

Co-Making: Research into London's Open access Makerspaces and Shared Workshops

Workshop East

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A full report prepared for the London Legacy Development Corporation
and the Greater London Authority

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by Workshop East

with
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Executive summary

Workshop East was commissioned by the London Legacy Development Corporation and the Greater London Authority to undertake research into 'co-making' within London.

Co-making as a sector and as a type of workplace was highlighted in the *Local Economy Study* and the *Artist's Workspace Study* produced in 2014 by We Made That, and in the 2014 GLA commissioned report *Supporting Places of Work: Incubators, Accelerators and Co-working Spaces* (prepared by URS, Gort Scott, Ramidus Consulting & #1 seed).

This report sets out the definition of co-making and explores the concept in three parts:

The first **overview** section compiles information from 89 spaces which meet the research criteria of a co-making space. Data is presented on disciplines catered for, location, building type, facilities, age, user costs, and business type.

This gives a picture of co-making in London as of August 2014. It is not representative of all 'making' spaces in London but instead gives an insight into this particular form of collective work space - giving an idea of the richness, scale and scope of what is a largely unseen sector.

The second section **profiles** 22 spaces located across London. It illustrates a variety of operational models within the sector. This section of information provides a greater level of detail from a selection of representative spaces.

Gathered through visits and interviews, this information is presented in photographic and chart form to invite constructive comparisons between spaces.

The third section looks in detail at several **case studies** and issues such as set up, finance, location, community, business, employment and training.

Three main case studies - Blackhorse Workshop, Workshop East, London Print Studio - are covered in a detailed study of layouts and building, and comparisons made with other spaces.

With reference to further case studies we then look at how co-making spaces are supporting business growth, enterprise and digital technology, as well as their role in supporting communities and placemaking.

Finally the report pulls together conclusions on the current state of co-making spaces in London and makes recommendations for supporting them as a vehicle both for fostering enterprise and creating positive social space.



Stonecarving at WorkshopEast, Sugarhouse Studios



*Ceramics at Turning Earth pottery, Haggerston
(Photo: Turning Earth)*

Introduction

This study was commissioned by the London Legacy Development Corporation in collaboration with the Greater London Authority and was undertaken by Workshop East, a shared workshop for professional makers in Newham, East London. The document has been researched and compiled with Architecture, Design & Research Practice, engelhadleykirk, and Rhianon Morgan-Hatch.

Its aim is to provide as representative and complete a picture as possible of co-making spaces in London: to show the breadth of enterprises and activities taking place, as well as to give examples of individual organisations and explore the types of space from which they operate and how this impacts on their role in supporting makers' businesses and building community. A key driver is to understand the benefits of affordable, shared workspace for makers, and the pressures on existing spaces.

We have included as many organisations as possible that were available during August and September 2014. Many individuals have generously contributed their time and provided valuable information. We would like to thank all those whose insights and expertise have made this study possible.

Drawings and diagrams by Workshop East, engelhadleykirk and Rhianon Morgan-Hatch. Photographs by Annie Hanson, Lewis Jones, Workshop East and others as acknowledged.

Key Definitions

Below we have defined the main typologies referred to in this document. Co-making is a developing sector and various other terms are used. See glossary for details.

Co-making space

A co-making space is any where tools, specialist equipment, facilities and space are *shared* by two or more individuals or small businesses for the purpose of making and production.

Often occupied by activities requiring large, heavy, dangerous or expensive equipment such as metal work or printmaking, the sector is diverse, spanning making activities from bookbinding to ceramics, 3d printing to cooking.

The term used here reflects the cooperative aspect which is the focus of this study. For the purposes of this report, and to help explain certain trends and ways of working, co-making spaces are divided here into three main types:

Open access

Open access refers to spaces and organisations that are fully or largely accessible to the general public. Often known as makerspaces or hack/hackerspaces.

They may be open to amateurs or ask for prior experience. They usually operate an induction and membership system giving access to facilities and equipment and tend to focus often, but not always, on non-professionals.

Shared Workshops

Refers to spaces set up, maintained and shared by individuals or groups of professional or semi-professional makers. The primary aim is to pool resources in order to run independent small businesses.

Shared workshops tend to be more private, with mostly long term/full time users. They may or may not have an overall workspace identity, but generally function as cooperatives.

Many shared spaces have no collective identity or web presence and can be more difficult to locate than open access organisations. The numbers of shared spaces found in the initial audit is almost certainly not the full amount currently operating in London.

The terms **open access** and **shared** reflect two ends of a scale of access/public use. This is illustrated in Part 2.

Institution-based workshops

Describes spaces linked to particular businesses or institutions - for example the UCL Institute of Making - which are accessible primarily to current university students or members of staff. These spaces are mentioned but were omitted from detailed studies as they are dependent on specific institutional funding structures which merit separate study.

Methodology

The study was conducted over two months in July/August 2014. Its purpose was to cover a broad range of spaces in order to better understand the sector rather than to attempt an audit of all co-making spaces generally. Various self-registering schemes are underway for this from the Crafts Council, NESTA, BIS and the GLA Co-Working Spaces Map.

To establish a current overview, an initial survey was done through online resources and approaching professional organisations across London. This quickly revealed a core of visible and often newly established workshops, with a strong online presence and links with wider creative and community networks. It also revealed a less visible but equally significant set of workshops and small making businesses more privately sharing resources.

Many co-making spaces are governed by the activities that take place there and their products. Therefore a set of criteria was developed to give as broad a sample as possible. These revolved around organisation type and discipline.

Shared catering spaces (see over) and bicycle repair workshops represent a slightly different sector, but formed additional studies that revealed valuable comparative data. These merit further study.

Criteria

Four criteria were established. Organisations needed to have:

- **Premises within London**
- **Engagement with physical making/production**
- **Provision of shared, specialist equipment**
- **Space physically shared by makers, either between two or more businesses or sole traders letting/subletting spaces and/or operating as an open workshop.**

Initial Audit

Email and phone contact was made with over 120 spaces, 89 of these fitting the criteria. To these, a short questionnaire and introductory email was sent to providers. Data sheets were compiled, based on varying response levels. Due to the varied setup of workshops (many with unclear points of contact or limited administration resources) this direct approach was chosen over more generic survey methods.

Detailed survey

Detailed data was then gathered via in-depth questionnaires and interviews/visits with selected organisations. Over 25 organisations were visited in person, of which 5 form detailed case studies.

Disciplines

Co-making spaces tend to be set up around the needs of specific disciplines, therefore it was necessary first to understand the range of activities that they support.

The initial audit established 15 main disciplines operating from co-making spaces across London. This does not cover every discipline but reflects a variety of types of making and reveals the range and richness of activities taking place in co-making spaces at the time of the survey. They are:

Mixed – equipment available for two or more disciplines. Commonly includes wood and metalwork but also digital technology, ceramics, printmaking. Sometimes alongside other operations such as cafes, health or social care activities, music, other events.

Bicycles – repair, maintenance and bike building.

Bookbinding – production and printing of books.

Catering – the production of food and beverages.

Ceramics – production of objects in clay, including turning, slip casting.

Digital fabrication – 3D printing, electronics and robotics

Fashion, textiles, shoe making and leather working – includes production of clothing, shoes, textiles and other items.

Glass – glassblowing and stained glass.

Jewellery – silversmithing, goldsmithing, enamelling etc.

Metalwork – includes welding, assembling, forging, blacksmithing.

Musical instrument making - refers to guitar-making (no other shared spaces found in this sector).

Photography and film making – colour, and black and white darkroom printing, digital printing facilities, editing.

Printmaking – includes silk screen, lithography, etching etc.

Stone – stone carving and small-scale masonry (larger scale architectural work usually undertaken by firms with larger processing plant)

Woodwork – carpentry and joinery, furniture making, architectural.



Photograph: Annie Hanson



*Images top & bottom: London Print Studio
Photograph: Annie Hanson*

Background

Making and Manufacturing trends

Open access fabrication facilities have been identified as a growing economic trend in London, a significant number having been set up in the last 5-10 years. This reflects a wider rise in new types of makerspace generally, for example the number of registered hackerspaces grew globally from just over 50 in 2004 to more than 1100 in 2014¹.

Occupying a position between the manufacturing sector and artists' studios, co-making spaces tend to cater for hobbyists, sole traders, recent graduates and small businesses. Cultural shifts, social media, a rise in self employment and changes in education are cited as some of the contributing factors to their growing popularity with these user groups. At the same time however, this growth has been linked to a significant decline in the availability of existing affordable workspace for this sector.

London, like other urban centres, has undergone major changes in all scales of making and production in the last 150 years - from heavy manufacturing down to more artisanal activities. East London, a key area of interest for this study, has undergone particular shifts in its manufacturing industry.

Where large enterprises are concerned these changes are more easily quantified. Information is less readily available, however, on the smaller company or sole trader - increasingly the typical users of co-making spaces. The Crafts Council's recent report,

Measuring the Craft Economy, (2014) states that UK wide "the 11,620 businesses involved in craft industries generate nearly £1.9bn in turnover in the UK, of which £197m (10%) is attributable to unregistered micro businesses... Combining the economic output of craft industries and occupations indicates that the craft economy generates nearly £3.4bn for the UK economy, accounting for 0.3% of UK GVA."

Minimal data on these micro-businesses can make it difficult to evaluate how small companies have operated previously and, therefore, how prevalent co-making itself has been in the past. We do know, however, that there has been a rise in open access co-making workshops across the city – many of them opening since 2012 alone. This reflects a wider global trend in the growth of experimental workshop space, such as Fablabs and Hackspaces (see glossary).

Despite considerable challenges, spaces continue to be set up and demonstrate the often unique ways organisations and individuals are pooling resources in order to continue making, or to operate creative businesses from within London. Co-making spaces are sought out by artists, designers, crafts-people, trades and hobbyists. They are used for everything from small scale manufacturing, to more bespoke artisanal production, to research, product development and prototyping. They support activities within the design, construction, engineering, digital media, fashion, film and music industries. This study aims to show how these spaces operate as vital contemporary

¹ http://hackerspaces.org/wiki/List_of_Hacker_Spaces

workspace and reveals a rich seam of innovative space occupation already in existence across the city.

At the same time however, many co-making spaces declare themselves vulnerable to rising rents and redevelopment of premises. While changes in technology, manufacturing and education affect businesses well beyond the capital, here there are the additional challenges of running space- and machinery-heavy enterprises in a tightly packed city with some of the highest rents in the UK.

The widespread redevelopment of industrial sites is a particular threat. From Clerkenwell's history of clock-making, to centuries of glass-making on the south side of the Thames, and the numerous potteries and brickworks across the city, a range of manufacturing processes

have left a legacy of unique spaces - often desirable for higher-end residential schemes. Many co-making spaces occupy such premises or other types of industrial site vulnerable to demolition and changes of use. Several spaces surveyed had either relocated or were due to in the near future. Others had worked hard to buy premises or gain more security of tenure - often driven by the strong communities around them and their ongoing urge to make, experiment and innovate.

Space occupation and building fabric is a key theme of the study and the following chapters show how critical this can be to management, user engagement, ongoing viability and establishing a sense of place within a community.



*Material processes old & new: brick kiln at Fulham Pottery founded c.17th; trolley kiln at London Sculpture Workshop 2014
Photographs: Workshop East & London Sculpture Workshop*

1: Initial findings and overview

This first section is intended to give a broad overview of co-making in London. Data is taken from the 89 spaces shown on the map overleaf. As mentioned above, this is not the full scale of co-making but those found during July/August 2014. In summary:

43% of spaces responded to enquiries. Where no response was received, publicly available data has contributed to our findings. We have respected any requests not to disclose information but these have been few.

Most organisations are independent – i.e. not operated by a larger organisation or artists' studio provider. Most, though not all, are maker-led i.e. set up or managed by makers.

Of the organisations tabled, approximately 40 promote themselves as open access, the remainder provide restricted access or cater solely for tenant makers running businesses from the premises.

Of the 40 open access spaces, 25 are multidisciplinary or mixed spaces, with two or more disciplines catered for and a focus on community engagement. The remaining 15 cater for a specific discipline such as printmaking.

Many of the spaces cater for other activities such as social events and wider community uses on site.

The survey reveals that a large proportion of co-making spaces have been established through private funding, often by founder members taking out private loans. Many













are registered charities or other non-profit organisations, and have sourced capital from various sources including grants and crowd-funding. A small number have received some form of local authority support.

Most spaces were initially set up by skilled individuals with an understanding of the particular industry they work in. Technical expertise has helped founders acquire and maintain suitable machinery in order to develop and sustain the core of the business.

Co-making spaces have an impact not only on their sector but also on local communities. They rely on local suppliers, work with or for people in the area, are involved in training, apprenticeships and job creation. Some workshops have memberships or affiliations in the thousands and have fostered numerous businesses.

The 89 spaces mapped provide premises for over 500 small businesses - these providing further jobs, services and products for thousands of other businesses and individuals. They also offer a broad range of classes, mentoring and skills training opportunities.

Map of co-making spaces

-  MIXED
-  BICYCLE MAINTENANCE
-  BOOKBINDING
-  CATERING
-  CERAMICS
-  FASHION, TEXTILES & SHOE MAKING
-  JEWELLERY
-  MUSICAL INSTRUMENT MAKING
-  PHOTOGRAPHY
-  PRINTMAKING
-  STONE CARVING
-  WOODWORK



For details and websites see list on pages 118-121

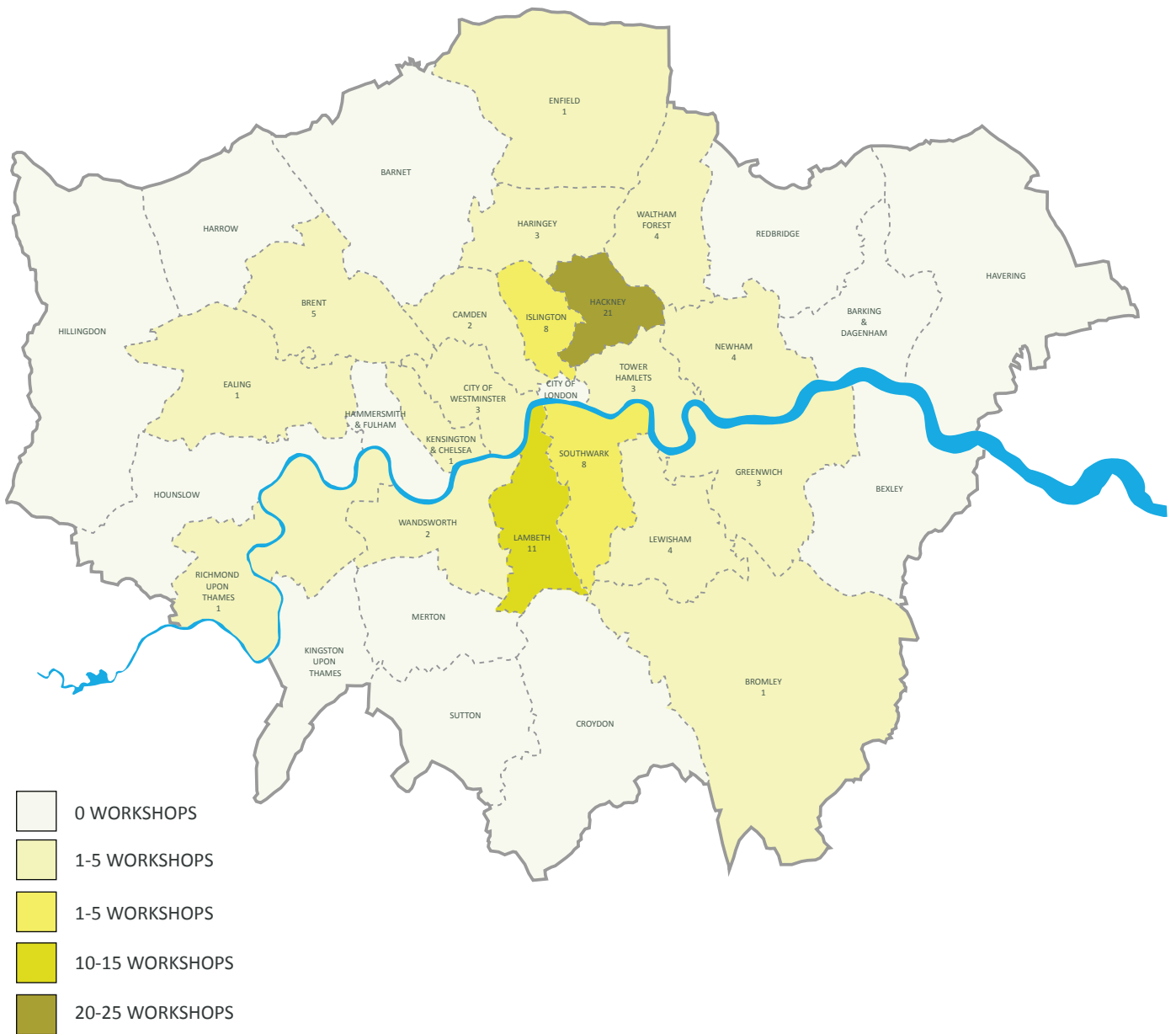
- | | | | | |
|---|--|--|---|--|
|  1 ASSEMBLE & JOIN |  10 LONDON HACKSPACE |  19 STUDIO NORTH |  28 CYCLETASTIC BIKE SHED |  37 THE OLIVE GROWS |
|  2 BLACKHORSE WORKSHOP |  11 LONDON SCULPTURE WORKSHOP |  20 SUGARHOUSE STUDIOS |  29 LONDON BIKE KITCHEN |  38 THE OUTDOOR KITCHEN PROJECT |
|  3 BUILDING BLOQS |  12 MAKE SPACE (METROPOLITAN WORKS) |  21 THE GOODLIFE CENTRE |  30 MICYCLE |  39 THE SOCIAL KITCHEN |
|  4 CAMDEN TOWN SHED |  13 MAKERVERSITY |  22 THE REMAKERY |  31 SQUEAKY CHAINS |  40 GLEBE ROAD STUDIOS |
|  5 CREATE SPACE (LONDON) |  14 PANGEA SCULPTORS' CENTRE |  23 THE SCHOOL OF STUFF |  32 LONDON CENTRE FOR BOOK ARTS |  41 LEWISHAM ART HOUSE |
|  6 FAB LAB LONDON |  15 RARA |  24 WESTLAKE & LOMAS LTD. |  33 MAZZOTTI BOOKS/PAULO TADEO |  42 MAZE HILL POTTERY |
|  7 GOLDFINGER FACTORY |  16 SOUTH LONDON MAKERSPACE |  25 WORKING MENS COLLEGE |  34 LONDON FIELDS ARCH |  43 NORTH STREET POTTERS |
|  8 INSTITUTE OF MAKING |  17 STRATFORD WORKSHOPS |  26 56a BIKEROOM |  35 MADE IN HACKNEY |  44 PARADE MEWS POTTERY |
|  9 LIME WHARF (MACHINES ROOM) |  18 SWAN WHARF |  27 BIKEWORKS |  36 THE KITCHEN UNDER THE MOON |  45 SHEEN POTTERY |



