China’s Creative Communities: Making Value and the Value(s) of Making

PROJECT REPORT

AHRC/Newton Fund Project, February - April 2016
Dr Catharine Rossi and Dr Justin Marshall
with Professor Guy Julier
June 2016

Figure 1 - 'digital lace' (hand distressed optical fibre) produced by Justin Marshall and Cat Rossi during a workshop run by Sara Robertson and Sarah Taylor, Makerversity, April 2016
Table of Contents

Overview

Stage 2 Roundtable
  Aims and Objectives
  Discussion
  Stage 2 Findings

Stage 3: China Visit
  Aims and Objectives
  Research Methodology
  Stage 3 Findings

Stage 4: UK Visit
  Aims and Objectives
  Research Methodology
  Stage 4 Findings

Findings and Recommendations
  Summary of Findings
  Recommendations
  Taking the Research Forward
  Narrative Impact

References

Acknowledgements

Appendix 1: Sites Visited in Shenzhen & Hong Kong during Stage 3

Appendix 2: Workshops organised during Stage 3 Visit to China

Appendix 3: List of Sites Visited during Stage 4 UK visit
Overview

*China’s Creative Communities: Making Value and the Value(s) of Making* was a four-part cross-disciplinary research and scoping project to bring together practitioners and academics in the UK and China to network, research, workshop and publically disseminate ideas and innovations around the multi-faceted value of making in China. Funded by the AHRC/Newton Fund, it aimed to strengthen China’s multiple maker communities in partnership with the UK, as part of the UK’s broader support for China’s creative industries and knowledge economy.

The project was led by Principal Investigator Dr Catharine Rossi, Senior Lecturer in Design History, Kingston University together with Co-Investigators Dr Justin Marshall, Associate Professor of Craft, Falmouth University and Professor Guy Julier, University of Brighton Professor of Design Culture at the Victoria and Albert Museum.

This report provides an overview of the project’s context, participants, and methodology, the research conducted and key findings. The project focuses on the findings and discussion of stages 2 to 4 of the project, which followed on from an initial planning and research at stage 1. In addition to this report, the *China’s Creative Communities* blog [https://chinascreativecommunities.wordpress.com] contains substantial information and participants’ reflections on the project, all of which is publically accessible.

1.1 Rationale and Research Context

*China’s Creative Communities* directly results from the Investigators’ and selected Facilitators/Participants’ participation in the British Council/AHRC’s *Living Research: Making in China* two-week research visit to Shenzhen and Shanghai in October 2015. Initial findings were discussed at a debriefing at the British Council in December 2015. This identified key themes and approaches to develop to meet Living Research’s aims.

*Living Research* and *China’s Creative Communities* took place amidst a growing, but differentiated, emphasis on making in China and the UK. The UK’s first makerspace opened in the 1990s, while China’s first makerspace only opened in 2010. Makerspaces have since appeared in several Chinese cities, a rapidly expanding maker movement endorsed by the Chinese government: Premier Li Keqiang’s visited Shenzhen’s Chai Huo makerspace in 2015. This was followed by the publication of the Report on the Work of the Government, which positively identified ‘makers coming thick and fast’ as part of its growing creative industries, and government funding to open makerspaces.

As in the UK, China’s makerspaces vary widely, from self-funded hacker workshops to sites of middle-class leisure. However Chinese policy and private investment focus specifically on makerspaces as accelerators and incubators for product innovation.
This is most evident in Shenzhen, China’s electronics manufacturing capital, whose readily available manufacturers, materials and componentry has attracted a global community of makers looking to benefit from a production ecosystem largely absent in Europe and the USA.

The technology-based innovation focus on makerspaces should be understood amidst uncertainty in China over the future of mass manufacturing. This threat to China’s status as the world’s largest producer and economic emphasis on makerspaces has informed “Made in China 2025”, the initiative to move its economy up the value chain to focus on design, quality, innovation and sustainability. These are areas of UK expertise valuable in China: Living Research participants Molly Price and Dr Sara Robertson identified a lack of smart textiles manufacturing and innovation, and substantial interest in their expertise in this. In Living Research we also identified low design quality in China’s makerspaces and a lack of critically engaged approaches that question why, where and how products are designed and made. The UK has a strong, ever-more socially and sustainably responsible, design culture. This culture has fed into British-led maker initiatives such the Maker Library Network, Fixperts and the RSA’s makerspace-based promotion of a circular economy.

Despite excitement for makerspaces in China, and their potential to bolster its design and manufacturing economy, their future is uncertain. Some makerspaces Living Research participants visited lacked makers or visibility, both of which are key to their future. At the same time, it was noted that China already has a strong culture of design and making, but in other, less supported or recognised communities. Findings identified three making communities currently seen as external to China’s maker movement but which are part of China’s broader multi-faceted ecology of making, that also includes makerspaces, and so are significant to China’s Creative Communities research agenda: urban villages, traditional crafts and shanzhai.

Urban Villages: With their networks of workshop for repair and manufacture, Shenzhen’s urban villages are sites of small-scale entrepreneurship. While urban villages’ architectural significance is recognised amidst the threat of rapid urban expansion, their making and innovation value, akin to Italy’s lauded post-Fordist “industrial districts”, is not yet recognised.

Traditional Crafts: While China has a wealth of ongoing craft traditions, China’s craft heritage has been subject to suppression and marginalisation. Initial Living Research findings confirmed this, identifying the low status of individual artisans in Shanghai despite a burgeoning middle-class craft market. Yet UK-based research and initiatives have shown that craft benefits industrial and post-industrial societies in areas including community, culture, design, innovation, sustainability and wellbeing.
Shanzhai: Shanzhai describes the copying endemic in China’s production culture. NYU Shanghai researchers identify shanzhai’s association ‘with stealing and low quality goods’, alongside its ‘growing endorsement’ as an act of ‘Chinese grassroots creativity.’ Li (2014) identifies a transition towards ‘new shanzhai’ in which the technological and knowledge infrastructures of shanzhai produce an open innovation system, leading to new products and manufacturing opportunities. We sought to continue to re-evaluate shanzhai through UK research that contextualises it as part of China’s broader design and making culture.

Matching China-based researchers and makers with UK expertise to investigate makerspaces as part of this broader ecology of making could offer more ways to maximise the social, cultural and economic benefits of making in China - making contextualisation one of this project’s key objectives. This project will investigate and network these communities, matching them with UK expertise in design, innovation, sustainability and maker community development. This joined-up approach will strengthen these communities individually and collectively by introducing unexplored innovation and entrepreneurial areas and design questions, and communicating the wide ranging cultural, economic, social and sustainable values of making for a broad, largely unreocgnised, set of making communities.

1.2 Aims and Objectives

The overall aim of this networking and research scoping project was to strengthen China’s creative communities in partnership with the UK. The scoping nature of the three month collaborative and cross-disciplinary project was key: much of the activity focused on building capacity for future, more extended and expansive projects to support makers in both the UK and China. A number of objectives were identified to meet this aim:

- Conduct research to understand China’s maker community in broader creative, industrial, social, cultural, political economic contexts. This included expanding the breadth and diversity of making communities beyond those prioritised by the Chinese government, and introducing a broader range of disciplinary perspectives and approaches to understanding making in China holistically.

- Explore, enhance and make visible a wider range of values of makerspaces beyond the economic. Four values were identified: sustainability, creativity, community/agency and entrepreneurship.

- Identify additional knowledge and expertise required to meaningfully support China’s maker communities.
• Develop existing and build new networks, partnerships and relationships between China’s and the UK’s maker communities, academics, organisations, practitioners and industry

• Test methods of international engagement, networking and dissemination. These included organising workshops and public discussion events in both the UK and China

1.3 Participants

China’s Creative Communities was premised on international collaboration amongst individuals and organisations from a variety of backgrounds in the UK and China. The selection of participants ensured we could maximise the expertise involved, the opportunities for exchange, reflection, dissemination, and therefore potential benefit through relationship and knowledge building.

There were five categories of participants:

• **Investigators:** Principle-Investigator Dr Catharine Rossi and Co-Investigator Dr Justin Marshall collaborated on managing the project; Co-Investigator Professor Guy Julier led organisation of the Shenzhen and UK Salon.

• **Consultants:** Daniel Charny, Director, From Now On, and Nat Hunter, Strategic Director, Machines Room. Both Charny and Hunter are internationally recognized experts in maker spaces and maker culture, with specific expertise in communities and sustainability respectively. Charny and Hunter participated in stages 2 and 3, and contributed to stage 4.

• **Facilitators / Participants:** Several Living Research participants contributed to China’s Creative Communities, due to their expertise in makerspaces and roles in the UK maker community. These were: Asa Calow and Rachel Turner (MadLab, Manchester); Elizabeth Corbin (Institute of Making, UCL), Fiona Dowling (KWMC: The Factory, Bristol), Martin Hennessey (Independent Entrepreneur, Makerversity) and Sara Robertson (Duncan of Jordanstone College of Art and Design). Hennessey’s entrepreneurial expertise and understanding of UK business are vital to enhancing the economic value of making in China, leading to workshop facilitation at stage 3.

• **Chinese Partners:** Lit Liao, Founding Director of Litchee Lab Makerspace, Shenzhen and David Li, leading voice in China’s maker movement and Director of Shenzhen Open Innovation Lab. Li and Liao will facilitate activities in China in stage 3 and visit the UK in stage 4.

• **The General Public:** with the mission to be as inclusive and as broadly impactful as possible, members of the public in the UK and China were
invited to participate in workshops and Salon events organised in both Shenzhen and London.

1.4 Methodology

The methodology used built on the approach in Living Research. This brought together academics, practitioners and industry figures in practice-based, immersive research in order to gain a first-hand and holistic/multi-perspective understanding of China’s making communities. This collaborative and cross-disciplinary approach was developed in China’s Creative Communities through organising and participating in several activities: informal interviews, visits, public discussion salons and creative and practical workshops.

The salons were based on the V&A’s Design Culture Salons, established in 2012 by Co-Investigator Professor Guy Julier. These aim to advance ‘debate and discussion’ on design’s role in society and how this ‘can be further developed.’ The salons had a similar aim and set-up; open to the public, with a mix of academics, practitioners and industry experts as salon speakers, and dissemination through blog posts and film.

