and develop solutions that contribute to the common good.



This book and the events, techniques and research it describes were designed and delivered by ImaginationLancaster, a creative research lab at Lancaster University.

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Network Mapping



Jiridual Networks

Fruit Stickers

Brainstorming

Co-creation Form

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