Workshop East & R Morgan-Hatch 2014

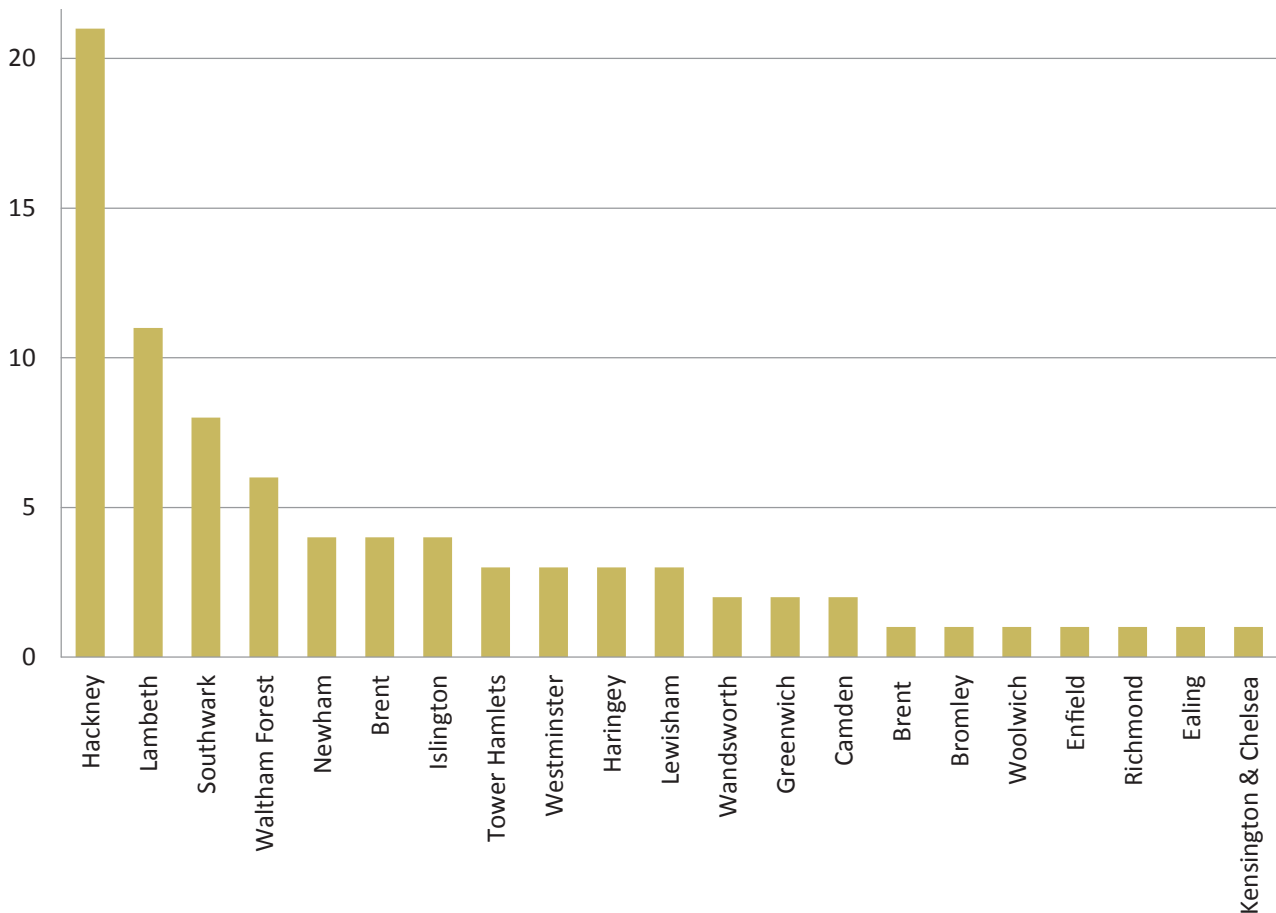
- | | | | | |
|---------------------------|--------------------------|------------------------------|-----------------------------|--------------------------------|
| SUE CLARK CERAMICS | HOLTS ACADEMY | RAPID EYE | INKY CUTTLEFISH | HARLESDEN STATION WORKSHOPS |
| TURNING EARTH CERAMICS | DAVID ANTONY REID | SPACE STUDIOS (STUDIO 10) | LONDON PRINT STUDIO | HIRED WOODWORK SPACE |
| HACKNEY FASHION HUB | BLACK & WHITE BASEMENT | THE CAMERA CLUB | PECKHAM PRINT STUDIO | MARTIN GRIERSON |
| HERE TODAY, HERE TOMORROW | DOUBLE NEGATIVE DARKROOM | THE GATE DARKROOM | PRINT CLUB LONDON | ST. JAMES WORKSHOP |
| LONDON FASHION STUDIOS | FOTOFUSION | ZOOM IN | SONSOLES PRINT STUDIO | WORKSHOP EAST |
| THE PARACHUTE COLLECTIVE | FOUR CORNERS FILM | ART HUB STUDIOS | THAMES BARRIER PRINT STUDIO | UNIT 19, ASTBURY BUSINESS PARK |
| 11 MOUNT PLEASANT | NORTH LONDON DARKROOM | ARTICHOKE PRINTMAKING | THE PRINT ROOM | |
| AMANDA MANSELL JEWELLERY | PHOTOCHATS | BAINBRIDGE STUDIOS & GALLERY | 3 FLEMPTON ROAD | |
| THE GOLDSMITH CENTRE | RACHEL'S DARKROOM | EAST LONDON PRINTMAKERS | 54-57 MILL MEAD ROAD | |

Distribution



The 89 co-making spaces tabled are located across 17 of the 32 London Boroughs. The highest occurrences - Hackney, Lambeth and Southwark - in main reflect actual concentrations of co-making but are also influenced, to some extent, by the authors' own contacts base.

Lower costs for space in areas of south and east London coupled with a larger proportion of light industrial and other suitable buildings has long made these areas popular with industries using space heavy machinery. Concentration may also reflect clustering and demand for facilities from the creative industries, there is a strong correlation between the results here and the locations of the highest numbers of artist studios as highlighted by We Made That in the 'Artist Workspace Report'.

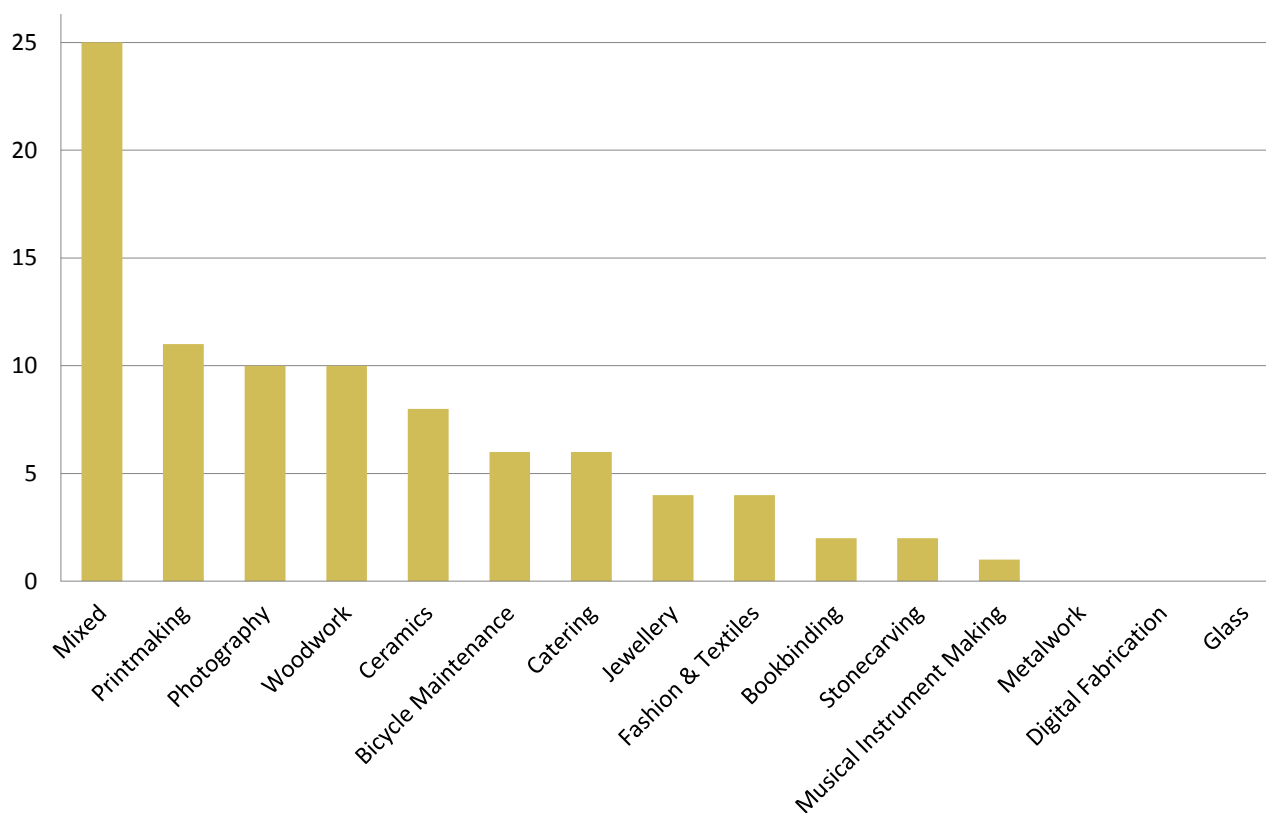


The graph shows actual numbers of co-making spaces by Borough. This also relates to transport zones: approximately 75% of spaces are located within zones 2 and 3, accessible to central markets but based in more affordable locations.

Many spaces interviewed stated location and transport links were key to developing a wide user base - with people travelling from across the city to use facilities. More established workshops had developed a good local user base.

Location can be particularly important for early career makers who tend to be working part time (locally and/or in other boroughs) in addition to setting up businesses - maximising accessibility and reducing travel times was important to these users.

Discipline



15 disciplines were found taking place within co-making spaces across London. They represent a sample of data available during the survey period, as opposed to absolute numbers. Mixed spaces combine a range of disciplines and many are publicly accessible, with a strong online presence - they are therefore the most visible.

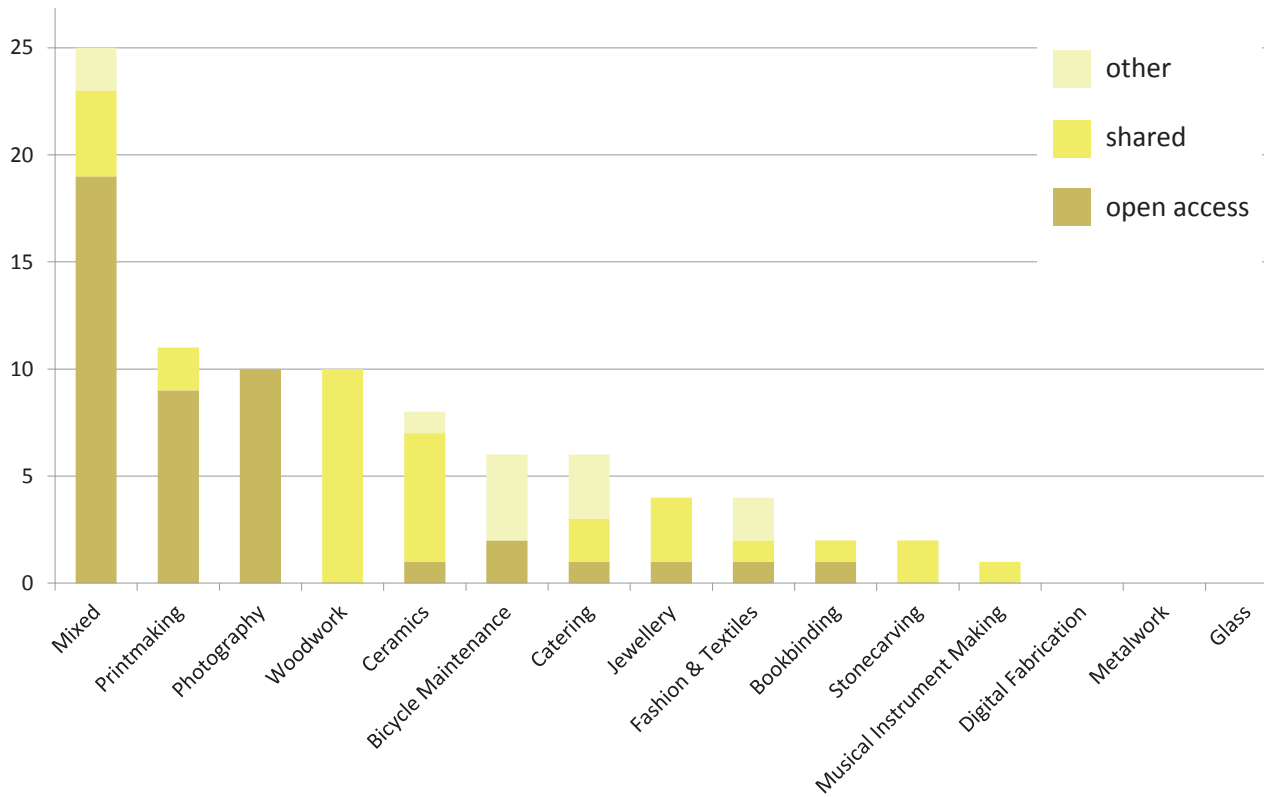
No co-making spaces were found specifically for digital fabrication, glass and metalwork¹. Digital fabrication facilities are mainly within mixed workshops, where makers use them alongside more traditional equipment. This is a rapidly developing sector and is likely to change.

High operating costs, space requirements and hazard risk mean some activities tend to occur only in the form of larger industrial processing, or in sole occupation setups. Metalwork (welding and brazing) was found in the mixed spaces - blacksmithing was found elsewhere in London, but only in single-occupancy workspace. No co-making spaces cater for glassblowing: only two facilities were found in London (outside higher education), again operating as individual businesses.

Other low occurrences (e.g. jewellery) reflected 'lighter' practices, more easily set up from home or artists' studios, or those that are less widespread (e.g. musical instrument making).

¹ Further enquiries into metalwork suggests shared metal workshops exist but they were not located for this study

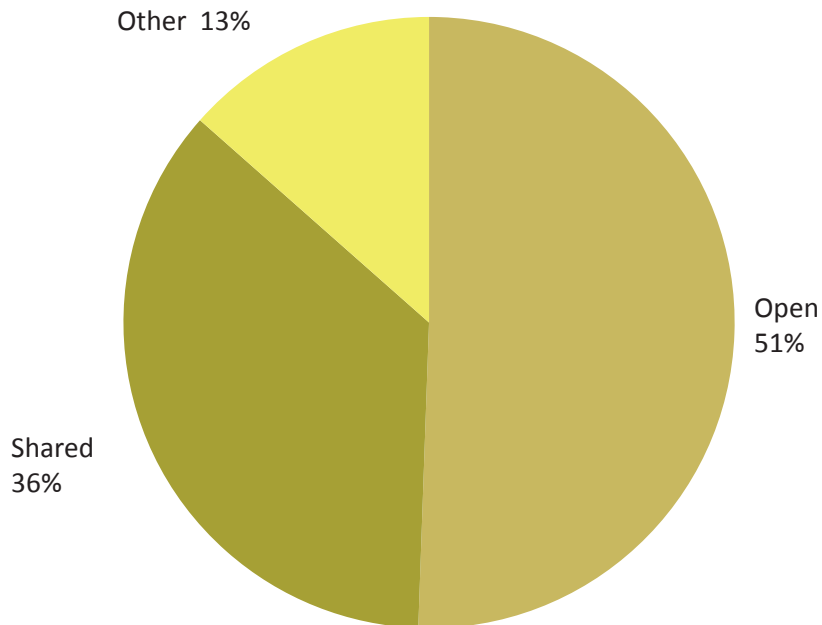
Accessibility



Size, cost, hazard level and outputs affect how easily a space can be set up, maintained and opened up to public access. e.g printmaking and photography use heavy equipment but have relatively small products and safe processing.

Woodwork is popular at all levels (most of the mixed workshops offer access to woodwork equipment), but all the solely woodwork facilities were shared only by groups of professionals and were not for public access .

Access type



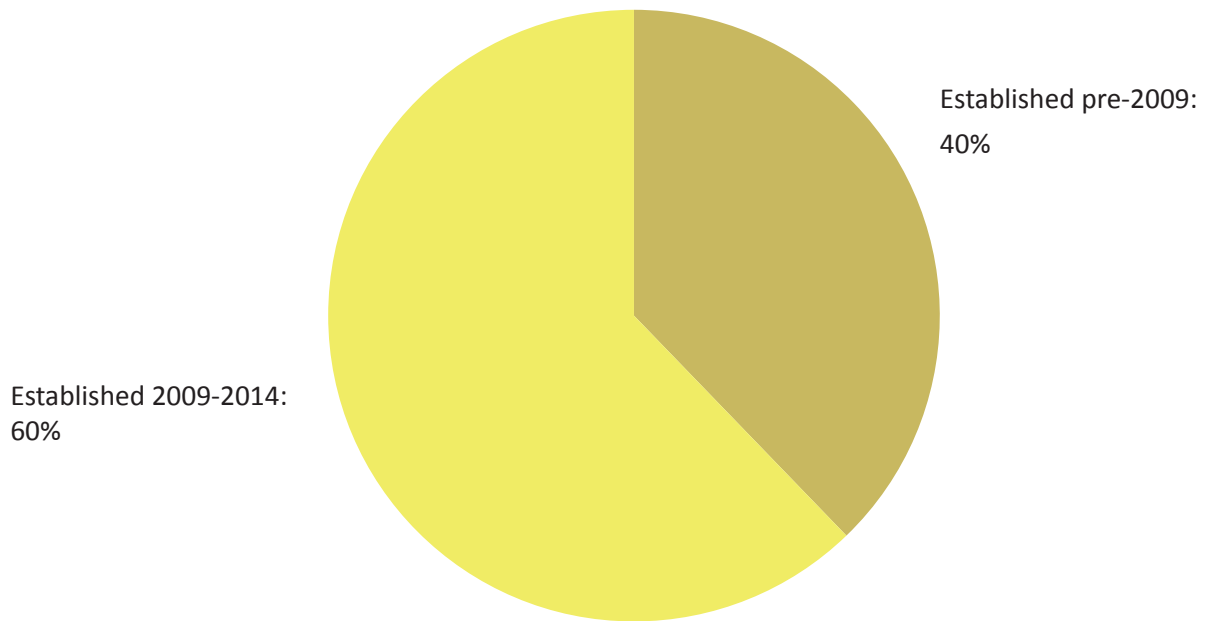
Two main types of workspace were identified – open access and shared co-making spaces. ‘Other’ refers to organisations with a co-making element but not as their sole function (e.g bicycle shops which run drop-in workshops).