The creative and practical workshops were focused on exploring differing aspects of the project’s identified themes; sustainability, crafting the digital, entrepreneurialism and social values of making. There were intended not only as a set of practical knowledge exchange activities, but as a method for creating an atmosphere conducive to open discussion.

The research was structured into four sequential stages:


**Stage 2:** Timeframe: 26th February 2016. Location: London. Activity: Half-day roundtable. Networking and discussion event to present project and confirm its research agenda. Potential Participants: P-I and Co-Is; 10-15 invited Living Research organisers and participants; invited UK academics, practitioners, entrepreneurs and curators. Outcome/outputs: internal report identifying research agenda and activities for stage 3-4.

**Stage 3:** Timeframe: 13th – 18th March 2016. Location: Shenzhen. Activity: making community tours and workshops to network participants, investigate and enhance values of making; salon led by 4-5 UK and China speakers to discuss the ‘making value and the values of making’ in multiple. Participants: P-I and Co-Is; 2 UK Consultants; one UK Facilitator/Participant; invited China Partners; the public. Outcome/outputs: blog post; report.
Stage 4: Timeframe: 18 - 22 April 2016. Location: UK. Activity: makerspace tours, discussion events and workshops to open up UK maker network, investigate and enhance values of making, salon (see stage 3 format). Participants: P-I and Co-Is; invited stage 2 participants; Living Research Facilitators/Participants to co-ordinate and contribute to events; two China Partners from stage 3; the public. Outcome/outputs: blog post; report; filmed event.

1.5 Public Dissemination

Marshall and Rossi developed a blog to make publically available an archive of the activities undertaken in the project, provide a resource of useful links to relevant organisations and provide a platform a series of reflective piece by participants and researchers. This is intended be of value to academics and non-academics alike who wish to gain some knowledge and understanding of the developing maker scene in Shenzhen and related design and manufacturing ecosystems.

https://chinascreativecommunities.wordpress.com/
2 Stage 2 Roundtable

The following summarises the key discussion and findings of a roundtable held at Kingston University on 26th February 2016, which represented stage 2 of China’s Creative Communities.

Figure 2 - China’s Creative Communities Roundtable at Kingston University, February 2016

2.1 Aims and Objectives

The roundtable had several aims and objectives:
• Introduce the project to the research team, discuss and identify research questions and sort out plans for the stage 3 and 4 UK/China visits, network, consider new perspectives and start conversations about possible future research projects.

• Present the four values developed during stage 1. These aimed to extend beyond the Chinese government’s economic focus on the maker movement, and contextualise it within China’s broader communities of makers. These values closely allied with the interests and areas of expertise of the consultants, participant and co-investigator Marshall and Rossi invited to join the project, and were used to frame their research activity in China: entrepreneurialism (Hennessey), sustainability (Hunter), community/agency (Charny) and creativity (Julier).

2.2 Participants

• The six Investigators, Consultants and Facilitators participating in the stage 3 Shenzhen visit: Daniel Charny, Nat Hunter, Guy Julier, Martin Hennessey, Justin Marshall and Catharine Rossi

• Selected Living Research participants involved in China’s Creative Communities: Asa Calow, Liz Corbin and Fiona Dowling

• Tom Saunders of NESTA, co-author of Made in China: Makerspaces and the Search for Mass Innovation in China (NESTA, 2016)

• Jana Scholze and Joe Sanchez, researchers at Kingston University

• Jayne Wallace, Reader in Craft Futures at Northumbria University.

2.3 Discussion

The roundtable was organised into four parts: introductions; update on Shenzhen; the four values; a tour of the Faculty’s workshops and hackspace led by Sanchez.

2.3.1 Introductions

Each of the participants briefly presented their individual interests and areas of expertise. Some commonalities emerged, including the interest in the economic, social and cultural values of making and the importance of critically understanding making in China. These included questions around “what constitutes a making
experience” (Marshall) to understanding the maker movement in contexts such as design history, the informal economy and the 4th industrial revolution.

2.3.2 Update: Shenzhen in January 2016

Asa Calow and Liz Corbin discussed their visit to Shenzhen in January 2016, where they participated in the 6th Bi-City Biennale of Urbanism \ Architecture (UABB) and British Council-organised meetings with those affiliated with China’s maker movement. This was an opportunity to update the group on any developments since the Living Research visit in October 2015 that could inform our plans.

Calow and Corbin recommended new contacts and sites to visit: Shenzhen DIY Makerspace, previously based at Chaihuo and now an all-male hackspace on the edge of an urban village; Justin and Ryan, both design contractors; Hans Stam and Nico Deladerriere who are behind the Shenzhen Map for Makers.

They also updated us on the growing challenges to the maker movement in Shenzhen. There is growing concern that the maker “bubble is about to burst” due to the rising number of empty makerspaces, the restrictive criteria to receive government funding (up to £50k) for a makerspace, including the large size of space stipulated; the lack of promised government funding actually arriving at those who have set up makerspaces that fit this criteria; the closure of the shanzhai iphone factory visited by the Living Research group. Concern for the future health of the maker movement and criticism for the government strategy was voiced by David Li and Lit Liao respectively, the two Chinese partners for this project.

Calow and Corbin also discussed one of the projects by what Calow described as “rogue contract manufacturer” Dangerous Prototypes, two advocates of open source hardware who self-consciously remove themselves from the governmental hype over the maker movement. Their founders operate on the ethos of “I am not a maker, and I do not innovate”.

Nevertheless, there is clear innovation in their approach. The Expressway to Pleasure is based on combining the multiple existing manufacturing capabilities and outputs for an unexpected and new end. While their aims are not about sustainability, this project was discussed as an example that allied with the group’s interests in maximizing the potential of the existing making ecosystem from being a circular economy (Hunter) to exemplifying the “slack economy” model advocated by the Central Research Laboratory (Charny).

2.3.3 The Values: entrepreneurialism, sustainability, community/agency and creativity
The afternoon consisted of a 4-part discussion on the values of making: entrepreneurialism (Hennessey), sustainability (Hunter), community/agency (Charny) and creativity (Julier). Each were asked to identify aims, priorities or activities that they thought China’s Creative Communities should focus on in relation to their value.

2.3.4 Entrepreneurialism

Hennessey presented his idea for hosting a “maker to market” workshop in Shenzhen, which would focus on encouraging makers to think carefully about the challenges and opportunities of becoming entrepreneurs.

Issues raised in the discussion included: whether entrepreneurialism was a viable or desirable “value” for this project; the importance of encouraging Shenzhen’s makers to become entrepreneurs (Saunders); what shape the workshop should take to appeal to attendees, including what UK examples would be relevant; the importance of understanding the type of making that takes place in Shenzhen, understood as a form of bricolage (Corbin); agile making (Wallace).

2.3.5 Creativity

Julier is currently conducting research into shanzhai for his forthcoming monograph on the design economy. He identified the wealth of existing research material on shanzhai, and the importance of addressing an aspect not sufficiently addressed: the different concepts of creativity in the UK and China. Referencing Richard Florida’s 1990s concept of the “creative class” and Charles Sabel’s research on labour and politics, he cited his interest in David Li’s arguments around “distributed success” presented at the “Will Makerspaces Save us?” discussion at Machines Room in February 2016. Julier reflected on the idea of “distributed creativity” presented in shanzhai and how this challenges Western ideas of creativity.

2.3.6 Sustainability

Hunter reflected on her plans for a “circular economy” workshop in Shenzhen, building on her expertise in this area developed while at the RSA. She is already aware of the significant difference between running this workshop in the UK and China; the latter owns the majority of the world’s raw materials and is the location of the manufacturing of much of the electronics products consumed in the UK.

Hunter highlighted a number of factors and issues to consider, including: the increasing ambition in the UK within the past 3 to 4 years to shift to a circular economy; the appearance of government directives in China to do the same, such as the ambition for Shenzhen to be a circular economy-based Fab City by 2050; a lack of
knowledge over waste streams in China; the importance of critical making, or rather an “embodied learning process” (Hunter).

2.3.7 Community / Agency

Charny asserted the importance of questioning any assumptions contained in the project, including whether they would be any interest in the values that we are focusing on. He identified the key civic and cultural values of making, and talked through the multi-faceted nature of a variety of making communities, including their different forms of self-identification and representation. These included the North London makerspace Blackhorse Workshop which does not have a manifesto; Maker Faire Africa, which seeks to turn people from consumers into makers; the rise of maker festivals and faires, and the controversy over Bre Pettis’ decision to sell Makerbot. Charny identified a key value that makerspaces should engender: resilience. He identified examples such as Alejandro Araveno’s half-house project in Chile, discussed the importance of using agency to create resilience and community knowledge and proposed that his assigned ‘value’ become Community, Agency & Resilience.

Finally, Charny proposed that he present a talk at each workshop on key making initiatives that promote these values – Fixperts and the Maker Library Network.

2.4 Stage 2 Findings

In addition to the above, there were two key findings to consider for the project’s next stages:

- There is uncertainty over the future of the maker movement in China. This could have implications not just for makerspaces but for those making communities - such craft and shanzhai - already marginalised in the governmental focus on the maker movement

- We need to ensure that the values we focus on and promote are shared with making communities we encounter in China, to ensure their meaningfulness and avoid issues of neo-imperialism through their artificial imposition.
3 Stage 3: China Visit

Stage 3 consisted of a visit by six UK-based researchers, designers and an entrepreneur to Shenzhen from the 13th to 18th March 2016. It comprised five days of visits, interviews, workshops and discussion events at makerspaces and other sites related to the making communities in Shenzhen. The following is a summary of the research conducted and key findings and recommendations.

Figure 3 - the China’s Creative Communities team visit ARTOP in Shenzhen Design Industrial Park

3.1 Aims and Objectives

Stage 3 focused on several objectives:

- Consolidate existing relationships established in Living Research
- Create new relationships and identify potential future partnerships
- Expand and contextualise understanding of making communities in two ways: first, understand the maker movement and makerspaces as part of a broader ecology of making in China. This includes considering the maker movement in relation to making communities such as Shenzhen’s urban villages, shanzhai
and craft; second, extend beyond the current government-led economic emphasis on makerspaces as sites of technology-led innovation and considering other values of making. These were discussed at the stage 2 roundtable: community/agency creativity; entrepreneurialism; sustainability.