Figures are affected by the challenge of finding smaller shared spaces: they often have no public or online identity for the workshop overall. As mentioned in the introduction, we estimate the actual proportion of shared spaces in London to be higher.

Workshops are increasingly adopting a business model that caters for both the wider community and longer term tenant makers. Open access, community-focused organisations can benefit from having stable long term tenants - both financially and for the technical support they can offer other users.

Access is key to setup, management, location and building layout as it determines who uses the space and how e.g. a sole trader starting up a business may benefit from being part of a larger facility, but output can be hindered by a busy workshop and overly shared resources.

The growth of open access

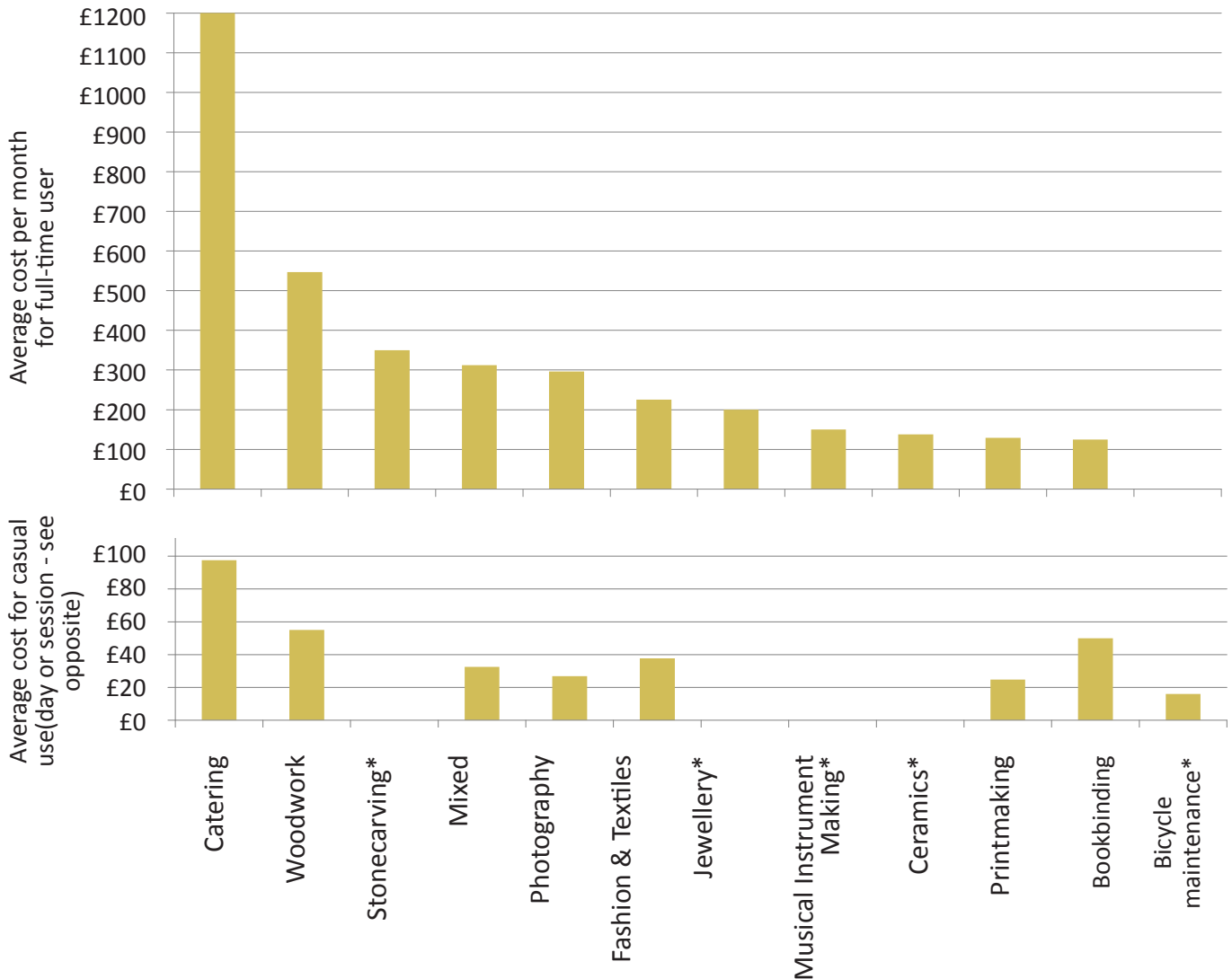


60% of open access makerspaces have opened in the last 5 years. Most of these are ‘mixed’ discipline spaces, (e.g. Makerversity, Blackhorse Workshop, Building Bloqs) which are a relatively new phenomenon. The survey found 94% of the mixed spaces had opened after 2009 (compared to only 18% of photography and 50% of printmaking).

Most of the spaces established pre-2009 were open access printmaking and photography studios.

This may reflect a growing interest in making and/or a general squeeze on affordable work space. The rise of mixed open access spaces is discussed further in Part 3.

User costs: Monthly rates



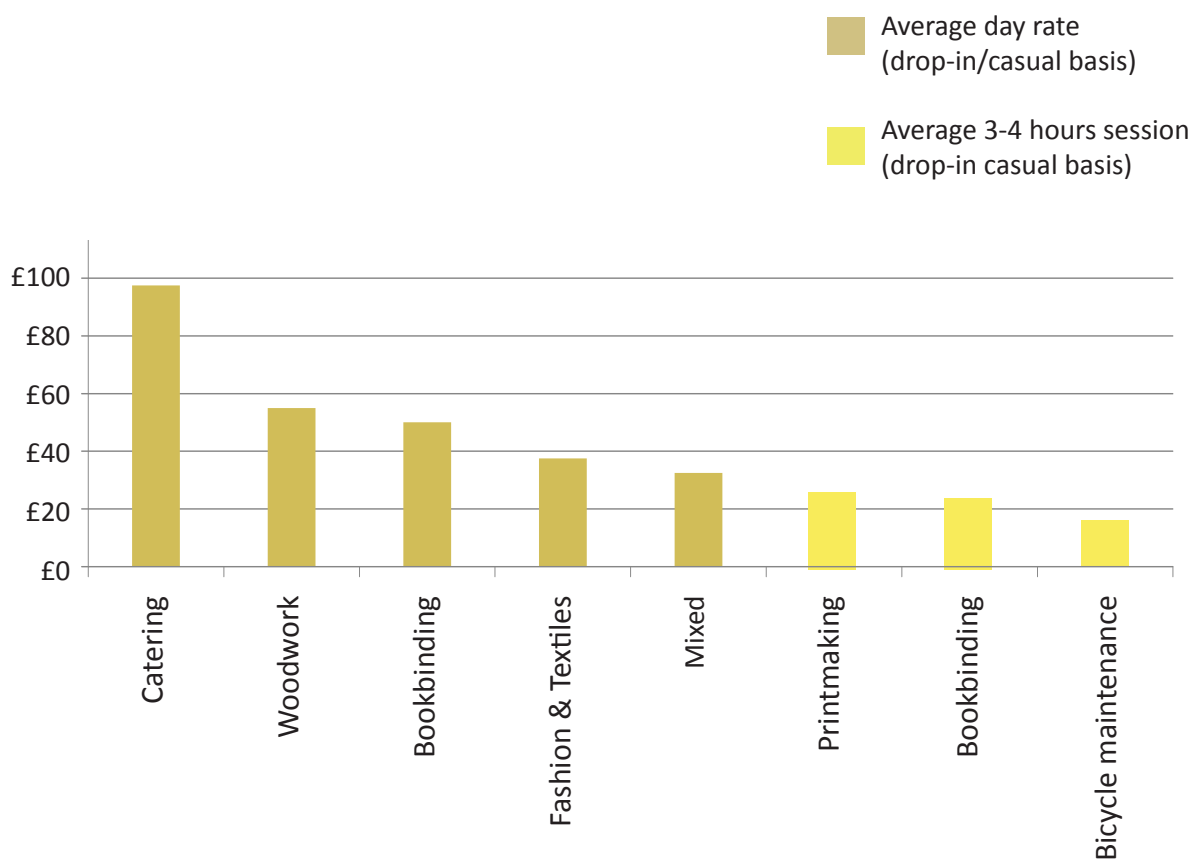
* blanks indicate where no monthly or daily access rate offered

The top chart shows average monthly rates for users working in the 12 disciplines for which co-making spaces were found. Cost range is diverse within sectors (see over for actual figures) but the chart shows access to ‘heavier’ and most space-intensive uses such as woodwork tend to cost more.

It also reflects space use - for example, many woodwork facilities are shared long term by professional makers. Users pay for high-spec equipment and more storage/assembly space. Kitchens have slightly higher rates generally, as they are aimed at small business users requiring sole use of facilities during a booked session. Only one gives a rate for an individual workstation within a kitchen.

The lower chart shows relative day or session rates, where pay-per-day is available. These rates are ranked opposite.

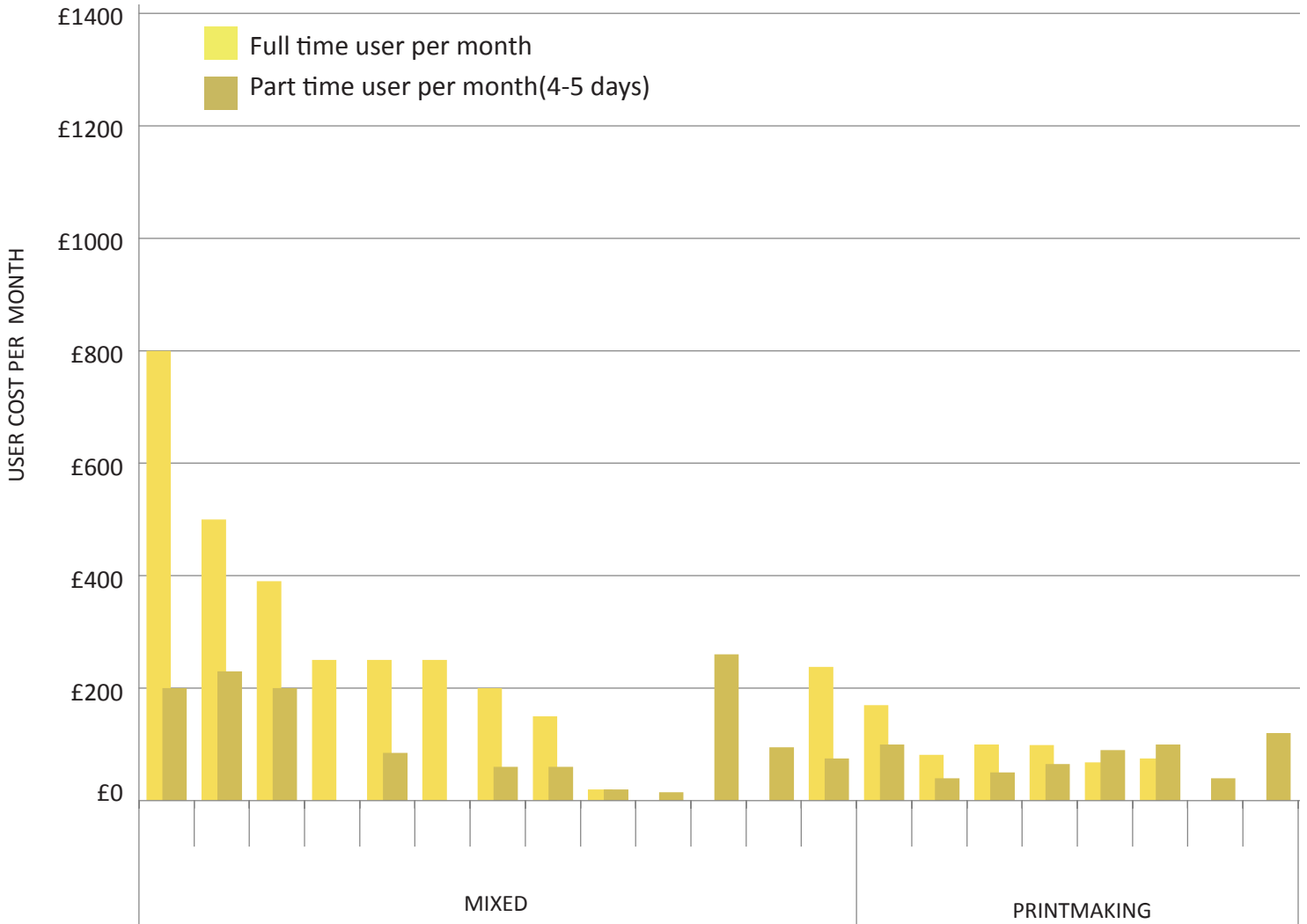
User costs: Casual rates



Most open access spaces offer day or session rates (after an initial induction/membership fee).

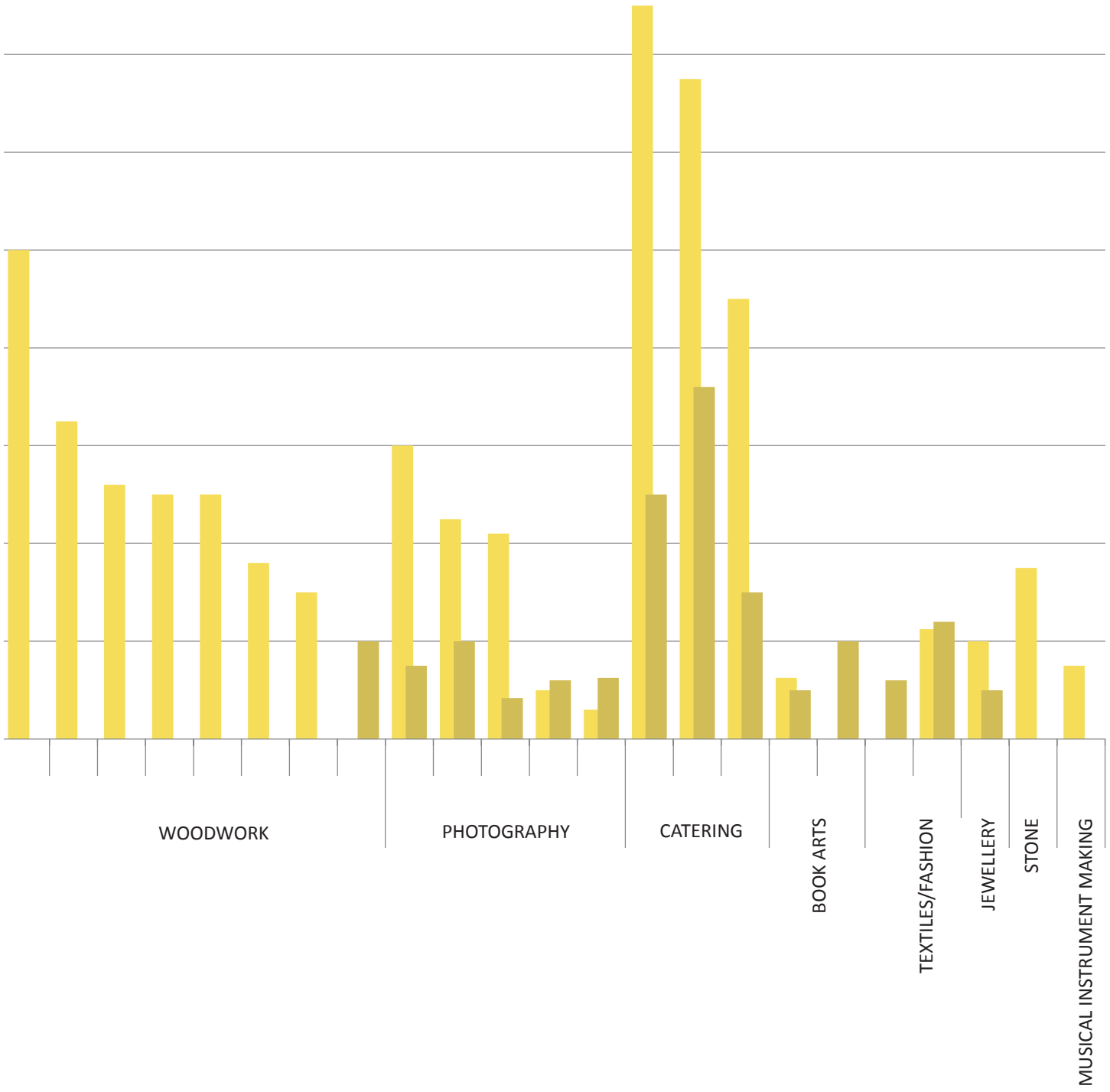
Multi-disciplinary (mixed) workshops offer the cheapest average day rate. Rates are typically £15-£25 per day, with more specialist set-ups tending to be higher. Hackspaces and some community organisations are free to drop in (with a low monthly subscription) or have free public access days.

Photography, printmaking and bicycle maintenance are mainly accessed on a pay-per-session basis. This figure is given above (as opposed to full day rates) as it reflects how they are used most.

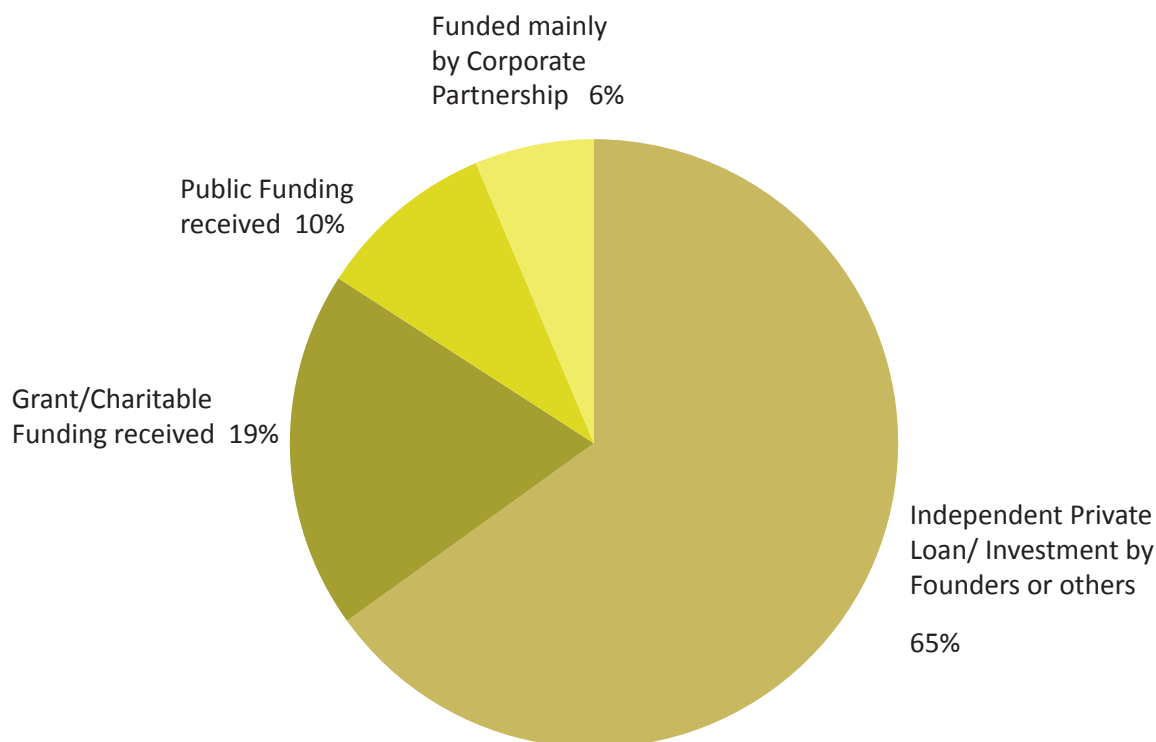


A full summary of user costs for the 89 tabled spaces, showing access costs to full time users and regular part-time users (4-5 days per month).

This information is included to illustrate cost range within and across discipline sectors. Variations are due mainly to factors such as quality and range of equipment and resources in different organisations, size of storage and availability of permanent workspace. Other factors such as funding (i.e. whether organisations are subsidised) and target users are also reflected - see comparative chart in Part 2 for more information.



Startup funding



The chart shows the main types of financing received by co-making spaces at start-up - where data was available.

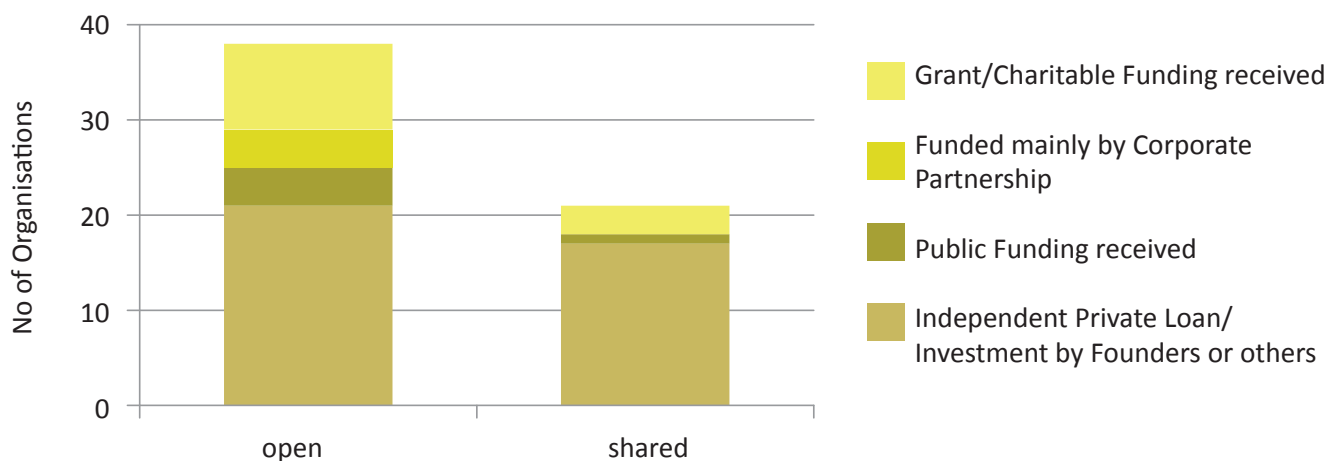
Of spaces financed by private loans or investments made by founders (65%), almost half are shared, maker-led spaces, often funded by makers' personal funds or personal loans. Most finance was put towards equipment purchase.

Grants and charitable donations have been received by a number of organisations, particularly those with open access and educational or social aims. Grants varied from a few thousand pounds to funds for constructing or fitting out premises. Crowd-funding has increasingly been used to raise start-up funds for setting up or for specific machinery.

Some newer organisations have been funded through corporate partnerships, such as Makerversity and London Fablab. They often receive start-up funding from several sources, and high initial investment means state of the art equipment or central premises can be accessed.

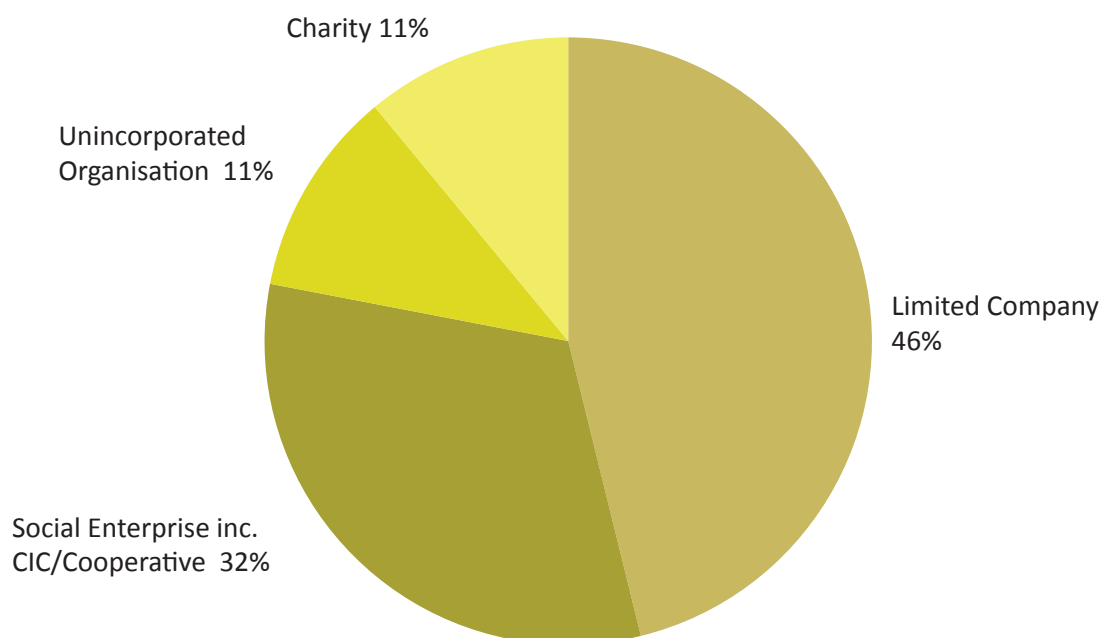
Local Authority funding is infrequent, although in some cases support has been given 'in kind', e.g. through provision of subsidised premises.

Funding and access type



Open access facilities are often started with specific community and social aims, and tend to receive grant funding or local authority support. Organisations often have several sources of start-up capital and so fall into more than one of the funding categories (examples are given in Part 3).

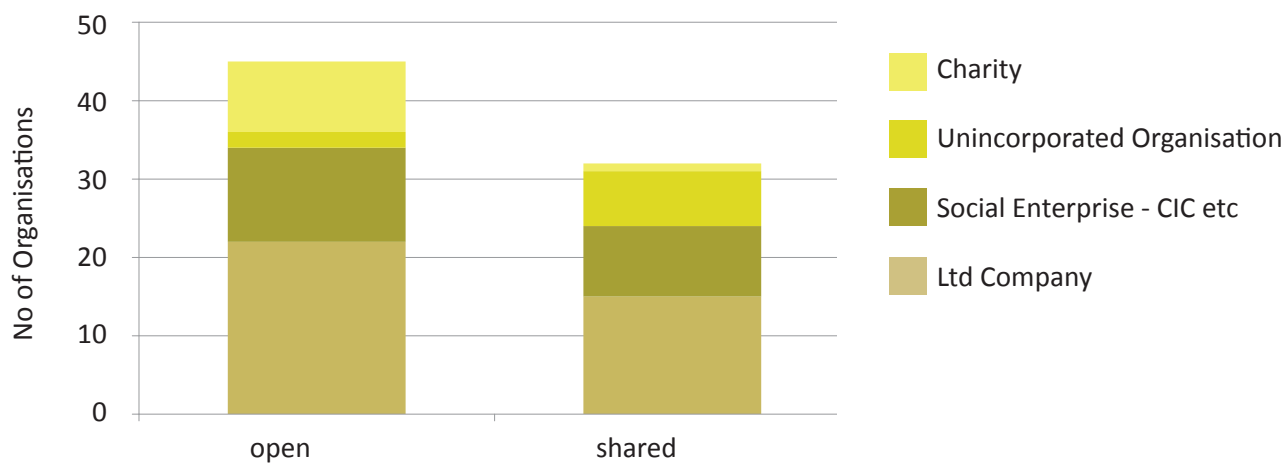
Business type



Business type adopted by co-making spaces depends on the aims of the organisation, i.e. whether it is primarily community or professionally oriented.

To some extent it is also dependent on date established. Charities were fairly common for open access/community focussed workshops until the CIC model was introduced in 2005. This allowed an increasing number of shared spaces to build on the collective, non-profit nature of their set-up. None of the shared spaces interviewed for this report, whether CIC, Limited Company or Unincorporated, currently generate a profit that isn't put back into maintaining collective workspace and equipment.

Business type and access model

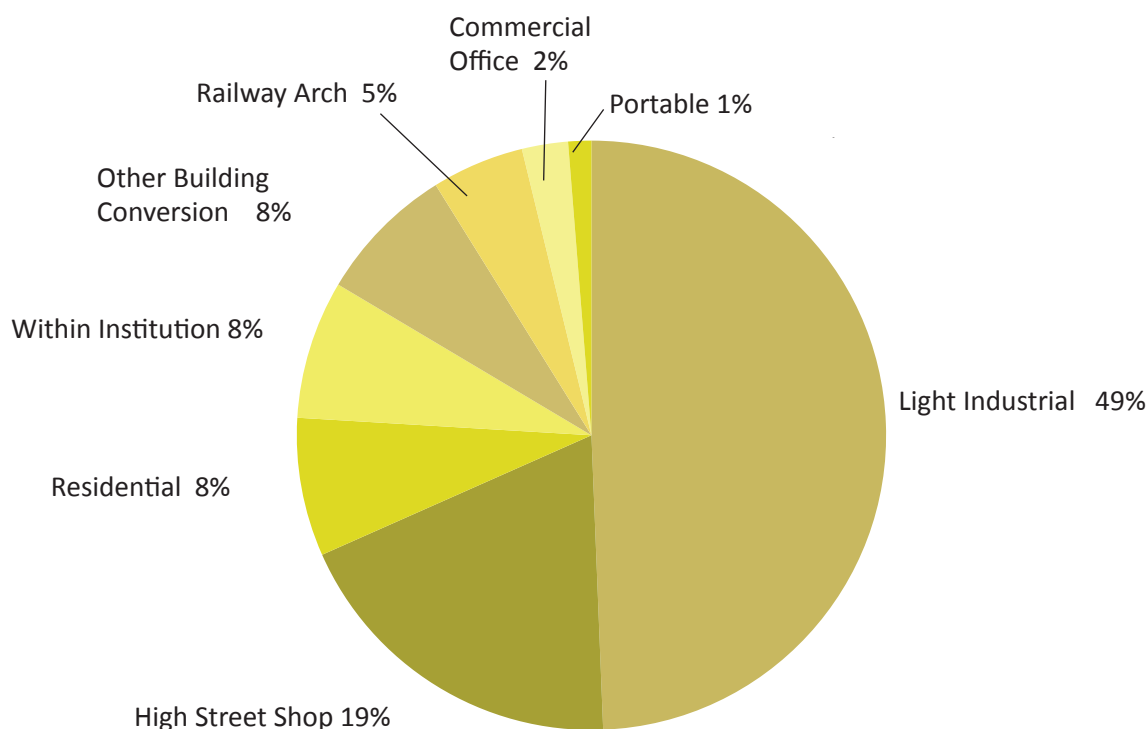


Business type by access type shows both sectors operate across all categories.

Shared workshops operate usually as Limited Companies (both standard models and CIC/social enterprise type) or unincorporated organisations (e.g. groups of sole traders sharing premises). Very few are registered charities.

There are ten times the number of charities and a higher proportion of CIC's among open access models.

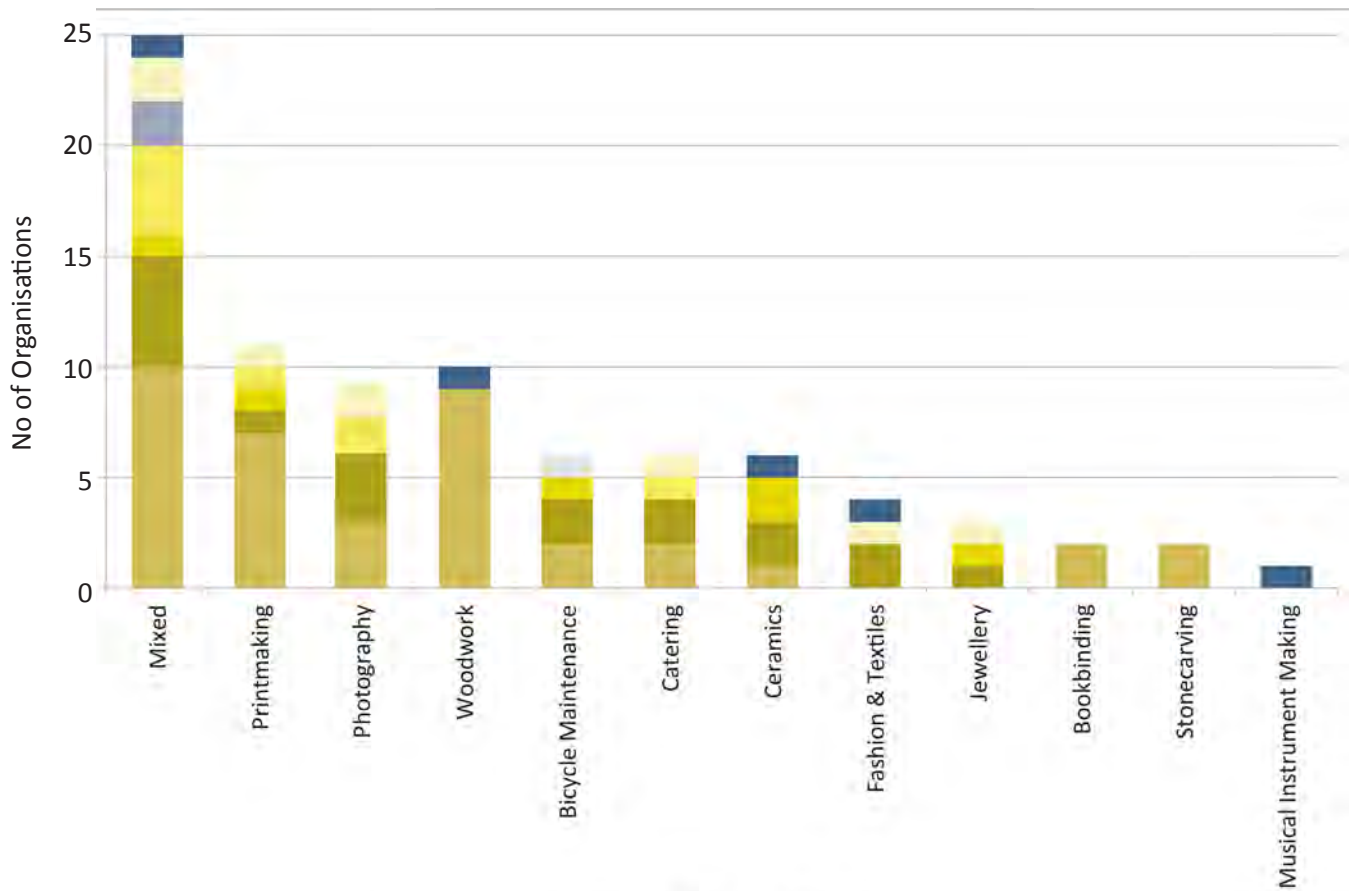
Building type



The spaces audited occupied a range of building types; there is a marked tendency towards light industrial buildings and the type/scale of space these offer. But the wide range of buildings also illustrates flexibility in adapting to available premises.

Opposite, data on premises occupied by the 89 co-making spaces has been divided by discipline. This helps clarify specific requirements of individual activities: for example, sectors requiring smaller, lighter equipment, and which create less noise or fire risk can operate from a wider range of premises. Many occupy retail or domestic structures in more residential areas.