3.2 Participants

There were six UK-based participants and two China-based partners:

- **Three Investigators**: Dr Catharine Rossi, Senior Lecturer in Design History, Kingston University (Principle Investigator); Dr Justin Marshall, Associate Professor of Digital Craft, Falmouth University (Co-Investigator) and Professor Guy Julier, Principal Research Fellow in Contemporary Design, University of Brighton (Co-Investigator).

- **Two Consultants**: Daniel Charny, Creative Director at From Now On and founder of Fixperts social design initiative; Natalie Hunter, Strategic Director at Machines Room, London.

- **One Facilitator/Participant**: Martin Hennessey, Company Director at Machido and founding Director of The Writer, London.

- **Two Shenzhen-based Partners**: Lit Liao (Litchee Lab) and David Li (Shenzhen Open Innovation Lab (Szoil))

3.3 Research Methodology

Stage 3 was primarily based on primary research activities, reflecting the onsite nature of research activity: visits, interviews, workshops and an open discursive public salon. It continued and developed the methodology proposed by *Living Research*; to combine academics, practitioners and industry figures in live practice-based research.

3.3.1 Visits

We visited approximately 25 - 30 different makerspaces, incubators, start-ups, distributors/manufacturers, design studios, retail/showrooms spaces and cultural institutions allied with making (see Appendix 1). In addition an interactive map of many of the areas, organisations and businesses visited can be found here. This resource provides additional details and key contacts.

The selection comprised of a small number of sites already visited in *Living Research*, such as ChaiHuo hackspace and Litchee Lab, selected for this visit due to their importance to understanding the maker movement but also the desire to strengthen
We also visited new sites, recommended variously by the roundtable participants and contacts in Shenzhen. These included Guanlan, a printmaking village north of Shenzhen and Maker Bay, a makerspace in Hong Kong selected in order to contextualise Shenzhen’s maker culture in a local Asian context and for its emphasis on sustainability. We were also recommended a number of design sites, including Shenzhen Design Industrial Park (DIP) and the studio of the graphic designer Huang Yang in OCT Loft.

3.3.2 Interviews

We conducted a number of interviews and structured conversations. These included group interviews of individuals at makerspaces and sites associated with maker culture, including Eric Pan, founder and CEO of Seeed Studio, Violet Li of Chai Huo hackspace and Noel Joyce, Chief Product Designer at HAX hardware accelerator. We also utilised the workshops to conduct structured conversations with participants related to our research questions.

3.3.3 Workshops

We organised six workshops. These were key to the scoping aspect of the project that informed the design of activities that could ‘test methods of international engagement, networking and dissemination’ (Case for Support (CfS)). The six workshops reflected the expertise of the participants and values we wanted to investigate. Their design was informed by our understanding of making culture in Shenzhen. For example, the makerspace-based workshops were held in the evening as this when these spaces are most active. See appendix 2 for full details of each workshop.
1. Workshop: Digital Craft
Location: Litchee Lab
Date / Time: Monday 14 March 19.00 – 22.00
Workshop facilitator: Justin Marshall
Activity overview: participants created blocks to print with conductive ink and co-craft an interactive poster that reflected on the meaning of makerspaces such as Litchee Lab to participants.
Participants: c. 14 participants including designers, students across a range of arts and non-arts specialisms, a teacher, general public, a number of them visiting a makerspace for the first time.

2. Workshop: Maker Library Network and Fixperts
Location: Mongjin furniture workshop (adjacent to Litchee Lab)
Date / Time: Monday 14 March 19.00 – 22.00
Workshop facilitator: Daniel Charny
Activity overview: presentation and discussion of Fixperts, the social design initiative co-founded by Charny and James Carrigan in 2012.
Participants: c. 15 each night

3. Workshop: Circular Economy
Location: Litchee Lab
Date / Time: Tuesday 15 March 19.00 – 22.00
Workshop facilitator: Nat Hunter
Activity overview: presentation on the circular economy; dismantling of electronics products to investigate their materials and the supply chains they manifest;
redesigning key elements to follow circular economy model.
Participants: c. 5

Figure 5 - Participants in the Circular Economy workshop, run by Nat Hunter at Litchee Lab

4. Workshop: Maker Library Network and Fixperts
Location: Mongjin furniture workshop (adjacent to Litchee Lab)
Date / Time: Monday 14th and Tuesday 15th March 19.00 – 22.00
Workshop facilitator: Daniel Charny
Activity overview: presentation and discussion of Maker Library Network established by the British Council in collaboration with Charny in 2013, and Fixperts.
Participants: c. average 10, including makers, researchers, students, design tutors, interested locals, general public
Participants: c. 15 each night

5. Workshop: Maker to Market
Location: F518 Idea Land
Date / Time: Wednesday 16 March 17.00 – 19.00
Workshop facilitator: Martin Hennessey
Activity overview: presentation and interactive workshop investigating the challenges and opportunities for makers to develop businesses, and the values of making culture amongst those interested in entrepreneurialism in Shenzhen.
Participants: c. 30, including school students, interested locals, makers, designers, business owners, engineers.
6. Workshop: V&A Design Culture Salon: What are the values of making and makerspaces?
Location: Sino-Finnish Design Park
Date / Time: Thursday 17 March 15.00 – 16.30
Workshop facilitator: Guy Julier
Activity overview: panel discussion of UK and China-based experts to discuss questions around the roles and meanings of making and makerspaces in China. Followed by audience Q&A.
Participants: c. 20, including academics, researchers, designers, makers, a curator, local business people and entrepreneurs.
3.4 Stage 3 Findings

This report contains brief summaries of the findings from the stage 3 visit. Blog posts by the six participants provide more targeted reflections, including on the reception of the project’s four ‘values’.

3.4.1 Condition of manufacturing and making
A number of incubators and makerspaces are reporting growth, such as HAX and Litchee Lab, and the value of being in Shenzhen is clear. As Noel Joyce of HAX reported, Shenzhen “is the only place that you can accelerate the making process” while ARTOP promotes the fact that everything needed for the design and manufacturing process, from project strategy to sales channels, is within two hours of Shenzhen.

However, as noted in the CfS there are a number of signs that the maker movement is not in as good health as the level of investment and excitement could suggest. Eric Pan at Seeed noted that “there are too many makerspaces for the maker community now”. Pan also commented on the lack of understanding of what the maker movement is: “in China people don’t know what is making”. Speaking at the V&A Design Culture Salon, Lit opened by stating that there is “bad news coming” for the maker space bubble in China as the numbers of makerspaces aren’t sustainable, and there are not enough makers using the spaces and “not a lot of thought about where it will go” as a movement.
Hans Stam stated that the maker movement “has been abused by the Chinese government”. Commenting on Shenzhen’s makerspaces he said that “all of them are empty except here [Chai Huo] and Litchee Lab.”

There are also questions of the sustainability and future growth possibilities of the economic models of makerspaces and companies, such as MakerBay and Seeed. However we recognise that the challenge of finding economically sustainable models for maker and hack spaces is not unique to China and this issue is almost universal to such spaces worldwide.

The Chinese government has had a particular set of expectations for maker activities and sought to stimulate innovation and encourage business start-up through providing grants to set up ‘makerspaces’. Anecdotally this has been recognised by many people we met as a top-down strategy that believes in a ‘build it and they will come’ approach. However, the labs and spaces we visited that were healthy were those that had built community in a more progressive and organic way, with the technical facilities developing as needs arose and opportunities presented themselves, rather than being the government supported precursor to any community of makers existing. There was also recognition that this pump priming approach has resulted in some abuse of the grants available, resulting in large new spaces being opened in order to meet the funding requirements with less effort going into building a community of users once the space has been secured.

### Embrace of design

There were several signs indicating an embrace of design in Shenzhen, a UNESCO “city of design” since 2008. These included the introduction of a floor devoted to design in SEG Tower, replacing space previously given over to electronics component and product retailers. The “CPark Show Promotion Center” featured products endorsed by Shenzhen Industrial Design Association (SIDA) authored by design-led studios including Rone (visited in Living Research) and Lepow. The Sino-Finnish Design Park, where the Salon was held, is also an active design hub, hosting several domestic and international design studios, including Stefano Giovannoni and Karim Rashid.

It was also evident in comments made by Eric Pan at Seeed who stated that “we’re kind of bored of electronic engineers”. Seeed are also moving part of their operation to Vanke Cloud, a design and architecture park in Shenzhen, suggesting a closer future alliance with design. Seeed has also been experimenting with Open Desk and is open to other design-based technology projects, such as fashion. These first-person encounters exemplified Made in China 2025, the government initiative to move the nation’s economy up the value chain away from the increasingly smaller returns of low-cost manufacturing to focus on design, quality, innovation and sustainability. At the Salon Liao noted that in Shenzhen “design is a word everyone likes, everyone thinks design is a good thing, creating new values”. She also
cautioned that there was maybe the need to rethink how design is understood in Shenzhen, to not just be about aesthetics but the ability to improve a situation.

We were also able to visit a number of design studios and design parks in Shenzhen including DIP, which has over fifty industrial design studios, and an onsite design library and prototyping workshop. These companies, such as Design Do and ARTOP are informed by Shenzhen’s design origins in packaging and brand and the city’s manufacturing capabilities, therefore largely focusing on brand identity, and producing both Original Equipment Manufacture (OEM) for Chinese and international brands including Xiaomi and Logitech, and own-brand consumer electronics. There is a clear ambition to move towards the latter at studios such as Matrix, Lofree and N+Design as the brand value of Chinese design rises. There were also examples of connections between design and maker culture at N+Design, whose product range included the Coollang-Xiayo smart racket, a badminton racket developed with a maker. The owner noted that makers come to him to ask how to put products into production. Even those designers not currently involved appeared interested: on asked about the maker movement Huang Yang did not appear to have had any engagement with it so far, but said that he would like to work with a makerspace.