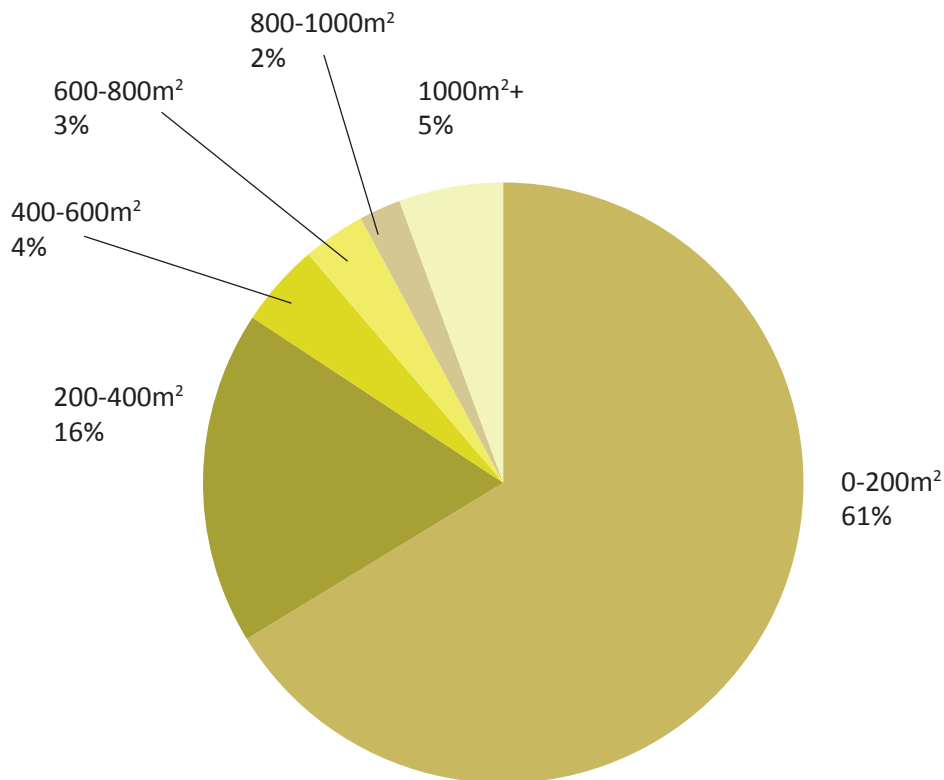
Building type and discipline



Building type (where information available). Brackets indicate assessment of current use classes applicable to spaces audited.

- Portable
- Commercial Office (B1a)
- Railway Arch (B1c)
- Other
- Within Institution (D1/B1b)
- Residential (C3)
- Retail Unit (A1)
- Light Industrial (B1c/B2)

Floor area

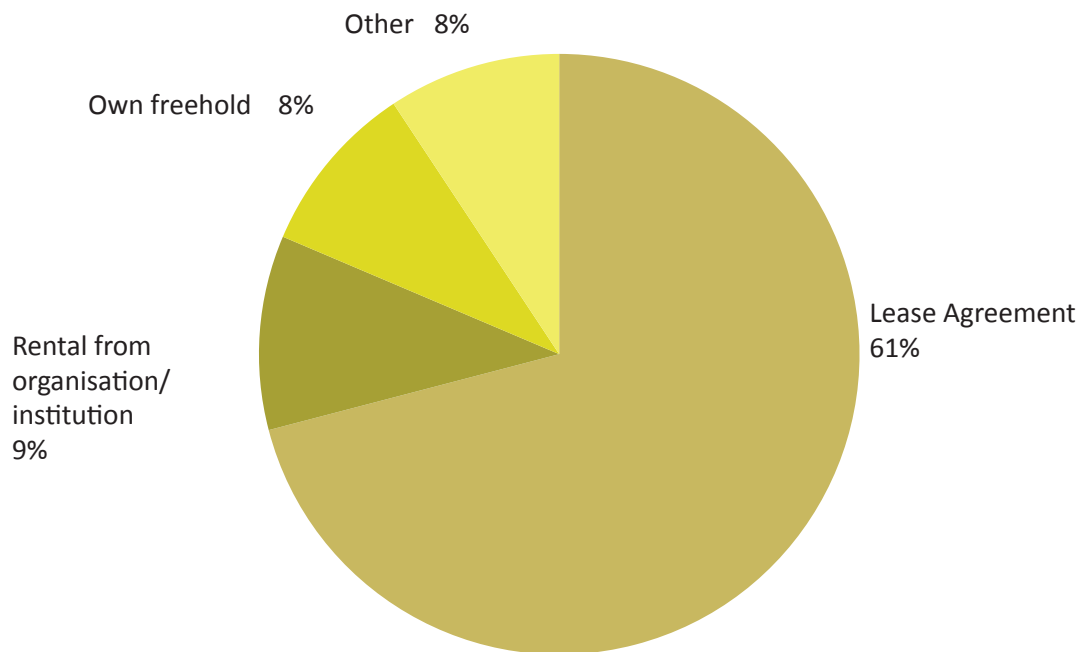


Floor areas are typically 150-200m². The larger floor areas are occupied by larger organisations - usually open access or educational - and may include other uses on site, such as retail and social space, for example Makerversity and the Goldsmith Centre, which provide generous individual workspace for small enterprises, as well as shared workshop and ancillary spaces.

Floor areas within disciplines vary considerably: to an extent, users organise workshops and their co-making model to fit into available premises, and choose premises on both floor area and other factors such as accessibility.

Overall floor area tends to be higher for open access spaces, and those with generally more public space and higher footfall on site. Actual working space is illustrated more in the case studies in Part 3.

Tenure



For the purposes of this study, lease agreement is defined as standard commercial lease of 3 - 5 years, including premises rented from local authorities and private landlords.

‘Rental from an organisation or institution’ includes spaces rented from large artist studio providers, universities, and public or private institutions (e.g Somerset House which houses Makerversity). These spaces are generally more protected and have access to longer leases.

‘Other’ represents particular agreements made with landlords, licence to occupy and temporary use sites. They are in general more insecure tenures than lease agreements.

Freehold ownership was mainly by smaller workshops in semi-residential buildings, garages etc, or by more established charities. This also includes favourable freehold arrangements, i.e. which are in the organisation’s best interests - for example the freehold of North Street Potters, purchased by a consortium of users and local residents to safeguard its future.

Overall there are few co-making spaces in London with secure long-term tenancies, this was one of the main concerns raised by almost all those interviewed.

Summary

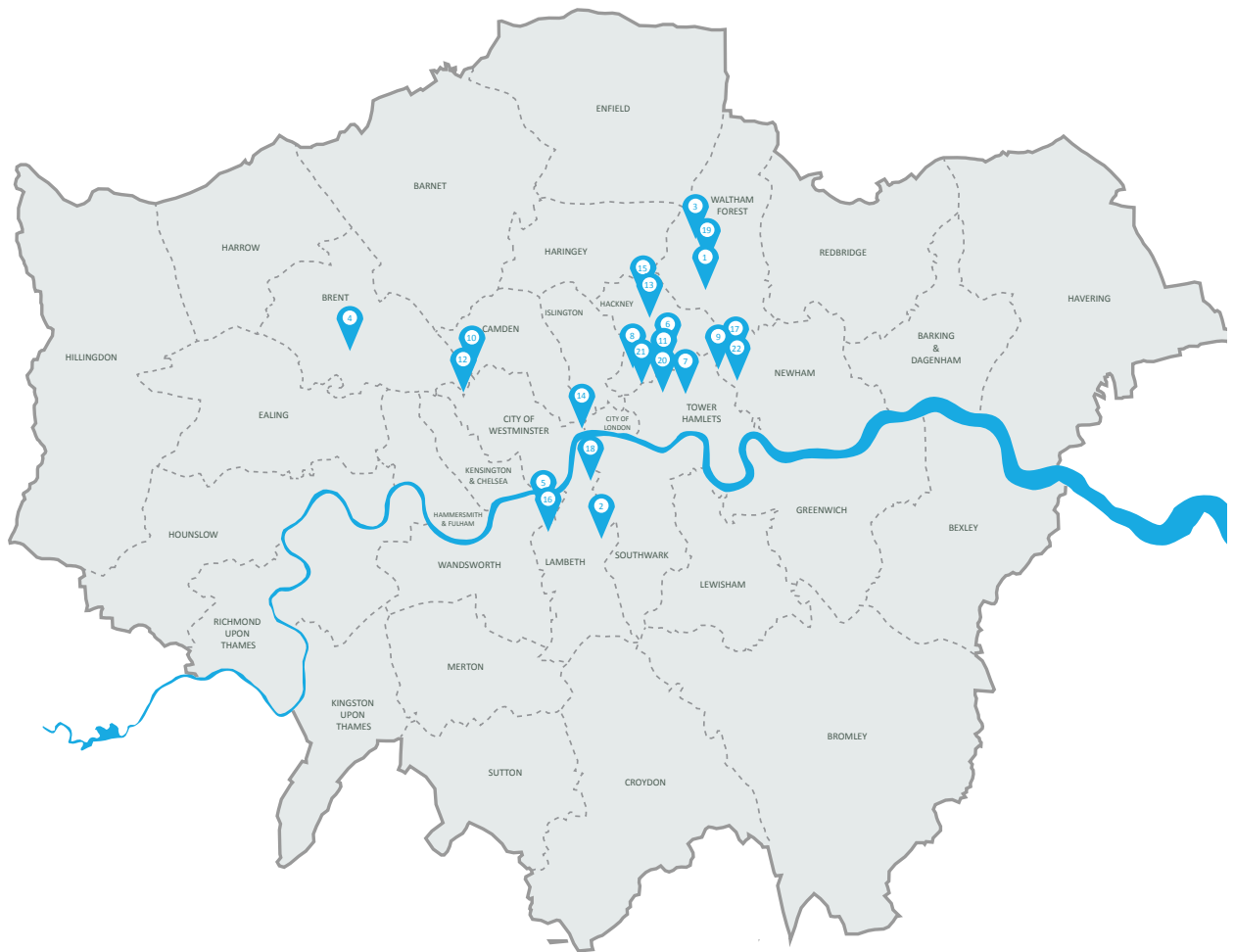
This initial overall survey of co-making spaces in London highlights several trends:

- *Spaces are mostly located in a small number of boroughs. This may be primarily due to the availability of suitable premises and lower rents in these areas, and to the networks and markets provided by clustered creative communities.*
- *Of open access, multidisciplinary spaces 94% have opened in the last 5 years. Other specialist types have been operating for over 30 years.*
- *User rates vary considerably between disciplines. Rates are also influenced by access type.*
- *A large proportion of spaces independently fund their set up costs. Funding is also influenced by access type.*
- *Many spaces, both open access and shared, operate as Community Interest Companies and not-for-profit models. Organisations frequently operate both charitable and non-charitable ventures.*
- *Light industrial buildings are preferred but are not the only option for premises.*
- *Disciplines have specific space requirements which influences the type of building they can occupy - more details are given in Part 3.*
- *Premises with larger floor areas are*

predominantly open access or have an educational element.

- *Most spaces have relatively insecure tenancies, those which have long leases, own/part own the freehold (or have a favourable arrangement with the freeholder) of a building are predominantly charities and have been in operation for several years.*

2: Workshop Profiles



1 3 FLEMPTON ROAD
Waltham Forest, E10 7NH

WOODWORK
Joinery, Carpentry, Furniture making.
Shared Workshop.

7 FOUR CORNERS
Tower Hamlets, E2 0QN

PHOTOGRAPHY
Photography, Film,
Open access Workshop + Equipment Hire, Darkrooms.

13 MADE IN HACKNEY
Hackney, N16 6PA

CATERING
Kitchen Facilities
Open access Workshop + Cookery Classes, Shop.

10 ST. JAMES WORKSHOP
Waltham Forest, E17 7NW

WOODWORK
Woodwork, Furniture making.
Shared Workshop.

2 ARTICHOKE PRINTMAKING
Lambeth, SW9 8RR

PRINTMAKING
Publishing, Editions.
Open access Workshop

8 LONDON BIKE KITCHEN
Hackney, N1 5QA

BICYCLE MAINTENANCE
Open access Workshop + Drop-in Bike Workshops, Maintenance, Sale of Parts and Accessories

14 MAKERVERSITY
Westminster, WC2R 1LA

MIXED
Woodwork, Computing & Electronics, Digital Fabrication
Open access Workshop + Studio Space

20 THE PARACHUTE COLLECTIVE
Tower Hamlets, E2 0EJ

CORDWAINERS
Shoemaking, Leatherwork,
Open access Workshop + Resident Maker Benchspace, Shop.

3 BLACKHORSE WORKSHOP
Waltham Forest, E17 6BX

MIXED
Woodwork, Metalwork.
Open access Workshop + Benchspace, Studio Space, Evening Classes, Specialist Courses.

9 LONDON CENTRE FOR BOOK ARTS
Hackney, E3 2NQ

BOOKBINDING
Bookbinding, Letterpress.
Open access Workshop.

15 MAZZOTTI BOOKS/PAULO TADEO
Hackney, N16 5SA

BOOKBINDING
Bookbinding, Letterpress.
Shared Workshop.

21 TURNING EARTH CERAMICS
Hackney, E2 8BW

CERAMICS
Open access Workshop + Classes.

4 CREATE SPACE LONDON
Brent, HA9 6DE

MIXED
Screenprinting, Woodwork, Metalwork, Photography, Computing & Electronics, Ceramics.
Open access Workshop + Studio Space, Benchspace.

10 LONDON FASHION STUDIOS
Brent, NW6 6HY

FASHION & TEXTILES
Garment Design & Making.
Open access Workshop (not fully operational)

16 NORTH STREET POTTERS
Lambeth, SW4 0HB

CERAMICS
Shared Workshop + Shop, Classes, Education Programme.

22 WORKSHOP EAST
Newham, E15 2QQ

WOODWORK
Woodwork, Stonemasonry, Sculpture.
Shared Workshop.

5 DAVID ANTONY REID
Wandsworth, SW8 3NS

MUSICAL INSTRUMENT MAKING
Luthier- Guitar Making.
Shared Workshop.

11 LONDON HACKSPACE
Hackney, E2 9DY

MIXED
Hacking, Woodworking, Metalwork, Electronics, Scientific, Computing, Crafts
Open access Workshop.

17 SWAN WHARF
Tower Hamlets, E3 2NQ

MIXED
Woodwork, DIY, Digital, Spraybooth.
Open access Workshop + Studio Spaces, Event Spaces, Restaurant.

6 EAST LONDON PRINTMAKERS
Hackney, E8 3RH

PRINTMAKING
Screenprinting, Etching, Lino, Fabric printing.
Open access Workshop + Classes, Artist Talks

12 LONDON PRINT STUDIO
Kensington & Chelsea, W10 4RE

PRINTMAKING
Screenprinting, Intaglio, Block-printing, Letterpress, Digital
Open access Workshop + Education Programme

18 THE CAMERA CLUB
Lambeth, SE11 4DS

PHOTOGRAPHY
Open access Workshop + Darkroom, Events & Talks, Classes, Exhibitions

Profiled organisations

22 co-making spaces are profiled, covering a range of locations (see map, previous page) and organisation types. The thumbnails and table below (see page 44) illustrate the key trends identified in the wider survey. They have been selected to illustrate the range of operational models, building types and user profiles. Part 3 then expands on these themes and draws more detailed comparisons in relation to several of these spaces.

More detailed survey data made from site visits to the organisations is given in Appendix 1.

📍 3 Flempton Road

3 Flempton Road, E17 7NH



📍 Artichoke Printmaking

254a Coldharbour Lane, SW9 8RR



📍 Blackhorse Workshop

1-2 Sutherland Road Path, E17 6BX



📍 Create Space

1 Harrow Road



📍 David Anthony Reid
Arch 20, Ingate Place, SW8 3NS



📍 East London Printmakers
SPACE, 19 Warburton Rd, E8 3RT



📍 Four Corners
121 Roman Road, E2 0QN



📍 London Bike Kitchen
28 Whitmore Road, N1 5QA



📍 London Centre for Book Arts
Britannia Works, Dace Road, E3 2NQ



📍 London Fashion Studios
69-71 Kilburn High Road, NW6 6HY



📍 London Hackspace

447 Hackney Road, E2 9DY



📍 London Print Studio

425 Harrow Road, W10 4RE



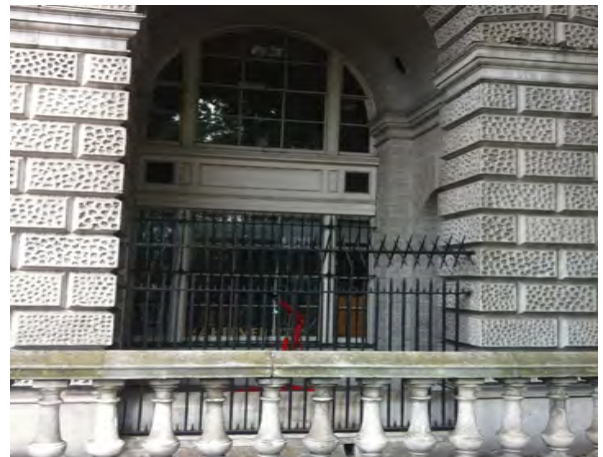
📍 Made in Hackney

3 Cazenove Road, N16 6PA



📍 Makerversity

Somerset House, WC2R 1LA (new pic)



📍 Mazzotti/Taddeo Books

10 Manor Road, N16 5SA



📍 North Street Potters

23 North Street, SW4 0HB



📍 St James Workshop

78 Brunner Road, E17 7NW



📍 Swan Wharf

60 Dace Road, E3 2NQ



📍 The Camera Club

60 Bowden Street, SE11 4DS



📍 The Parachute Collective

Arch 10, Gale Gardens, E2 0EJ



📍 Turning Earth Ceramics

Arch 361-362, Whiston Road, E2 8BW



📍 WorkshopEast




Sugarhouse Studios, E15 2QQ



Chart of profiled organisations

Key facts for profiled organisations, ranked by an assessment of access model - from fully open access to more privately shared workshop. This impacts on business model, target users and all operational aspects such as building type, accessibility, layout and community engagement. For more on this, see Part 3.

Open Access

	London Bike Kitchen	London Hack-Space	Made in Hackney	The Camera Club	East London Print-makers	London Print Studio	London Centre for Book Arts	Artichoke Print-making	London Fashion Studio (semi operational)	Turning Earth	Maker-iversity
											
	CIC	Ltd	CIC	Unincorporated organisation	Ltd company	Ltd company + charity	Ltd company	Ltd company + charity	Ltd company	CIC	Ltd company
	1240	1000+	3 businesses + run classes	unknown	334	300	5 + run classes	65	3	80	0 (future open access planned)
PT											
	0	0	0	0	0	0	0	0	0	0	30
FT											

User numbers (part time and full time)

PT £	£10 per year + £12 per hour	£15 pcm	£75-£140 per day	£115 per year, + £20 half day	£30 per year, + £17 half day	£26 per year, + £12.50 per session	£125 pcm	£110 per year, + £20 half day	none	£155pcm	n/a
FT £	none	none	none	none	none	none	none	none	£59-£99	none	POA

User costs (part time use and full time rental)

Please note this table is an approximate comparison of spaces on the basis of access type at the time of publication. User numbers and costs vary, and these are not static, so positions may vary, especially where they are mid-spectrum. Costs are a guide and are not indicative of quality of provision.

Catering for both full & part time users

Shared solely by full time users

Four Corners Film	Blackhorse Workshop	Swan Wharf	Create Space	The Parachute Collective	Mazzotti/Tadeo Books	Workshop East	North Street Potters	David Anthony Reid	St James Workshop	3 Flempton Road
Ltd company + charity	CIC	Ltd company	Ltd company	Ltd company	Unincorporated organisation	CIC	Unincorporated organisation + charity	Unincorporated organisation	Ltd company	Unincorporated organisation
100 (using darkroom)	100	Various drop-in users on project basis	50	3	0	0	6	0	0	0
36 desk and studio holders	18	20	35	9	2	11	1	2	5	4 (15 occupants total)
£50 per year, + £25 half day	£15 a day (plus induction fee)	none	£20 per month	£15 an hour	£50 per day (varies)	none	none	none	none	none
£175-£275	£200	£250	£130-£390 desks and studios	£225	Unknown	£200-£360	£200	£150	£520	£1000



3: Themes & Case Studies

This section looks in more detail at the operation of co-making spaces. Through five main case studies (see map overleaf) and references to spaces profiled in part 2, it explores the following main areas:

3.1: Setup & Management

Setting up a workshop: Location & space requirements, finance & access

3.2: Supporting Enterprise & Business Growth

Commercial workshop users

3.3: Community & Placemaking

How a workshop can create and support a community

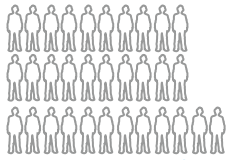
1 CREATE SPACE LONDON
Brent, HA9 6DE

MIXED DISCIPLINE: Screenprinting, Woodwork, Metalwork, Photography, Computing & Electronics, Ceramics.

Open Access Workshop, Studio Space, Benchspace.

Create Space is an independent non-profit organisation. It was funded through a start-up loan and personal finance and now through memberships and studio rental. Users include a luthier, architect, jewellery designer, furniture maker, robot manufacturer, artists and others. It is currently the only open access mixed workshop available in Brent.

40 Full time members:



30 Part time members:



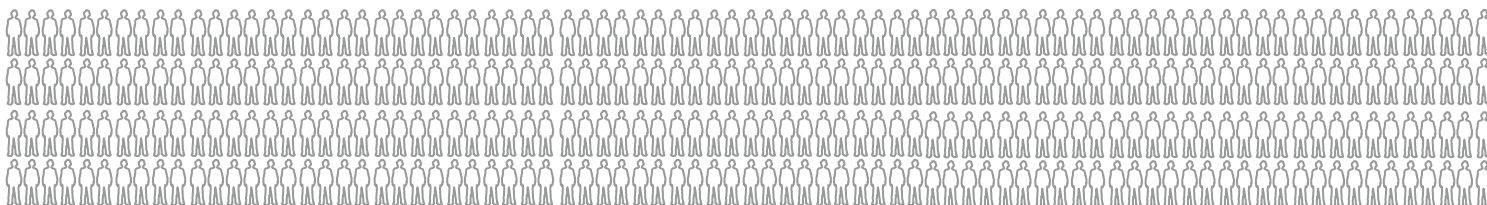
LONDON PRINT STUDIO
Kensington & Chelsea, W10 4RE

5 PRINTMAKING: Screenprinting, Intaglio, Block-printing, Letterpress, Etching, Lithography, Digital.

Open access Workshop, Courses, Training.

London Print Studio (LPS) was founded in 1974 under the name Paddington Printshop. It is an artist-run, not-for-profit studio, workspace, publisher and gallery based in West London. They provide traditional printmaking equipment as well as a digital studio and gallery. Offers a wide range of courses & specialist technical support. LPS works with artists, community organisations, galleries, educational institutions and the public.

400 Part time members:

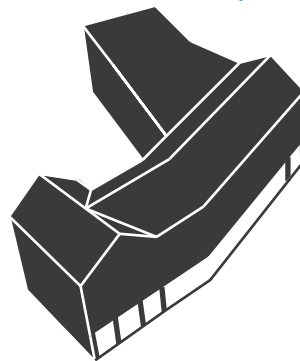
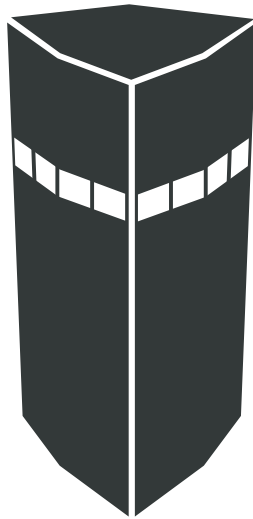


2 BLACKHORSE WORKSHOP
Waltham Forest, E17 6BX

MIXED DISCIPLINE: Woodwork, metalwork, general fabrication

Open access Workshop, Benchspace, Studio Space, Evening Specialist Courses.

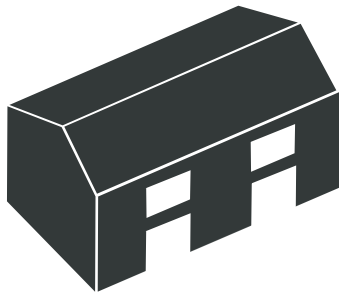
Blackhorse Workshop is a CIC established in 2013, becoming a public, open access workshop in early 2014. It was developed by an architecture and design practice Assemble, in collaboration with artists, businesses and community organisations. It is supported by the Mayor of London's Outer London Fund, funded by the London Councils of Waltham Forest and match funded by Create, Legacy Trust and the Council of London.



ion.

Classes,

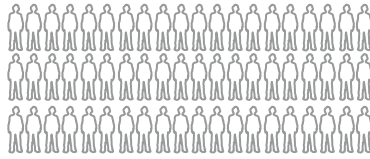
g operational
veloped by
with local
rted by the
on Borough
st UK and Arts



24 Full time members:



60 Part time members:



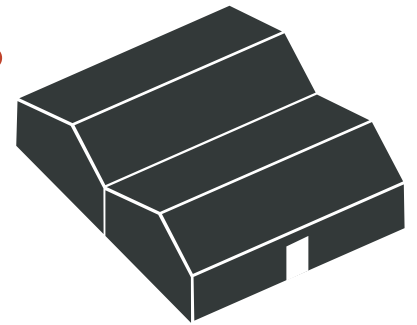
3 WORKSHOP EAST
Newham, E15 2QQ

WOODWORK
Woodwork, Stonemasonry, Sculpture.

Shared Workshop.

Workshop East was established in 2013 by four graduates of the Building Crafts College in Stratford. Its main aim is to provide high quality shared facilities for trained makers starting their own businesses, enabling them to continue making work in a professional, safe, supportive environment.

11 Full time members:

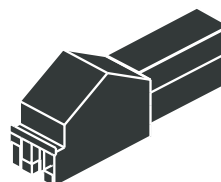
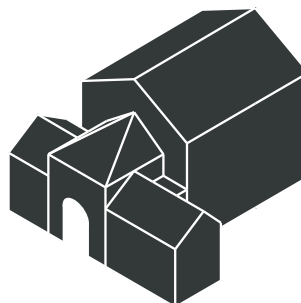


4 NORTH STREET POTTERS/
CLAPHAM POTTERY
Lambeth, SW4 0HB

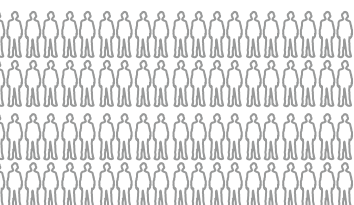
CERAMICS

Shared Workshop, Shop, Classes, Education Programme.

North Street Potters is a collective of potters set up in 1978, operating from a small retail unit. It provides professional work space for ceramicists, including wheels, kilns, drying facilities and a small shop front gallery/retail outlet. On average 2 informal training apprenticeships are offered each year in exchange for work space. There are seven users currently working independently from the site, occasionally collaborating to fulfil large orders. Most users also teach at Clapham Pottery, a registered charity set up by North Street Potters.






7 Part/Full time members:





3.1: Setup & Management

Case Studies:

-  **Blackhorse Workshop**
-  **Workshop East**
-  **London Print Studio**

Themes: Location & Space Requirements, Finance & Access Type

This chapter looks at specific co-making spaces, how they have been established and key issues in their setup and management. It examines physical factors such as location and space requirements, startup funding, ongoing financial management, and business models adopted by a range of organisations. Three workspaces are looked at in detail, with further references made to other workshops surveyed and profiled.

Established 2013

Community Interest Company

Local Authority/GLA funded

2014 turnover (projected): £120k

2014 expenditure (projected): £180k

Workshop Type: open access, mixed

Disciplines: woodwork, metalwork, other



100 part-time users



18 full-time/small business users



2 full time staff (equivalent)

Background

Blackhorse Workshop in Walthamstow is an open access community workshop established in 2013. The project received startup funding of £90,000 from the Mayor's Outer London Fund initiative launched in 2011. It received a further £80,000 from the London Borough of Waltham Forest and £50,000 from Create London, an arts commissioning body focusing on Boroughs in the vicinity of the Olympic Park. The workshop aimed to be a "place for making, mending and learning, which would re-imagine the role of production as a public amenity".¹

Blackhorse Workshop CIC was incorporated in August 2013. It was registered as a "manufacturer (of furniture and other goods) and provider of education/arts facilities".

The business model aimed to be non-reliant on grant funding within its first year. It also proposed paid as opposed to voluntary staff, on the basis of reliability and ongoing sustainability, despite the increased cost.

Finance

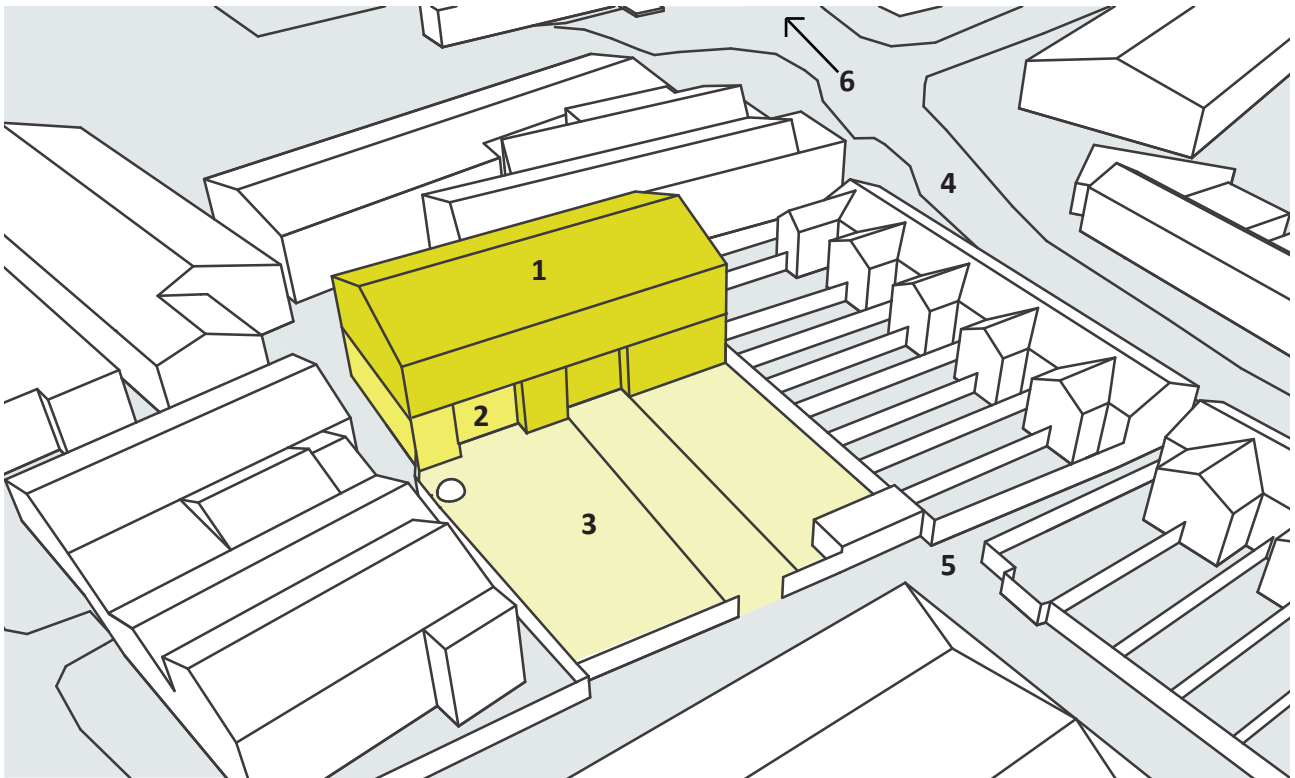
The main setup cost was an £80k refurbishment of premises and equipment purchase/installation, comprising: building fitout, £50,000; workshop extract, £4400; metalwork equipment, £2800; woodwork equipment, £15,300; Workshop sundries £7500.

Main income is from studio rental (18 benches are rented in the upstairs studio) and an expansion plan is underway to accommodate more permanent studio tenants. Specialist evening classes and weekend workshops are the second largest income generator. Memberships of the open access facilities were predicted to be the main source of income but so far this comprises only 18%.

Workshop users

The workshop has no age/access restrictions, and is insured to run activities for 8 year olds+. The main age group of members is 30s - 50s (with 34% aged 20-30, 40% aged 30-40, 14% aged 40-50). Gender balance is currently 70% male : 30% female.

¹ Assemble Studio Business Proposal, 2013



Key:

- | | |
|---|---|
| 1. Blackhorse Workshop | 4. Blackhorse Lane |
| 2. Cafe and Bakery (plus outside oven) | 5. Sutherland Road Path |
| 3. Shared Courtyard and Main Access | 6. To Blackhorse Road Station (500m) |

Location

Blackhorse Workshop occupies a light industrial building (use class B1c) off Blackhorse Lane in Walthamstow. The project was sited strategically within the Blackhorse Lane regeneration area, as part of wider Waltham Forest/GLA planning policy within this area.

Other factors in selecting these premises were level access to the building, easy vehicular access and good pedestrian access via Sutherland Road Path. As with several other organisations surveyed, the site is earmarked for development (within the next 2-5 years) and the workshop serves as an interim use while a wider development plan is progressed.

Building Fabric

The building had been constructed within the last 10 years and required minimal investment to fit out. It occupies approximately 850m² (9,200ft²) over two storeys and has a large external courtyard with lockable gates. Construction is brick and blockwork to ground floor, with insulated aluminium panels to the upper storeys. The building has two large double roller shutter entrance doors providing good delivery access and storage. It has reinforced concrete floors ideal for heavier workshop equipment.

Blackhorse Workshop manages its own co-making activities and sub-lets space to other (non-workshop) uses. The workshop itself occupies two thirds of the ground floor (approximately 30% of total GIA - see plans overleaf), with studio space at first floor.

Blackhorse Workshop: Ground Floor Plan

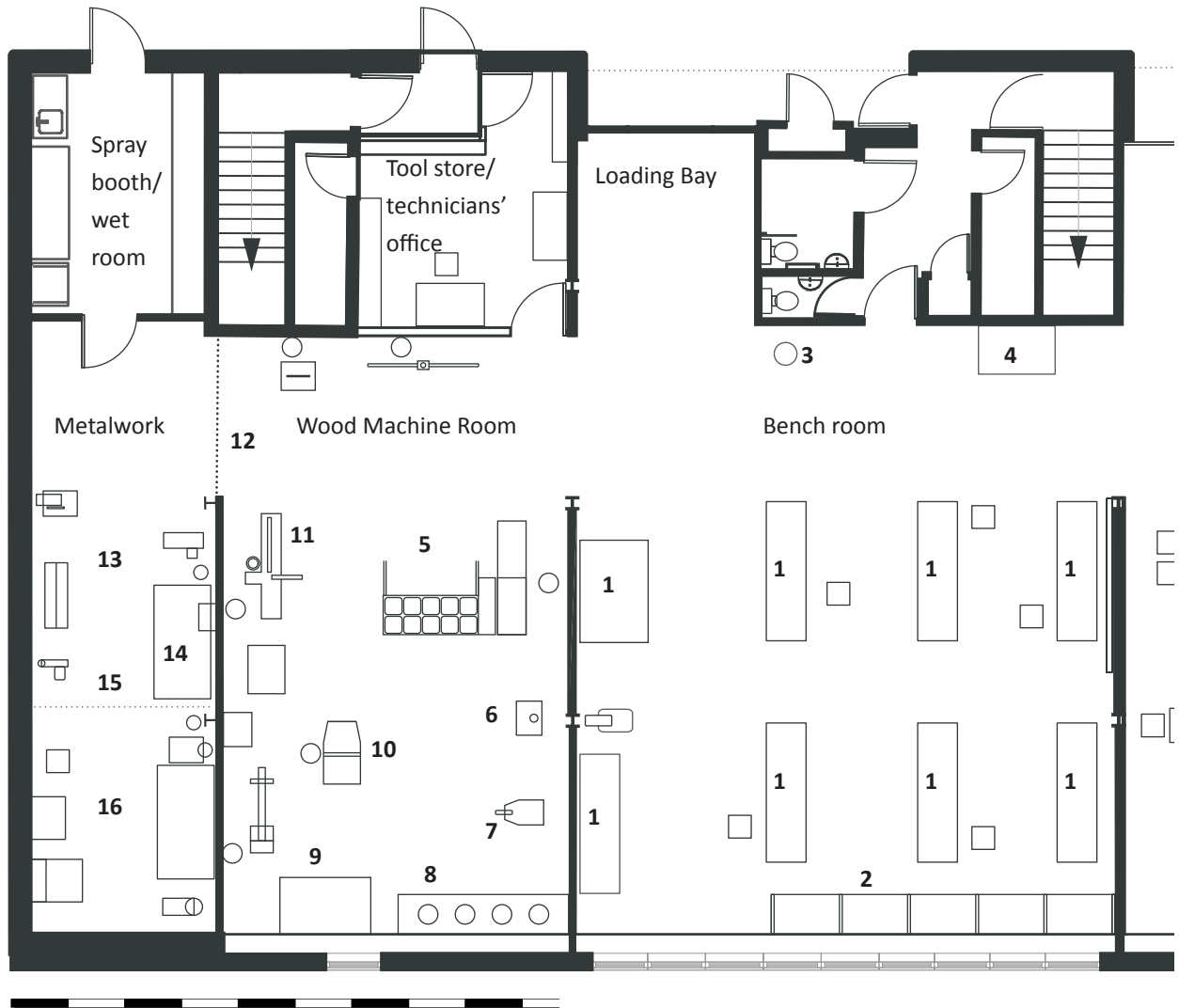


- Main co-making workshop - See detailed floorplan opposite
 - Shared Space (cafe and exhibition/social space)
 - Bakery
 - Ancillary
- A Open access benches & user storage shelves (woodwork & general making)
 - B Woodwork machine room
 - C Metalwork
 - D Spray booth/wet room
 - E Cafe/social space: sub-let to Wood St Coffee
 - F Bakery (sub-let)
 - G Admin (G1 management/main reception, G2 technician office/tool storage).