Figure 8- Inside N+Design, F518 Idea Land, Shenzhen

There was a common design language in the design studios as well as some of the makerspaces, notably those with private or government backing, such as Huaqiang Bei International Maker Center. These spaces shared an emphasis on using a small selection of copies of Western design brands and designers, such as mid-century Eames furniture and the Italian Arco lamp and more contemporary designs by the
likes of Konstantin Grcic and Ron Gilad. With their running machines, coffee counters and table football, these design and makerspaces tend to evoke Bay Area tech culture such as Google campus. As Dori Jin at Huaqiang Bei International Maker Center explained, this copying of Bay Area aesthetic was due to the infancy of Shenzhen’s maker culture more generation: “from decoration, to design, to how to run a makerspace … we don’t know how to do that.” Dori was also keen to discuss the design-led nature of the new makerspaces they are creating in the building, called Tech Temple, a collaboration with Emie Lab, a design-led hardware accelerator owned by Emie a self-described “design-oriented electronics company” (Emie, 2016).

We also witnessed some of the challenges that Shenzhen’s design community is facing. We did encounter high design quality, specifically in the visit to the OCT Loft studio of the graphic designer Huang Yang. However for the most part the level of design was competent but fairly uninspiring. This was recognised by some. Attributing factors including the low level of innovation and creativity: Joyce stated that Shenzhen was “lacking a creative component” – one that is not cultivated in education - and that “there’s no real innovation” in the city as “the only products that get made here are those that have succeeded elsewhere”. A DesignDo representative identified the problem of excessive deference to clients who do not encourage creativity, and the passive nature of Chinese designers, as opposed to their more confident, assertive Western counterparts. This supports findings in secondary literature on this subject (Keane, 2013; Justice, 2015).

There were also several conversations, including at the Maker to Market workshop, about issues of patents in China. Comments were raised about the excessive length

![Figure 9 - Interior of Huaqiang Bei Maker Center, Shenzhen](image)
of time it takes to get patents in China, but there were also concerns over how to protect products from copying. Earlier in the week Pan had commented that we don’t care about patents” in China.

3.4.3 Community and Agency
Notable was a growing emphasis on the community value of makerspaces. This was evident at the Digital Craft workshop at Litchee Lab. Asked to comment on the meaning of makerspaces, one individual commented: “that's what makerspaces mean to me - community”. At the Maker to Market workshop key values of entrepreneurs included making a “community contribution” as well as “empathy” and to “make life and the world better”.

Violet Li, who manages Chai Huo, was a strong advocate of the social and innovation possibilities of makerspaces. Citing the designer Yanki Lee, Violet stated that at Chai Huo “we want to make something fun and also [we] want to see if we can make some difference together.” She also noted that they wanted to make their website more “community friendly” so that members can contribute, as part of her broader ambition to build up the community at Chai Huo, which has increasingly become a ‘show’ Makerspace since the Premier’s visit last year. This interest in community engagement is extending into her work with schools, as part of a more notable emphasis on maker education that was most prominent at Litchee Lab. As Liao commented at the salon, the “goal of maker education is not to learn a lot of fancy technology, but to learn to help around”.

There were also signs of more attention being paid to the community aspect of makerspaces, for example in the inclusion of a children’s maker area in the CPark Show Promotion Center. However this was not universal nor a guaranteed part of future plans for China’s makerspaces: Han stated that the government doesn’t “know that [the] makerspace is about community, they think it’s about innovation”. Others are encountering problems in building a community feel to their makerspaces, rather than just an assemblage of individuals. Dori at Huiqiang Bei International Maker Center noted despite all their equipment, including a new workshop, no-one uses it – no-one wants to play or their table football table or using their running machine – and by extension, no-one wants to share ideas, inhibiting the creative potential of the space.

We also found a very receptive community in Shenzhen and appetite for the activities we were organising; several of the individuals were keen to stay behind after the workshops to talk more, and there were several instances of individuals attending multiple workshops

We encountered a lot of interest in Fixperts and the Maker Library Network. Fixperts could encounter challenges in terms of the low status of repair and fixing culture (as reported by Pan) however the social aspect of using design to help others was widely appreciated. An educator at Shenzhen Polytechnic which includes a
School of Art and Design noted: “I think the programme is important”. “Every year students have good ideas, [these] go to waste. “A lot of people need help” and we need to “know how to connect, how to recognise those that need help”. Wen Wen, Director of Project Development Department within the Institute for Cultural Industries at Shenzhen University, stated that the Maker Library Network idea was “quite promising in China” and that “both projects sound very inspiring”. A “SZ Fixperts” group has now been set up on Wechat (the dominant social media platform in China) and a couple of individuals have contacted Daniel about hosting a Maker Library.

3.4.4 Sustainable Design and Making

There was an interest in sustainability, even if it was not clear yet what the path towards this would look like. Eric Pan at Seeed talking about sustainability in terms of not wasting resources on making things that people don’t need, rather than recycling the products that result. An ARTOP representative stated that they always try to be eco-friendly with their products, for example making them easy to recycle, however it wasn’t clear how this operated. They also noted that in China consumers “don’t have the concept to recycle”.

This receptiveness to recycling makes sense, as it comes in the context of Shenzhen signing up to be a Fab City and government directives encouraging a more sustainable agenda. This is an area that was explored further during stage 4 of the project when Marshall and Li attended 2016.

A number of individuals and spaces were promoting a more socially and environmentally meaningful maker culture. These include Noel Joyce at HAX, who advocated the importance of incubating design projects that would “realise value in people’s lives”. This was most visible at MakerBay in Hong Kong that has a strong sustainable ethos. This can be credited to its founder, the environmentalist Cesar Harada and MakerBay’s Managing Director, Fiona Ching, who has a background in NGO and humanitarian work.

3.4.5 Craft

As stated in the CfS we were keen to contextualise the maker movement in the context of its ongoing craft traditions. This proved to be challenging in Shenzhen – which was unsurprising given the rapid and brutal growth of the city. However, we did identified interest for craft and openings for future possibilities in relation to China’s making communities.

This interest in craft was evident in comments at the Digital Craft workshop on handmaking as an antidote to their everyday: one designer noted that “I work on the computer all day, I enjoy [using] the marker, the brush” while another individual noted “I don’t have many opportunities to make things in daily life… I can’t remember the last time I used a saw.” This echoes findings from those taking part in
craft workshops interviewed during Living Research. In addition, the China Printmaking Museum in Guanlan, which has an impressive selection of equipment for education purposes, including letterpress, risograph and lithograph machines, but which are clearly underused — the museum was empty on our visit.

Figure 10 - China Printmaking Museum, Guanlan
Finally, the appearance in March 2016 of the Report on The Work of the Government stated that they will “encourage enterprises to use flexible and custom-tailored production processes and foster a craftsmanship spirit of striving for the best” as part of a desire to improve the quality of Chinese manufacturing. These suggest a greater receptiveness and possible investment in craft in China that is worth watching, particularly as the question of the relationship between technological advance and crafts is an issue being played out in other countries currently, such as India (Chauhan, 2016).

3.4.6 Shanzhai
At the salon Li picked up on another community of makers overlooked by maker movement rhetoric in China – the makers and designers in Huaqiang Bei’s electronics stores who are “not being acknowledged as makers” and who are being looked down on by the maker movement. He advocated the importance of these shanzhai figures, highlighting the 1 million plus people involved in shanzhai, “making the things big companies don’t want to make”. Shanzhai was one of the making cultures that we keen to put in relation to the maker movement so this was a useful statement, as were our own first-hand observations of shanzhai’s vitality in Shenzhen.
Figure 11 - Shanzhai makers in Shenzhen
4 Stage 4: UK Visit

4.1 Overview

This document summarises stage 4 of China’s Creative Communities, the final stage of the project. It consisted of a research and networking visit to the UK by two Shenzhen-based representatives of China’s maker movement 18 - 22 April 2016. Together with the Principle and Co-Investigators and several of the project’s facilitators they participated in five days of meetings, visits, semi-structured interviews, workshops and discussion events at makerspaces, studios and creative spaces in London, Bristol, Manchester. Part of the group also attended the FabCity Summit in Amsterdam.

4.2 Aims and Objectives

The final part of the project, stage 4 had several objectives:

- Continue to meet the project’s objective of providing ‘forums for making-based knowledge exchange’
- Consolidate existing relationships established in the earlier Living Research project and developed in stages 2 and 3 of China’s Creative Communities; to create new relationships
- Identify potential future partnerships and to expand and contextualise understanding of making communities.
- Open up the UK maker network to Chinese partners

This stage was key to the project’s knowledge exchange activity; having participated in workshops and events in Shenzhen in stage 3, several of which were organised in collaboration with the two Chinese partners Li and Liao, stage 4 offered the possibility of a reciprocal experience. Li and Liao were invited to the UK to participate in events, meetings and visits organised by UK-based members of the project to see what they could learn from the UK’s maker culture and what contacts and networks they could develop, to benefit Chinese maker culture. While the focus was on supporting Chinese maker culture, this visit was planned to be mutually beneficial: Li and Liao could offer a Chinese perspective on the UK maker culture and identify ways the UK and China could work together to the benefit of both nations.

4.3 Key Participants

- Principle and Co-Investigators: Guy Julier, Justin Marshall and Cat Rossi
Living Research team: Martin Hennessey (who participated in stage 2 and 3), Asa Calow and Fiona Dowling (who both participated in stage 2), Sara Robertson and Molly Price

Two Shenzhen-based participants: Lit Liao and David Li

4.4 Research Methodology

As with stage 3, stage 4 focused on primary and empirical research methods that prioritised participation and inclusivity and continued the immersive and joint practice-based and academic approach evinced in Living Research. It consisted of visits to makerspaces and design studios related to the maker community, meetings with the community’s designers, makers and entrepreneurs, and events that provided forums for discussion and making activities.

There was an additional international dimension which was unexpected at the start of the project but beneficial to the project’s international outlook; at the MadLab roundtable we were joined by three international makers and Marshall and Li had the opportunity to participate in FabCity Summit in Amsterdam, a particularly pertinent event given that Li is involved in planning the Fab12 event in Shenzhen in August 2016.

4.5 Research Methodology: Visits

We visited approximately 16 different makerspaces, incubators, start-ups, design studios and cultural institutions allied with making (see appendix 3).

4.5.1 Visits: UK

The UK selection included sites associated with Living Research participants, as part of the dual aim to continue to build relationships instigated in Living Research and to ensure the project engaged with UK maker culture beyond London, even within its limited scale.

Bristol: In Bristol we visited Knowle West Media Factory (KWMC), a media arts charity established in a deprived area of the city in 1996, and where Dowling is based. Dowling works at KWMC: The Factory, the organisation’s digital manufacturing enterprise, which is located in a sustainable business park nearby to KWMC’s main premises, and where we participated in a networking lunch with members of the KWMC team and network, who were involved in projects from citizen sensing initiatives to maker education and skills development. We also visited The Pervasive Media Studio in the central of Bristol, a creative co-working space established in 2008 in collaboration with the University of West of England and University of Bristol, and where Molly Price previously worked.
Studio Producer Verity McIntosh introduced us to several of the studio’s members. Issues discussed include the challenge of second stage development for the innovations developed at the site, and the importance of the collaborative and open nature of the working environment. Significantly, the Pervasive Media Studio had recently introduced a small making space, and was looking to expand this in the future – although the challenges of facilitating and running the space were recognised.

Figure 12 – members of the research team outside Knowle West Media Centre (KWMC) with staff and visitors to KWMC. Photo courtesy KWMC.

Manchester: In Manchester Asa Calow organised a roundtable with MadLab co-founder Rachel Turner that brought together China’s Creative Communities researchers with three members of the international maker community: San Francisco based hacker Mitch Altman, Marc Dusseiller from Hackteria, a platform for open source biological art, and Jimmie Rodgers of Artisans Asylum, a non-profit community fabrication center in Somerville, Massachusetts. The discussion included issues of funding and investment, the multiple values and identities of makerspaces and maker movement, including economic and commercial, community.

London: While Li had visited London previously, this was Liao’s first trip to Europe. Hennessey and Rossi organised two days of visit for Liao: it was felt that it was important for Liao to visit makerspaces and studios and meet individuals key to the city’s maker communities generally, but also to focus on her specific interest in maker education, in order to maximize the potential usefulness of the trip. These included Dejan Mitrovic of Kidesign, a startup focused on designing creative
curriculum materials for CAD and 3D printing school projects based at Makerversity, Kano, whose products including a computer and coding kit suitable for children, and tech education provider Fire Tech Camp, based at Fab Lab London.

Figure 13 - Lit Liao and Gareth Owen Lloyd in conversation at Machines Room

4.5.2 Visits: Amsterdam

Li and Marshall took the opportunity to attend FabCity Summit in Amsterdam, an event held at the Pakhuis de Zwijger and organised as part of the wider Cultural programme for the Netherlands Presidency of the European Union 2016. Although not part of the original schedule, it provided Li and Marshall with a chance to participate in discussions with key stakeholders in the growing Fabcity movement. Growing out of the Global Fablab network, FabCity is a global project to develop locally productive, self-sufficient and globally connected cities. A number of cities have signed up to this aspiration, including Shenzhen, which is also hosting Fab12, the annual gathering of the international Fablab Network.

Li and Marshall attended several of the event’s public presentations, including a Skype presentation by Neil Gershenfeld, the founder of the Fab Lab movement who is based at MIT’s Centre for Bits and Atoms. Li was also invited to present, and he discussed issues including the desirability of the type manufacturing required for a FabCity to operate, and how Shenzhen’s Urban Villages could provide a useful model in attempting to build a FabCity. Li and Marshall also attended a roundtable chaired
4.5.3 Workshops
In addition to the visits and meetings we organised three events. These all took place in London on the final day of the visit, in order to for the group to be able to present some initial findings on the similarities, differences, possible points of connection and lessons to be learnt from this UK-China exchange.

Workshop 1: Why Make Things in China?
Location: Makerversity, Somerset House
Date/Time: Friday 22 April, 08.00 – 10.00
Workshop Facilitator: Ursula Davies, Managing Director of Makerversity
Activity Overview: A panel discussion between Lit Liao, Doug Stokes of Design on Impulse, a design studio behind Nipper Charger, the world’s smallest phone charger, and Nick Paget of Instrument PD, an integrated engineering and industrial design studio. Stokes and Paget are Makerversity members, and both are engaged in manufacturing products in China.
Participants: c. 40 attendees consisting of Makerversity members, members of the public, project participants

Figure 14 - Ursula Davies introducing ‘Why Make Things in China?’ discussion at Makerversity

Workshop 2: Digital Lace
Location: Makerversity, Somerset House
Date/Time: Friday 22 April, 10.30 – 12.30
Workshop Facilitator: Sara Robertson and Sarah Taylor
Activity Overview: The workshop was led by Living Researcher participant Robertson together with Taylor. They are both researchers based at Duncan of Jordanstone University and Napier University respectively, where they specialise in hi-tech textiles research.
Participants: c. 6 – 8 attendees consisting of China’s Creative Communities researchers, and a PhD student

Figure 15 - Sara Robertson and Sarah Taylor introducing the Digital Lace workshop, Makerversity
Figure 16 - Sarah Taylor demonstrating the technology with Martin Hennessey and Lit Liao

Workshop 3: On Design and Making in China
Location: Institute of Contemporary Arts
Date/Time: Friday 22 April, 14.00 – 16.00
Workshop Facilitator: Guy Julier
Activity Overview: Panel discussion between David Li, Lit Liao, Zara Arshad, a curator based at the V&A and expert in contemporary design and Tom Saunders, NESTA researcher who recently co-authored Made in China: Makerspaces and the search for mass innovation, which includes research conducted during Living Research. The discussion focused on understanding the design industry and maker movement in China, specifically in relation to Shenzhen, and what can be learnt from looking at design and making in the city.
Participants: c. 25 attendees including China’s Creative Communities researchers, designers, students, researchers, industry representatives
4.6 Stage 4 Findings

This report briefly summarises the key findings and overarching themes that emerged during stage 4. These are supplemented by participant’s reflections on the China’s Creative Communities blog, which went live during this stage, and will inform the overall findings in the final report.

4.6.1 Community

Community/agency is one of the four values that China’s Creative Communities seeks to explore in relation to China’s maker movement, a selection based in part on those values found in the UK’s maker culture. In some ways it was therefore not surprising to see this in evidence at several of the sites we visited. KWMC was established in order to support and empower the local community. Its focus on grassroots, bottom-up approaches is evident in all the projects we were shown, from ‘I will always have you’, an installation to record tattoos and memories about them, to a citizen sensing project to tackle damp in rental accommodation.

Liao was impressed by the community of both Makerversity and Maker Mile. As she described of the studios and makerspaces located at the latter: they were “all operating in different fields, but linked to each other, small but embracing the maker spirit. It shows how a vibrant community and a key ingredient for creativity.” This seems particularly pertinent given the difficulties in building a making community, or making communities, in and around the makerspaces emerging in Shenzhen.
4.6.2 Sustainability
KWMC: The Factory embodied the sustainable approach which could have potential in Shenzhen, particularly as the government seeks ways to tackle its national pollution problem. All the furniture was produced by the Factory using Opendesk designs, and many of these were based on upcycling ex-council furniture. The KWMC building itself was a straw bail build and provided a successful example of a large-scale sustainable building.

4.6.3 Design
Design was repeatedly discussed throughout the week. Discussion ranged from embracing the growing design industry and design education industry in China, and the need to connect the UK design industry with Chinese manufacturing in order for projects to progress beyond the incubation and small-scale stage, to the importance of UK designers having the right attitude when working with Chinese manufacturers. While Shenzhen is in some ways unique as a model for a design city, Li asserted at the ICA salon that “the way Shenzhen designs is becoming global”. According to Li this is a model based of design as “open, cooperative, use as much currently available componentry as possible, iterate fast, ship fast”. This approach links to Shanzhai open manufacturing system that has been associated with copying in the past, but is now being reassessed for its potential value as a design and production strategy.

4.6.4 Economic and Innovation Value
Makerspaces are seen to have value in a post-industrial globalised context increasingly equipped for mass-customisation. Li and the other international visitors to MadLab championed the open, distributed authorship of maker culture, and a democratization of innovation. Li sees the real value and opportunity within Makerspaces to foster “globalised mom ‘n’ pop shops”, that is to say, family owned businesses that are not aiming at mass production but at the batch manufacturing sector, with 5 - 10,000 units production runs. There was also recognition that these weren’t the only values: as Calow reported ‘the economic benefits are just one of the benefits’ MadLab offers and pursues.

The UK visit also included a reminder of the importance of craft as a driver of value. This was evident in Robertson and Taylor’s smart textiles workshop, which incorporated fiber optics into woven cloth, and which not only showed how craft practice, traditions and skills can drive innovation but how these can be scaled up for industrial production in their collaboration with Morton Young and Borland lace manufacturers in Scotland.

4.6.5 Education
A key theme to emerge was maker education. This was driven by Liao’s interest in this area, and the increasing education focus of Litchee Lab. Li has also recently been appointed the head of China’s MakerEd committee, making this an even more important theme for the future.
There are a hundred schools with makerspaces in Shenzhen, according to Liao. As she reported at the ICA salon, they are enabled by government funding and embraced by parents lamenting the lack of making skills amongst their children – an admittedly surprising lack given China’s status as an industrial powerhouse, but one that speaks of the sharp generational differences amidst rapid change.

However Liao identified multiple challenges both she and MakerEd are facing more generally. Litchee Lab struggles with how to “sell” paid-for MakerEd activities to parents, who have disposable income but are spending it on consumer goods rather than more experiential or educational activities. She also identified a more general problem of MakerEd being an industry driven by technology suppliers in China, whose interests are in selling new equipment to schools rather than developing a coherent curriculum-based approach. While many schools have 3D printers, these are not yet being fully exploited for education.

Another aspect of education that arose within this visit was the need to educate/inform the broad design entrepreneur sector about the realities of the culture, structures and processes that are in prevalent in China manufacturing. Li raised the issue of US and UK entrepreneurs still arriving in China with unrealistic and patronising ‘neo colonial’ attitudes to manufacturing companies, which did not help get designs manufactured and to market. In addition stereotypical views of Chinese companies, their ‘dishonesty’ and lack of respect for IP were expressed at the ‘Why Make Things in China’ event at Makerversity. This suggests there is still considerable work to do in providing informed opinion and case study examples of how those in the UK can work with mutual benefit and respect in the fields of design and manufacture.
5. Findings and Recommendations

5.1 Summary of Findings

The principal aim of this project was to bring together individuals and organisations in the UK and China to participate in a networking, researching and scoping project in order to strengthen China’s maker communities in partnership with the UK. Research objectives included:

- Test methods of international engagement, networking and dissemination
- Understand the condition of China’s maker community in broader creative, industrial, social, cultural, political economic contexts
- Develop and build new relationships
- Identify other knowledge and expertise required to meaningfully support China’s maker communities

Key stage findings were outlined in the individual stage sections. We have identified three overarching findings here.