Internal Layout

The co-making workshop occupies most of the ground floor and is currently open access to all ability levels, supervised by paid technicians. It comprises a workbench room for general assembly, plus dedicated wood machine room, metalwork area and wet-room. This layout means noisy or dusty machine-based activities are segregated from manual activities. Good lighting, high ceilings and full height storage mean a safe and clear working environment. The space is heated by a wood-waste burner.

Main Workshop Plan



Key to main workshop layout:

- | | | | |
|---|--|----|------------------------|
| 1 | Benches (8 x 2-person benches) | 8 | Duct extractor |
| 2 | storage racks, basic hand tool storage (on walls) | 9 | Workbench (woodwork) |
| 3 | Woodburning stove (for waste wood and heat production) | 10 | Thicknesser |
| 4 | COSHH Cupboard | 11 | Surface planer |
| 5 | Table saw | 12 | Heavy duty PVC curtain |
| 6 | Mortiser | 13 | Cold metalwork area |
| 7 | Bobbin sander | 14 | Workbench (metalwork) |
| | | 15 | Heavy duty PVC curtain |
| | | 16 | Hot work area |



Using the wet room for spray finishing (photo: Annie Hanson)



Bench room (photo: Annie Hanson)



View of main bench room with storage wall at rear (photo: Annie Hanson)



Welding workshop (photo: Blackhorse Workshop)

Established 2013

Community Interest Company

Local Authority/GLA funded

Current turnover: £40k

Current expenditure: £30k

Workshop Type: shared, mainly woodwork

Disciplines: woodwork, stone, other



2 part-time users



7 full-time/small business users



4 Directors (unpaid)

Background

WorkshopEast is a shared co-making workshop, currently providing space for 11 small businesses. It is equipped for 9 woodworkers and 2 stone-carvers.

Business Model

WorkshopEast was incorporated as a Community Interest Company in 2013. It operates a bench rental scheme for full-time tenant makers. Main income is from monthly bench rental, which contributes to building rent, maintenance costs and paying off the lease on the workshop equipment. It does not operate an open access scheme, as it is primarily aimed at full-time semi-professional and startup enterprises as opposed to amateur or part-time users.

In October 2014, the workshop received a grant from Beyond Business - a business support organisation - to take on a part time administrator for one year. Prior to this all management and administration was undertaken by the directors for no remuneration.

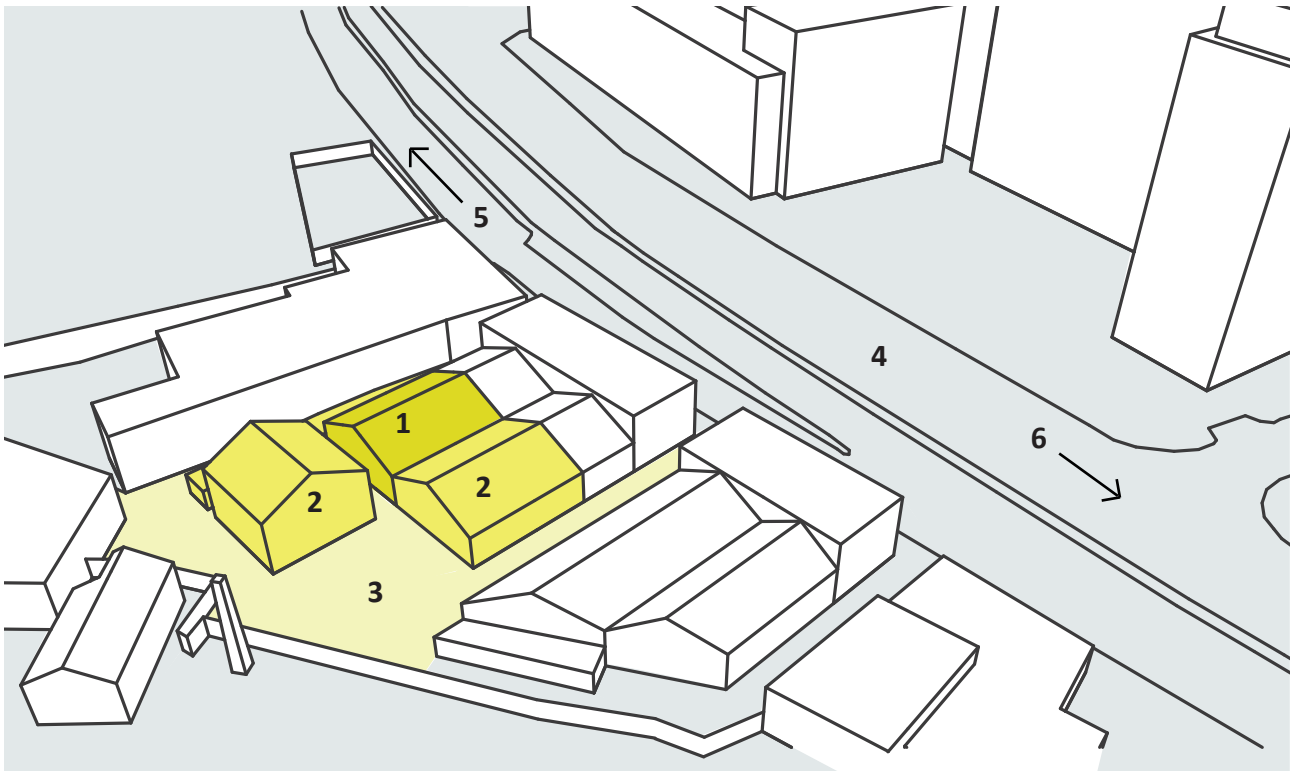
Finance

WorkshopEast was set up with a £10k Livery Companies Grant. An additional bank lease of £55k of equipment was secured.

Setup costs were:

Building fitout & security	£ 8,000
Woodwork Eqpt (leased)	£ 47,000
Stonemasonry Eqpt (leased)	£ 4,500
Professional fees (accounts) etc	£ 1,500

Central to the business plan was the provision of high quality woodworking equipment for professional users developing their businesses. For this reason, and unlike many of the more open access, community oriented workshops, new equipment was purchased and installed by the supplier. The equipment was chosen by and for makers to minimise breakdown and inefficiency, ensuring that it would meet demand and enable users to remain competitive.



Key:

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. Workshop East 2. Other occupants of Sugarhouse Studios 3. Shared Courtyard and Main Access | <ul style="list-style-type: none"> 4. Stratford High Street 5. To A11/A12 & Mile End 6. To Stratford Rail & Bus interchanges |
|---|---|

Location

WorkshopEast occupies part of a light industrial warehouse complex on Stratford High Street, East London. It was established here after a 6 month search for suitable premises.

The decision to locate at Sugarhouse Studios was based on several factors:

- Low rent and flexibility of terms
- Reasonably generous ground floor area, providing 160 sq m of workshop space. Additional access to ancillary facilities and common spaces on site.
- Location: semi-central, Zone 2/3 border.
- On-site security provided by landlord

- Privacy from the street but shared outdoor space in a central courtyard.
- Site management by others
- Social/professional benefits of contact with other enterprises on site.

As an interim use site, which obtained planning consent in 2012 for a 10 Ha redevelopment scheme, it is predicted that existing companies will occupy Sugarhouse Studios only until 2016.

Workshop Layout

Workshop East is organised internally (see floorplans overleaf) to provide an efficient use of space to process items in wood and stone. As a temporary use site, the company made minimal investment in building fabric, instead prioritising the provision of high quality equipment and well planned working areas.

The machine room and bench room are the core co-making spaces. They can, depending on outputs, support 10 to 12 makers/small businesses. Storage of materials and scale of outputs was a critical factor. In woodwork, products can range from furniture to interiors and architectural fabrications. Although Workshop East has the machinery to support 10-12 users, the bench room itself can only fit five and assembly/storage capacity is limited. Currently it is geared towards smaller scale furniture making and interior elements; this may become an issue as tenants start to design and construct larger items.

Workshop Users

Workshop East's 11 resident makers include two partnerships, JackJames Furniture and Studio LW, with the remaining operating as sole traders. Individual business turnover ranges from £20-£75k. All users are generally in the 20's - 40's age group. As the workshop has no paid technicians, a strict induction and health & safety programme is implemented. All makers have prior experience and this is required in order to be a tenant.

Sugarhouse Studios as a whole supports over 30 makers and the company is benefiting increasingly from collaboration on projects. The site currently has a low footfall, but public events and the variety of disciplines on site can draw in visitors from other parts of London to buy, view and commission work. This would be significantly harder for an individual organisation to achieve on its own.

Rental costs

WorkshopEast's rental is £600 pcm (£3.82/sq m) for 157 sq m of workshop space. There is additional access to 133 sq m of ancillary/shared social space.

Other comparable premises in the area cost £6-£9 per square metre plus ancillary.

Spatial and cost benefits for users

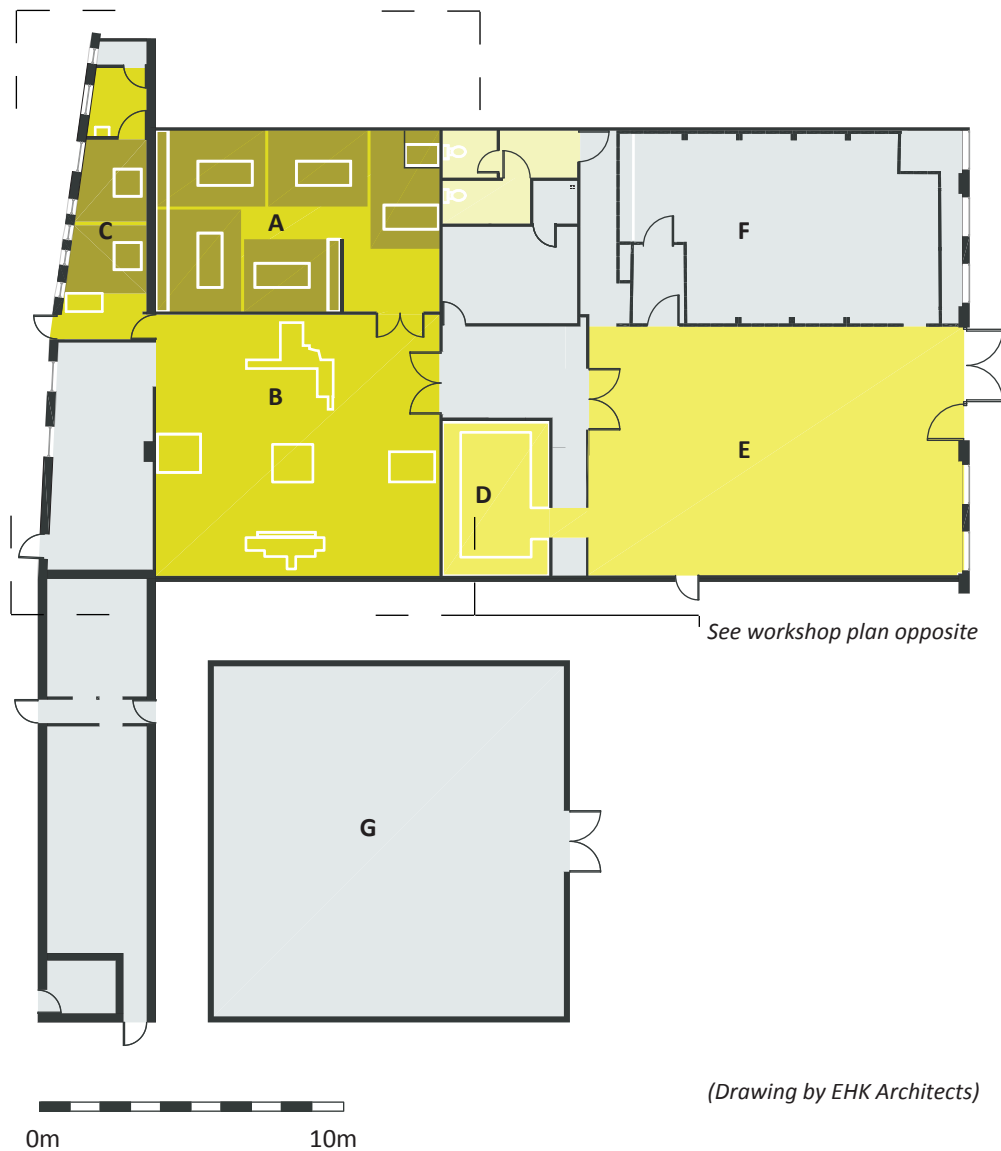
Low premises rental allows WorkshopEast to offer low cost, long term bench rental for tenants. Current maker rents are:

Woodwork: £360 pcm (includes own bench space); Stone: £198 pcm (includes own bench space); Machine room only access: £240 pcm.

Prices are lower than other workshops providing equivalent facilities, though varied provision makes it difficult to draw direct comparisons. Other example prices for professional and semi-professional woodwork facilities range from £500 to £1000 pcm.

Affordable bench rental is central to the company's ethos and its target user group of early-career makers and startups.

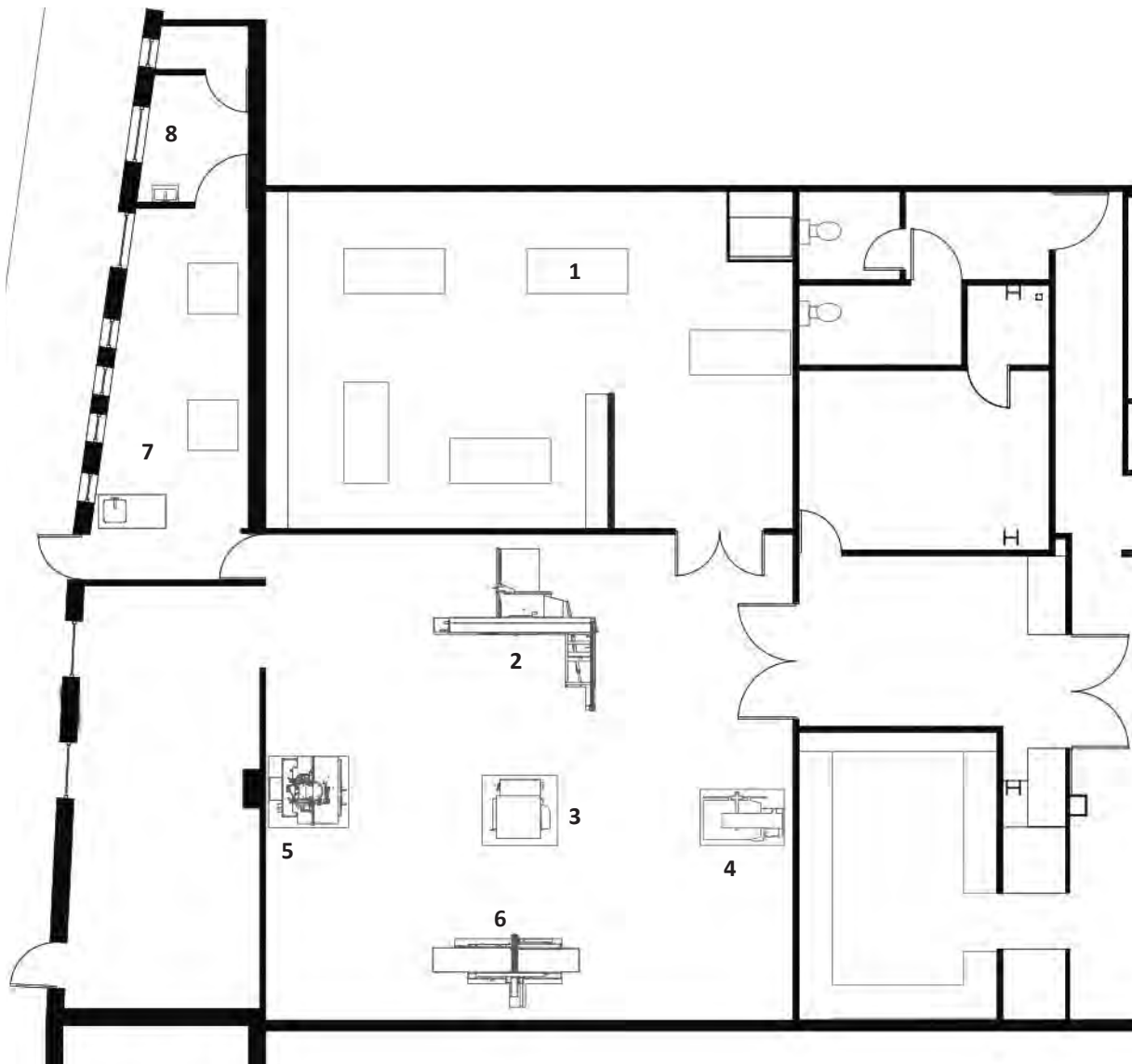
WorkshopEast: Plan of Sugarhouse Studios (ground floor)



- A Bench room (woodwork)
- B Woodwork machine room
- C Stone workshop
- D Kitchen
- E Events space, open workshop
- F Assemble offices
- G Yardhouse (12 studios)

- Individual bench space
- Main co-making/shared workshop
- Shared 'special' space (exhibition/events)
- Ancillary
- Other uses on site

WorkshopEast: Machine Room & Bench Room layouts



KEY:

- 1 Woodwork benches 1.8 x 0.9m
- 2 Table saw (see photos opposite)
- 3 Thickness planer
- 4 Large band saw
- 5 Spindle moulder
- 6 Surface planer
- 7 Stonecarving bankers
- 8 Lockable tool store



Machine room (photo: Annie Hanson)



Bench room (photo: Lewis Jones)



Table saw in use (Annie Hanson)



Table saw (photo: Annie Hanson)

Established 1974

Charity & Limited Company

Grant funded + income generating

2012-13 turnover: £350k*

2012-13 expenditure: £370k

(*from accounts submitted to Charities Commission)

Background

London Print Studio is an artist-led organisation established in 1974 by John Philips and Pippa Smith (originally under the name Paddington Print Shop). It has 400+ members, at professional and amateur levels.