5.1.1 - Methodology

We developed a methodology initiated in Living Research: Making in China, an earlier AHRC/British Council research visit to China in October 2015 that involved several China’s Creative Communities researchers. This methodology brought together academics, practitioners and industry figures in practice-based, immersive research. We developed this cross-disciplinary approach in China’s Creative Communities through organising and participating in several activities: informal interviews, visits, public discussion salons and creative and practical workshops.

We found the inclusive nature of these overwhelmingly primary and empirical research methods appropriate and valuable. They enabled makers, makerspace users and others in Shenzhen’s creative community to have their own voice. The digital craft workshops in China and London enabled participants to experience the possibilities of craft-led innovation and bringing together traditional and newer technologies while also providing informal environments conducive to open discussion.

5.1.2 - New Knowledge and Research Questions

These included identifying uncertainty over the future of the maker movement in Shenzhen amongst the local community, attributed to factors including over-inflated government-backed expansion leading to unsustainable economic models for makerspaces and empty makerspaces. This has contributed to several new developments: an increasing recognition of the community value of makerspaces (as
opposed to the heavy focus on entrepreneurialism and innovation); the embrace of
design culture and recognition of its importance for China’s creative industries; an
allied growing interest in craft; the rise of maker education in schools; interest in the
potential economic and innovation value of makerspaces; a growing interest in
sustainability.

The research has led to new questions including: how can China’s design, craft and
maker communities be strengthened through collaboration, both within and beyond
China; what role can education play in China’s maker communities; how can China
and the UK establish meaningful relationships to benefit creative industries, maker
culture and SME manufacturing in both countries?

5.1.3 - Networks, Collaborations and Partnerships
Through this project we strengthened partnerships with the two China-based
participants, David Li, China’s leading maker movement spokesperson and Lit Liao,
founder of lively Shenzhen makerspace Litchee Lab. Through visits, workshops and
networking we also introduced making networks and initiatives new to China, such
as Fixperts and the Maker Library Network. We also established new connections
between UK, Chinese and international maker communities, including key figures
and organisations in maker education and enterprise (e.g. Makerversity, Machine
Rooms, MadLab), the creative industries (e.g. Bare Conductive, Technology Will Save
Us), and the FabCity movement. A full list of visits and activities are on the project
blog https://chinascreativecommunities.wordpress.com. New opportunities and
partnerships are being developed through email and Wechat.

5.2 Recommendations

Given the enthusiasm for the workshops organised, the ongoing and rapid changes
in Shenzhen, and the clear evidence that there is still much to be done in terms of
researching and disseminating the making and design cultures of Shenzhen and their
relationship to global changes in practices and policies of design and innovation, this
research area clearly has strong potential to extend beyond the confines of China’s
Creative Communities. These are at a critical stage as they work to establishing new
modes of creativity and innovation that may well have profound influences in the
West. We recommend the following to be part of any future research activities:

5.2.1 Networking and Exchange Visits
Discussions in the UK pointed towards the need for a more sustained exchange or
visit between researchers, designers, makers and manufacturers in the UK and
China, either at educational or professional levels, in order to develop the
relationships that can strengthen design and making communities in both nations. Li
proposed the organisation of an industry visit, consisting of a cross-section of China’s
manufacturing ecosystem and bring them to the UK to engage a broader selection of
sites within and outside of London. They could run workshops, give talks and engage
in other activities to ensure a meaningful visit that could address what McIntosh called a “national problem” of second stage development.

This issue of translating British-based innovation into mass (or large batch) produced products that made the most of Chinese manufacturing expertise was also raised at Makerversity, which included a discussion around the destinations of Chinese design alumni of UK HE institutions, and how fostering international networks within HE institutions could benefit British and Chinese-based designers once they enter the industry, as they would already have a network to facilitate discussion with designers and manufacturers in other geographies.

Even in the short space of the trip, business links were established. Li and Mitrovic discussed the possibility of selling Kidesign to schools in China.

We were also keen to hear what participants in the workshops would propose in terms of future activities in this area: at the *Maker to Market* workshop participants were asked what the UK and China should do together next. Suggestions included: a website to share ideas, a UK-China Maker Faire, cross-cultural debates and talks, a design competition whose prizes would include investment for manufacturing; exchanges and a “maker’s curriculum”.

Developing and extending such networks for the interchange of expertise would be important in consolidating platforms for practice-based design research. We have observed a strong potential for Shenzhen’s prototyping base to function in partnership with UK-based research into new products and services.

5.2.2 Workshops

There was a clear appetite for workshops given the numbers of participants and the level of engagement. The salon was particularly useful as a forum for discussing the differences between UK and China maker cultures, while the more hands-on workshops actively involved participants in other ways of thinking about making culture. Repeating the workshops in other makerspaces would clearly be welcome, as would those on new themes. For example, it could be interesting to run a makerspace workshop “offsite” at Guanlan, combining new technologies with printmaking tradition and bringing together two very different, disconnected communities. Any workshops organised should have built in socialising time after the event, to build on the appetite for networking and discussion. Through these, it is anticipated that new research relationships between the UK and China can be established.
5.2.3 University Collaborations:
We engaged with a number of academics in Shenzhen, several of whom expressed an interest in possible staff and/or student collaborations. These included:

- Dr Wen Wen, Lecturer and Director of the Project Development Department of the Institute for Cultural Industries, Shenzhen University
- Qifeng Yan, director and chief researcher at Media Lab (Shenzhen) of Hunan University and Baoan Maker Alliance
- Dr Xieomei Nie, Lecturer at the Open FIESTA (Faculty for Innovation, Education, Science, Technology and Art) programme at Tsinghua University (Shenzhen)
- Dr Clay Shirky at NYU Shanghai

We view the University design research sector of Shenzhen as having very strong potential, particularly in cross-disciplinary, innovative methods. In its current state it is small in relation to the vast amount of design activity that is underway in Shenzhen. We anticipate that a developing hub of academic expertise and exchange in design research may unfold in the coming years.

5.2.4 Residencies
David Li is keen to spend more time in London to learn more about design as practised in the UK. The possibility of applying for an international residency was discussed informally with Gareth at Machines Room and the British Council. Given Li’s high profile within China’s creative industries with regards to policy development and new approaches to innovation, potential exists here for this to build important links through residencies.

5.2.5 Maker Library Network
David Li and Lit Liao expressed a keen interest in setting up Maker Libraries, which Liao encountered at both Machines Room and East London Printmakers at Szoil and Litchee Lab in Shenzhen. They are now in conversation with the British Council and these would be the first in China. The concept of the Maker Library was established by Daniel Charny and, through British Council support, there are Maker Libraries in the UK, Mexico, South Africa, Turkey. Potential to connect these into academic research may subsequently developed.

5.2.6 Mapping
It was clear from our interviews that there are a lot of connections between individuals in Shenzhen’s dispersed making and design community. For example, several incubators, design firms, makerspaces and individuals had worked at Seeed and Seeed’s Chai Huo Makerspace before setting up on their own. Mapping these connections could help understand how such communities emerge, what are their drivers and what is distinctive about the formal and informal relationships that they arise from. This should be done with due regard to the complex cultural and
economic systems within which entrepreneurial activities and urban development unfold in China (Keith et al 2014). In this way, Western assumptions around how we understand ‘network sociality’ (Wittel 2001) and its role in underpinning the development of creative industries (McRobbie 2002) may be challenged or modified.

5.2.7 Evidencing Value
One of the questions to have emerged is about methodology in evidencing value. Beatrice Pembroke, Director of Creative Economy work at the British Council, raised the question of how to measure and evidence the non-economic value of makerspaces. This is pertinent to the project and to other makerspace related projects such as the RCA’s two-year EPSRC Future Makerspaces in Redistributed Manufacturing project, which considers value in terms of extensions from Bourdieu’s multi-faceted notion of capital that includes cultural, social and knowledge capital. Enabling further research into how to measure the multiple values of making will be key to evidence and ensure their future strength.

5.2.8 Further Contextualisation
Shenzhen’s design and maker culture exists in relation to a number of geographical contexts that the current literature doesn’t explore at length. Each of these, as follows, raise further questions and areas for exploration.

- Shenzhen’s hinterland of the Pearl River Delta, Guangdong Province and Hong Kong.
  For example, what are the dependencies between the urban culture of Shenzhen and these sites in terms of infrastructure and trade and how does this influence its design and maker movements?

- The Chinese national context.
  How do the maker and design cultures of Shenzhen reflect or depart from national policy on economic practices and the creative industries? What are the interrelationships between either professional or non-professional design activities across China with respect to Shenzhen?

- Shenzhen and the Global South.
  How do market opportunities in Sub-Saharan Africa or East Asia shape entrepreneurial activities and approaches to innovation and design?

- Shenzhen and Silicon Valley.
  For example, how do conceptions and practices of open innovation differ between Shenzhen and California? Are Shenzhen approaches beginning to have influences on innovation and maker culture in Western contexts?

- The Maker Movement diaspora
  Given the global dispersion and connectivity of the maker movement, how do ideas about what makerspaces are for and how they function get moved around transnationally and are these acted upon? How do Shenzhen makerspaces respond to these?
Given the rapid globalisation of maker culture, a more nuanced understanding of its development and trajectory in Shenzhen could lead to innovatory research findings. This could be with regards to our wider understanding of national and transnational relationships through innovation and the creative industries.

5.2.9 Publication
There is, to date, quite a large bibliography that discusses the relationships of creative industries policy and shanzhai culture (e.g. Chubb 2015; Hartley et al 2015; Wallis and Qiu 2012)). Some of this extends to considerations of the roles of the maker movement and makerspaces (e.g. Lindtner and Li 2012; Lyn 2011; Saunders and Kingsley 2016). However, there are a number of issues that have emerged through our research that are not covered by this literature. These include:

- A multilayered understanding of the geographical contexts for maker and design culture in Shenzhen is currently absent (see 5.2.8).
- The policy and practice landscapes in China generally, and in Shenzhen specifically, are developing very rapidly. Publications to date are very much ‘snapshots in time’. More extended research into the ways by which these are unfolding, including a deeper engagement with and understanding of the differing agenda of the actors involved, would be productive.
- As Shenzhen emerges as a global hub for creativity and innovation, what opportunities does this afford for international collaborations? Equally, can makerspaces in Shenzhen evolve toward other roles (e.g. communitarian, civic or social ones) as is happening in some instances in the UK?
- The China’s Creative Communities research has built strong working relationships with and a robust mapping of the actors involved. Its mixture of primary investigation and reflective events (workshops, salons etc.) opens up possibilities for future collaborative research that can feed into the current literature.

6. Taking the Research Forward
We anticipate the outcomes of the research will taken forward through the following activities:

- Our China’s Creative Communities blog https://chinascreativecommunities.wordpress.com/ which provides an extensive and publically accessible resource of useful information and reflections for those wishing to engage with Shenzhen’s maker and broader design and manufacturing sectors.
- A forthcoming peer-reviewed article in Digital Culture journal authored by Marshall and Rossi focusing on the multi-method research approach used. This will be of value to researchers interested in novel methods for gaining
insights to complex situations. Further more substantial academic outcomes may follow.

● Joining and instigating appropriate Wechat groups. This provides the researchers and others interested, in both UK and China, forums to discuss, share ideas, collect feedback and network.

● The planned introduction of Fixperts and Maker Library Network to China. This will allow China’s makers and makerspaces to become part of international networks focusing on their social/community and educational roles and will have substantial reciprocal benefits to both the UK and China communities.

● The visits and activities that David Li and Lit Liao were involved in there was recognition of the cultural and economic benefits of further activities. Proposals included: extended visits by a broader representative selection of making ecosystem, from makers and designers to manufacturers; residencies and exchanges in UK and Chinese makerspaces. These will be pursued in the near future.

7. Narrative Impact

China’s Creative Communities was a three-month project completed in April 2016. From the perspective of June 2016 it is too early be able to identify significant impact. This is therefore an in-progress section, identifying areas where there have already been signs of small scale extra-academic impact. We will remain alert to possible impacts, particularly in relation to the values promoted by the project (creativity, community/agency, sustainability and entrepreneurialism), and the organisation of any events that have resulted in response to the project’s aims and activities.

● new membership of China’s maker communities
Several of the workshops we organised saw individuals enter makerspaces for the first time. These individuals, primarily female, have now become part of Wechat groups focused on Shenzhen’s maker community, and a possible Fixperts initiative.

● new knowledge / activities
Marshall’s conductive ink printing workshop has already been voluntarily repeated at Litchee Lab by Lit Liao for educators in the local community.

● new relationships and partnerships
Academic routes for international impact include Chinese researchers taking forward the research and building on their own projects and publications. Wen Wen, a researcher in the Institute for Cultural Industries at Shenzhen University, participated in several of the stage 3 events and has contributed a post to the blog. Our project aligns with her own research interests in China’s creative communities, and we anticipate further published research in this area. We also developed
relationships with Tsinghua University and NYU Shanghai, which we anticipate leading to further individual and collaborative research activity

- research networks, exchanges, residencies and visits.

New contacts, relationships and partnerships have been established through the project. These include connecting Liao with designers, design studios and maker spaces involved in UK maker education, including Dejan Mitrovic, Gareth Owen Lloyd (Machines Room) and Technology Will Save Us.
References

Chauhan, Ayush (2016) ‘Connecting Across Impervious Boundaries’ AITO
http://quicksand.co.in/altQ/article/connecting-across-boundaries/ [accessed 10 June 2016]


Acknowledgements

We would like to thank the AHRC/Newton Fund for funding the project and all the makerspaces, design studios and other sites visited as part of the project. We would also like to thank the project’s Co-Investigator Guy Julier, consultants Daniel Charny and Nat Hunter, facilitator/participant Martin Hennessey, and the following, who are just some of those who made this project possible.

In the UK: Mitch Altman, Zara Arshad (V&A), Justine Boussard (From Now On), Daniel Charny, Asa Calow (MadLab), Astrid Corporal (ICA), Ursula Davies (Makerversity), Fiona Dowling (KWMC), Marc Dusselier (Hackteria), Nat Hunter (Machine rooms), Andy Hutt (Makerversity), Guy Julier (Brighton University, V&A), Dylan Law (AHRC), Verity McIntosh (Pervasive Media Studio), Dejan Mitrovic, Gareth Owen Lloyd (Machines Room), Molly Price, Justin Ricks (KWMC), Sara Robertson (DJCAD), Jimmie Rodgers (Artisans Asylum), Joe Sanchez (Kingston University), Tom Saunders (NESTA), Jana Scholze (Kingston University), Rebecca Shoesmith (British Council), Rachael Taylor (MadLab), Sarah Taylor (Napier University), James Tooze (RCA), Jayne Wallace (Northumbria University)

In China: Fiona Ching (Maker Bay), Nico Deladerriere, Beibei Fu (Shenzhen Creative Investment Group) Cesar Harada (Maker Bay), Dori Hu (Huaqiang Bei Maker Center), Evelyn Hu (Shenzhen Creative Investment Group), Isabelle Huo, Dori Jin (Huaqiang Bei International Maker Center), Noel Joyce (HAX), Ji Li (Open FIESTA, Open FIESTA, Tsinghua University) David Li (SZOIL), Lit Liao (Litchee Lab), Janek Mann, Eric Pan, Violet Li, Lawrence Lin (WPI), Luias Mengoni, Clay Shirky, James Simpson (Litchee Lab), Hans Stam, Nic Tsang (Huaqiang Bei International Maker Center), Christopher Wang, Wen Wen, Dani Wu (British Council), Vicky Xie (SzoI), Luping Xu (Open FIESTA, Tsinghua University) Huang Yang
Appendix 1: Sites Visited in Shenzhen & Hong Kong during Stage 3

Makerspaces (5)
Chai Huo, OCT Loft (Seeed)
VIP Makerspace, OCT Loft (Seeed)
Litchee Lab
Shenzhen Open Innovation Lab (Szoil)
Maker Bay, Hong Kong

Craft workshop (1)
Mongjin Furniture workshop

Design Studios (6)
ARTOP, DIP
Design Do, DIP
Huang Yang, OCT Loft
N+Design, F518 Idea Land
LoFree, F518
Matrix, F518

Start-ups (4 + others at CAS, Maker Bay, HAX)
Drone (CAS)
DoRobot, (CAS)
Looking Glass Factory, Maker Bay
Electroloom

Incubators / accelerators (5)
HAX
Maker Institute (CAS)
101 Creative Exchange / Shenzhen-Edinburgh Creative Exchange, F518
Huanqiang Bei International Maker Center
Maker Institute (CAS)

Industrial Parks/Design Parks (2+)
Sino-Finnish Design Park
Shenzhen Design Industrial Park (DIP)

Distributors/Manufacturers (3)
Seeed
ATU/World Peace Industrials (WPI)
Shanzhai phone factory
Retail / Showrooms (3+)
SEG
Tower
CPark Show Promotion Center (SEG Tower)
Yrjo Kukkapuro

Organisations
Shenzhen Industrial Design Association (SIDA)

Cultural Sites/Museums (3)
Design Branch of Shenzhen Nanshan Library
Guanlan Print Artists Village
China Printmaking Museum

Other (2)
Prototyping workshop, Shenzhen Design Industrial Park (DIP)

University (1)
Open FIESTA (Faculty for Innovation, Education, Science, Technology and Art),
Tsinghua University (Shenzhen)
Appendix 2: Workshops organised during Stage 3 Visit to China

Workshop 1: Digital Craft: Printing with conductive ink to co-create a Litchee Lab Interactive poster

Workshop Facilitator: Justin Marshall

Date and time: Monday 14th March, 19:00 - 22:00.

Location: Litchee Lab

Participants: designers, artists, craftspeople, makers, students, hackers, technologists, others (not children)

Skills required: some use of image creation and manipulation software useful, but not essential.

Max numbers: 10

Facilities & materials: laser cutter, computers with Photoshop and Illustrator or similar
500x500mm sheet of 10mm Platizote (data sheet), good quality paper cartridge or watercolour paper (A4/A3 for tests and a large a sheet as possible for the final piece (A0 +), painting brushes of various sizes, black drawing paint/ink, shallow ink trays & thin sponges, a Large table, 2x 3.7v 1000mAh + Lithium batteries to power touch boards ), 5mm copper self adhesive tape, bare conductive ink and a bare conductive touch board.

Workshop text: in order to explore and discuss the relationship between traditional craft processes and digital tools and capabilities in this workshop we will be translating digital and hand painted imagery into digitally engraved blocks. These will be used to handprint with conductive ink in order to collaboratively create a touch sensitive poster. Using the simple functionality of a ‘touch board’ http://www.bareconductive.com/ we can link audio clips, inspired by what you think is important about Litchee lab and what motivates you to make, with different elements within the printed poster.

The overall aim of the evening is to learn and work together to craft a traditional print, aided by digital tools and augmented with digital content that celebrates what Makerspaces such as Litchee Lab do and mean to their makers.
**What to bring along:** It is not obligatory to prepare anything before the start of this workshop. However there will be a lot to learn and do in the time we have available. Therefore if you wish to create drawing or bring an existing image that you believe would fit into the theme outlined above, then that would be useful. Bear in mind that block prints for this project need to be made up of simple bold elements that join together rather than very fine and detailed line drawings. At the very least think about what you might want image and associated sound piece you might want to contribute to the overall design.

**Workshop Mentor:**
Dr Justin Marshall is an Associate Professor of Digital Craft at Falmouth University in the UK. He is a practising and established maker and researcher who has been investigating the role and significance of digital design and production technologies in craft and designer maker practice for over ten years, working within the Autonomatic research group. I also instigated and managed Makernow, the first open digital fabrication lab in the Southwest region of the UK.

**2. Reflections on the Workshop** by Justin Marshall

This workshop was fully subscribed with 6 women and 4 men attending. This was a well-balanced group, in terms of gender (which I have often found difficult to achieve with technology focused projects) and experience levels, ranging from experienced users of digital design software, to those with no prior technical experience. It was also interesting to note that over half had not visited the Lab before, this was unexpected and provided an additional benefit to the lab in introducing potential new users to the space. To date Litchee Lab has focused its workshop offer on children rather than adults and this workshop was one of the first to be aimed specifically at adults. The positive feedback of many of the participants provided initial evidence that there may be a market for future adult focused workshops. The specific Digital Craft Workshop has already been repeated at Litchee Lab with a group of secondary school teachers and was well received.
The three-hour workshop schedule was an optimistic one. This included digitally or manually producing an image that was relevant to the mission of the workshop, processing these images and laser cutting the blocks for printing, recording audio
clips from participants and loading them onto the bare conductive board, co-curating and executing a final poster design. This was always going to be tight and although a final design was produced this happened relatively close to the end of the workshop with less time to co-design a coherent final design that embodied all the participants feelings about the value of Makerspaces (the principal aspiration of the workshop).

Any assumptions I had about what sort of imagery that might be created was soon dispelled, with only a few participants (all male) producing technology or tool related imagery with most creating abstract, diagrammatic or human-centred images. In addition the audio samples to be associated with this imagery were varied; ranging from an appreciation of the technical resource that Litchee lab provided, to the much more common theme of being enthused by the community and culture the space created. The final stage of the workshop in which the creation of the final piece was negotiated was interesting to observe. Co-creation of a large-scale design that incorporated everyone’s block designs was clearly a challenge to many participants who where keen to make their own mark but not to think about how it might integrate into a whole. In previous incarnations of this workshop in the UK and China this has been less of an issue. However without encouragement a more narrative element (as James recognizes below in his feedback) did develop as people engaged in the activity of printing, linking imagery into a storyline that unfolded as the work was created. With more time to allow the iteration of design layouts, I believe that there is potential to use this activity driven method for driving reflective thinking to produce final pieces that did embody and communicate the feelings of the participants more effectively, and perhaps more importantly, encourage types of conversation that would not occur using other methods or in other moral formal contexts.

The balance between the technical lure of trying new technologies and novel processes in workshop with a more reflective element that requires more contemplation is always a challenge. Feedback from this event suggests that a good balance was reached and as Litchee lab has already re-run the workshop there is evidence that, with some amendments, it will be a valuable addition to their offer.

**Reflections by James Simpson**, one of Lichee Labs mangers on the Digital Craft workshop:

Something interesting about the workshop is that often makerspace equipment is used to directly produce artistic works, and in this case we created tools to make art. There is an important distinction here, and those who see it can create artistic advantages for themselves. Art produced directly by machines is enjoyable, but everyone agrees it misses certain elements.
In your workshop, we used the laser cutter to make stamps, and then the stamps to make a poster, and lastly the poster to tell a story. Too many times in life do we identify a problem and then seek to address it as directly as possible. The benefits of exploring the use of tools, community, and creativity is, in my opinion, what people see shine most brightly in a makerspace. The storytelling poster incorporated these elements very well, and I think we should all take a look at our projects – hobbyist or professional – to see how we can better incorporate what we see shine mostly brightly around us into our works.

All photo credits: Justin Marshall
Workshops 2 and 4: Fixperts and Maker Library Network

Facilitator: Daniel Charny

Date and Time: Monday 14th March, 19:00 - 22:00 / Tuesday 15th March, 19.00 – 22.00

Location: Mongjin workshop, Litchee Lab

Skills required: none

Max numbers: 20 (to reflect size of space)

Cost: free for participants, funded by China’s Creative Communities

Facilities & materials: projector and laptop, Internet connection to show website and films

Workshop Text (1): Why Fixperts Exists

Fixperts is social, empowering, inspiring and real. We’re here to:

Develop empathy in makers and school children: Fixing for and with someone is about applying creativity for social good.

Accelerate resilience: Being able to solve problems independently empowers individuals and makes our society more sustainable and resilient.

Encourage creative problem solving: It all begins with believing fixing is an option, then fixing can become a way of thinking.

Work with real people, with real needs: Working directly with beneficiaries and carers offers valuable insight and makes for better solutions to daily challenges.

Promote sharing and Open Access: Fixing is for everyone, regardless of gender, age, means or social status

Workshop Text (2): “Maker Libraries are creative spaces for making, showing and reading. They contain three key elements of a library, a makespace and a gallery,
connected via an online platform for sharing skills and resources. Each Maker Library is led by a librarian who is interested in fostering creative, social thinking and learning through making by running a dynamic programme of activities and workshops. As an active member of the MLN community, the librarian has an opportunity to contribute, connect and learn with like-minded people.

Librarians in each country are able to adapt the MLN principles for their local environment and location; whether in their studio, in the corner of a cafe, or in a purpose built travelling vehicle. When a Maker Library is set up, the librarian receives a starter kit which includes a blueprint to build a library, a core set of books, a growing resource of open designs and access to a panel of mentors via the online platform.

The Maker Library Network was initially developed as part of the British Council’s Connect ZA season to connect designers and makers in the UK and South Africa. The Network is currently expanding globally.”

From: [http://makerlibrarynetwork.org/concept/#sthash.rV6kaSel.dpuf](http://makerlibrarynetwork.org/concept/#sthash.rV6kaSel.dpuf)

---

Figure 22 - Daniel Charny presenting Fixperts and the Maker Library Network at Mongjin workshop, Litchee Lab
Workshop 3: Re-Designing Products for a Circular Economy, Shenzhen Workshop

Workshop Facilitator: Nat Hunter

Date and Time: Tuesday 15th March, 19:00 - 22:00.

Location: Litchee Lab

Skills required: none. No experience is necessary, this is a workshop that is designed to be fun, explorative and informative. And we are very keen to hear what the Chinese views are on the circular economy so it will be a learning process for us too.

Max numbers: 5 - 10

Cost: free for participants, funded by China’s Creative Communities

Facilities & materials: tools (security toolkits, hammers and spudgers); broken or discarded electronics (e.g. mobile phones, DVD players)

Workshop Text:
In this hands-on 3 hour workshop, Nat Hunter, co-founder of The Great Recovery, will start by outlining the need for us to move to a circular economy. We will then get our hands dirty, and using security toolkits, hammers and spudgers we will take discarded products apart to see what is in them. We will analyse the materials, map out supply chains, talk about what happens to these products when they are discarded in various parts of the world. We will then redesign some of the key products for a circular economy, using The Great Recovery design model. We will redesign each product for fix & repair, for service design, for re-use in manufacture and for material recovery. We will need to consider Internet of Things, sensors, tracking, robots and other technology that can help us achieve these new business models.

Figure 23 - The Circular Economy diagram we used when redesigning products

Facilitator Martin Hennessey

Date and Time: Wednesday 16th March, 17.00 – 19.00

Location: F518 Idea Land

Skills required: none (to reflect size of space)

Max number: up to 50 people, arrangeable in groups of 10 (depending on the number of attendees)

Cost: free for participants, funded by China’s Creative Communities

Facilities & Materials: translator, projector and screen, flip chart, post it notes and giant sticky wall chart notes; (Optional) live audio or video feed so people can email questions into the session for discussion.

Workshop Text
This workshop is designed to challenge the thinking of any maker who wants to set up and run their own business. It is aimed at anyone who already has an idea that they want to turn into a growing business or who runs a one-person business that they want to grow substantially. This workshop is not an opportunity to pitch for business funding.

Figure 24 - Martin Hennessey presenting the Maker to Market workshop
Workshop 6: **Shenzhen Design Culture Salon: What are the values of making and makerspaces?**

**Facilitator:** Guy Julier

**Date and Time** Thursday 17 March, 2016, 3pm-4:30pm

**Location:** Sino-Finnish Design Park International Conference Room

**Skills required:** none

**Max numbers:** 40 - 50

**Cost:** free for participants, funded by *China’s Creative Communities*. Supported by Shenzhen Open Innovation Lab (Szoil).

**Facilities & materials:** translator, seating area for panelists, microphones, post-event refreshments

**Workshop text:**
This panel discussion opens up a cross-cultural dialogue between creative people and academics from China and the UK. It features a panel of experts from both countries and audience participation to discuss a number of questions including the following.

- What are the past histories, current practices and future possibilities for making and makerspaces?
- What value do they have for the design community?
- What roles might they have in developing innovation, social change and sustainable living?
- What new ideas about the meanings of creativity do makerspaces produce?

The Salon will last 90 minutes. Panellists will present their reflections on the topic and then open discussion will follow.

**Chair:** Professor Guy Julier, University of Brighton/Victoria and Albert Museum

**Pannellists:** Professor Daniel Charny, Director of From Now On and Professor of Design, Kingston University, London; Nat Hunter, Director, The Machine Rooms, London; David Li, CEO, SZOIL; Lit Liao, Litchee Lab; Dr Justin Marshall, Associate Professor, Digital Craft, Falmouth University

**URL:** English: [http://designculturesalon.org/shenzhen-salon/](http://designculturesalon.org/shenzhen-salon/)
Chinese: [http://dcsmaker.vasee.com](http://dcsmaker.vasee.com)
Appendix 3: List of Sites Visited during Stage 4 UK visit

**Bristol**
19 April: Lit Liao, David Li, Justin Marshall and Cat Rossi
Knowle West Media Centre (KWMC)
Pervasive Media Studio

**Manchester**
20 April: Lit Liao, David Li, Guy Julier, Justin Marshall and Cat Rossi
MadLab
Museum of Science and Industry Manchester (Liao only)

**London**
18 April: Lit Liao, David Li and Martin Hennessey
Technology Will Save Us
Primo
Kano
Fablab London

21 April: Lit Liao and Cat Rossi
Bare Conductive (Liao only)
Dejan Mitrovic, Kidesign
Makerversity
Machines Room
Opendesk
East London Printmakers
Hirsch & Mann
SAM labs
Maker Mile
Amsterdam

22 April
Makerversity
Institute of Contemporary Arts, London

**Amsterdam**
21 April: David Li and Justin Marshall
FabCity, Amsterdam