The London Print Studio occupies purpose-fitted, new build premises, constructed by Stadium Housing Association in 2000 as part of a social housing scheme on the Harrow Road. The ground floor shell structure was offered in exchange for the organisation's existing premises on an adjacent industrial site.

London Print Studio was already an active provider of open access facilities, and was closely involved in the development plans. £415,000 of Lottery Funding was awarded to fit out the premises, of a total build cost of approximately £1.2 million.

The organisation is aiming to purchase its current premises at an agreed price of £475k (valid until March 2015). Funds are being raised through a mortgage, Arts Council capital grants and targeted fundraising.

Workshop Type: open access

Disciplines: printmaking



400 part-time users



0 FT (only part-time access offered)



5.5 paid staff roles

Business Model & Finance

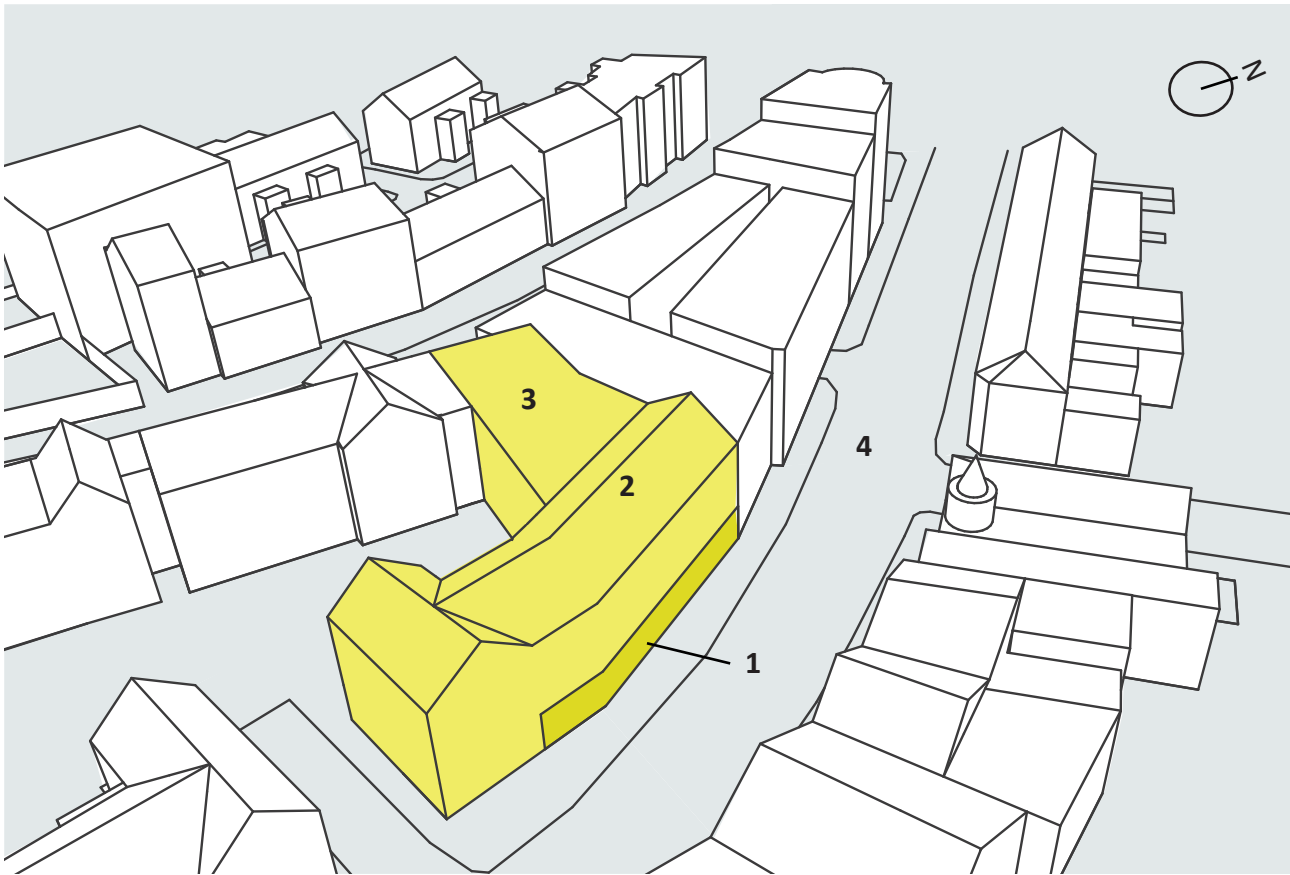
London Print Studio is both Limited Company and registered education charity. Its trading subsidiary company (London Print Studio Sales Limited) is wholly owned by the parent company and operates independently (through the sale of prints).

London Print Studio Ltd has high income and expenditure for the sector. It receives significant grant funding to subsidise open access programmes. It also pays a 5.5 salaries (full time equivalent), a relatively high number of staff for the sector. This has helped it maintain a reputable, well-managed facility with specialist digital and manual equipment.

Income is typically £350k+, mainly raised through grants. Of declared income for 2012-13¹, 59% was through grants/subsidies, 37% through user memberships and courses and 4% through commissions/sales from its in-house gallery.

In 2012-13, expenditure was £343,867, of which 50% was on staff salaries/expenses, 28% on rent/building costs and the remainder on professional fees, marketing and other promotional/gallery costs.

¹ Latest available detailed accounts information received.



London Print Studio context (EHK Architects)

Key:

- 1. London Print Studio - street front gallery
- 2. Housing Scheme
- 3. London Print Studio (ground floor only)
- 4. A404 Harrow Road

Location

The studio occupies 550m² on the ground floor of a commercial/residential block on the Harrow Road. Stadium Housing Association provided the shell space under the main design and build contract, while fit-out and street frontage, designed by David Mikhail Architects, were procured separately.

The premises are arranged to maximise footfall and transparency - the main entrance is via a street-front gallery, linking through to the open access workshop behind. The glass gallery front occupies most of the building's frontage and is visible 24/7 from the Harrow Road. A discreet grille system provides

security behind the window displays at night.

Access is via Harrow Road or Westbourne Park tube station. Service access is provided to the rear. There is no on site parking for studio members/users.

Workshop Layout

The main studio (See floorplans, p.70) houses four print processes: screenprinting, lithography, block printing and intaglio.

5 individual screenprinting/lithography/drawing areas are located along the glazed south elevation to take advantage of natural daylight.

Printmaking processes require large, clear working areas, comprising vacuum and layout tables, presses, drying racks and exposure units. As with most other open access printmaking studios, equipment is available for relatively large format traditional printing, e.g. large vacuum tables (just under 1m²) for screenprinting and large intaglio presses. Workstations are arranged by process, with each element set out with minimum distances between in order to maximise efficiency for users, typical area per workstation is 16 sqm. All have easy clear access to washdown areas.

Daylight temperature colour-balanced lighting is fitted throughout the area.

Accessibility for all age groups and abilities was central to the brief. A hydraulic press can be used by those with limited mobility. There are also adjustable-height tables alongside traditional fixed-height benches. The space contains three preparation areas: screenprint washing and stencil-making (which is soundproofed), aquatint, etching and a litho-stone preparation.

Workshop users

London Print Studio has approximately 400 professional, sole trader, startup and amateur printmakers using the facilities. It also runs taught courses (including an MA programme) and residencies. 70% of users are female, age groups range from 8 upwards. Activities for 4-18 year olds include schools workshops, gallery-based screenprinting workshops and funded intensive training courses. Work-based professional training is provided for 18-25 year olds.

Open Access & Taught Courses

Open access costs for users are on a pre-booked session basis. London Print Studio also provides training and structured sessions for users lacking skills or confidence with equipment (an issue that can impact on workshop user numbers generally, and which is discussed later). 'Enhanced support' sessions - a new initiative - allow up to 4 people access to a specialist tutor / technician during special weekly evening sessions.

Taught courses cater for both professionals and amateur users. Examples are a regular 2-day Beginners' Screenprinting course (£172.50).

Organisational Targets

LPS sets annual targets and reviews key performance indicators monthly. In 2012-13, it achieved 9285 hours of open access (above its target of 8280), it also expanded its graduate training scheme and industry partnerships, provided approximately 1700 hours of activities for young people, and represented over 100 artists in its gallery. £5000 was invested in studio improvements, including a comprehensive re-fit of the digital suite. It has also launched a major fundraising initiative to buy the lease on its premises.

London Print Studio: floorplan

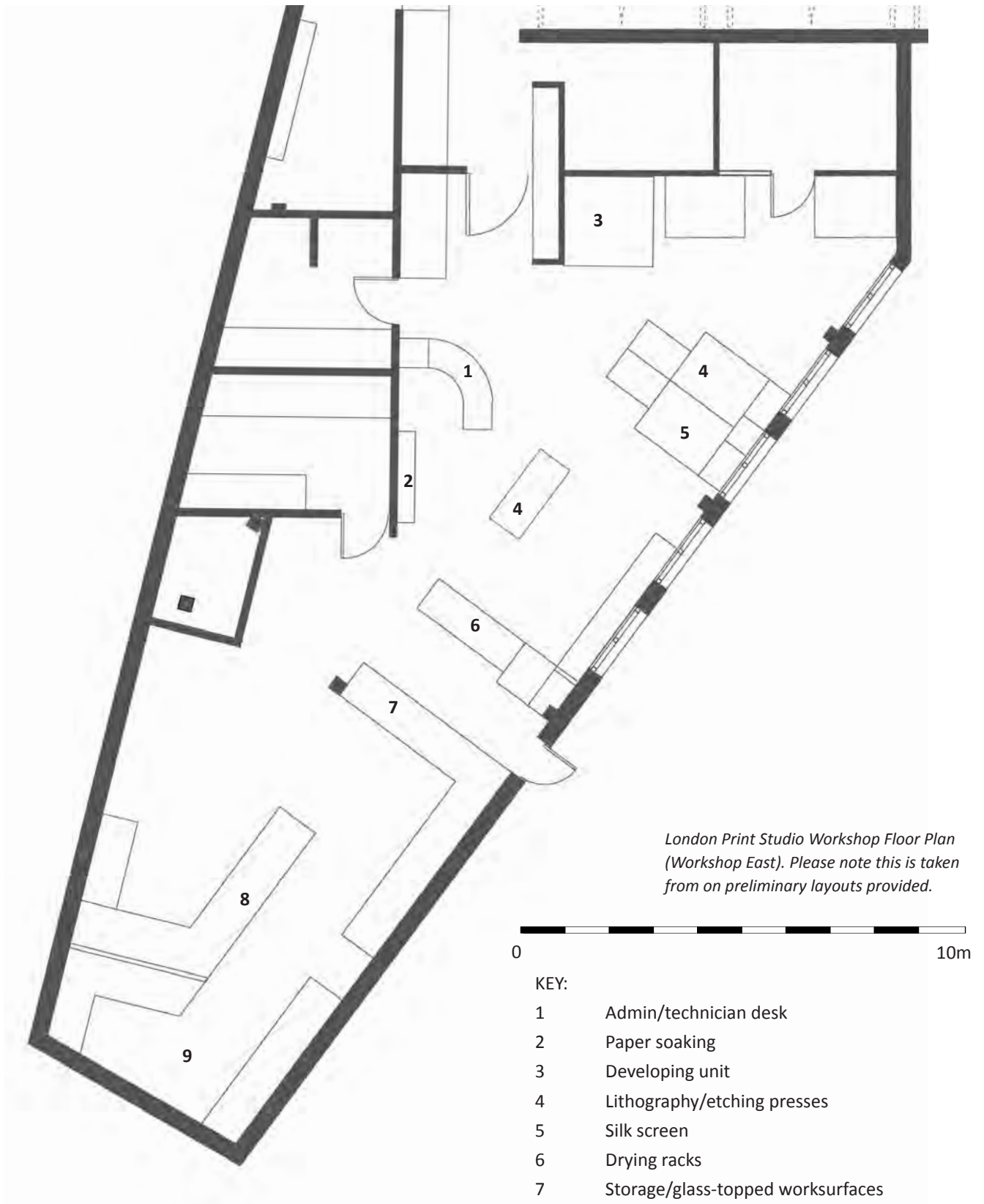


London Print Studio Floor Plan (Workshop East). Please note this is taken from preliminary layouts provided.

- Main Co-Making Workshop
- Shared non-workshop space (gallery & shop)
- Ancillary
- Other uses on site

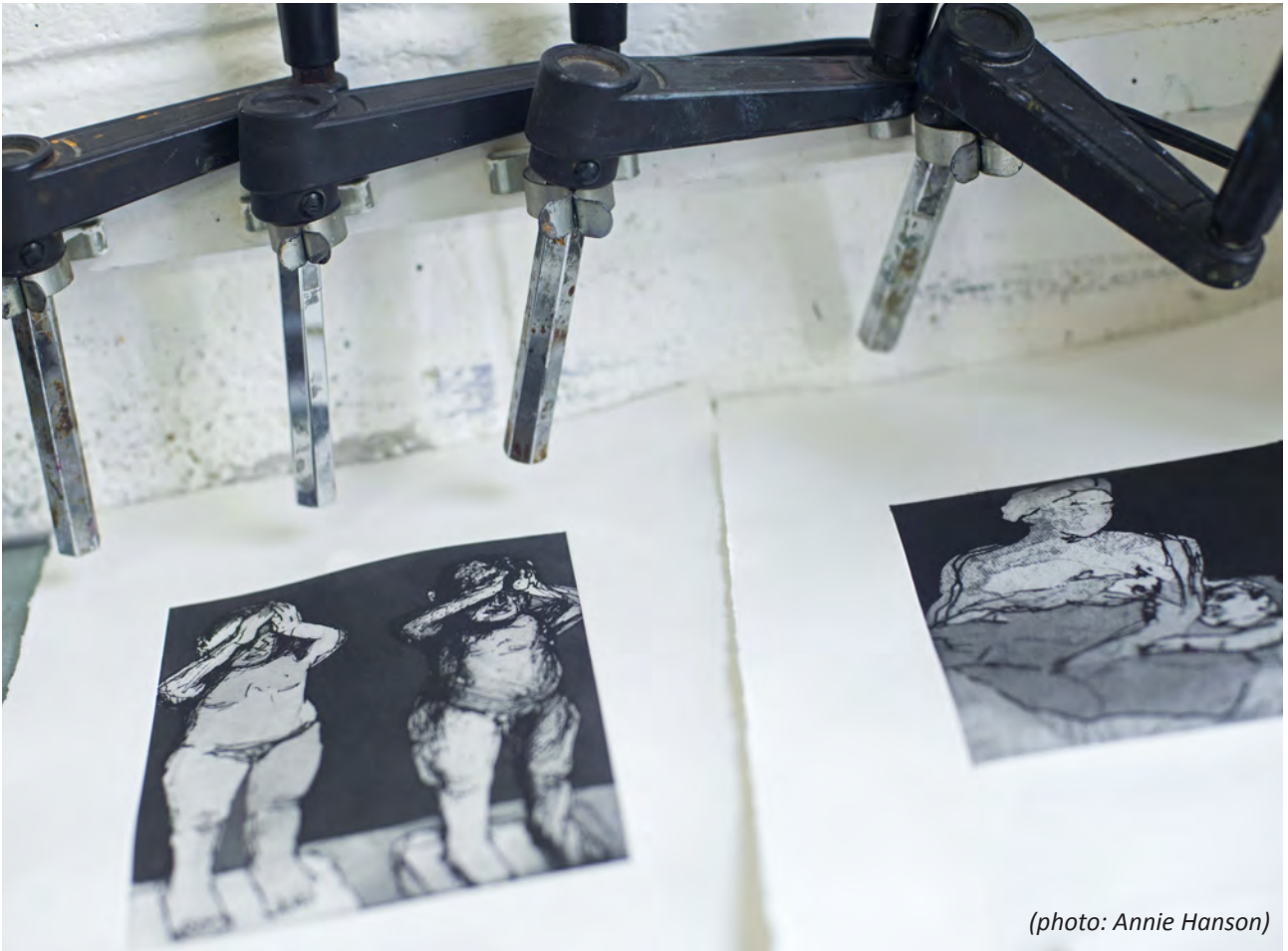
- A Main Print Studio
- B Digital Studio
- C Gallery
- D Preparation Areas
- E Office
- F Kitchen
- G Toilet
- H Stores

London Print Studio: co-making print studio plan





View of main print studio space - bespoke storage/glass worktops in foreground (photo: Annie Hanson)



(photo: Annie Hanson)



Etching process (photo: Annie Hanson)



Applying ink (photo: Annie Hanson)

Setup & Management: Themes & Trends

Location & Space Requirements

Physical space use

Interviews with organisations identify physical space requirements and costs as key to the operation of co-making spaces.

Workshop-based activities require large, clear floor areas, generous storage space and heavy machinery, and often come with specific requirements such as loading bays or 3 phase electricity supply. Some aspects of space and location requirements are universal across workshops, others are more discipline specific.

Space efficiency and user experience are critical to footfall and membership numbers - many organisations had refined access arrangements and physical layout over time in order to better accommodate users' needs.

Chosen location

Most spaces are maker-led, with chosen location dependent primarily on affordability of premises and adaptability to specific disciplines. Ceramicists set up Turning Earth in railway arches in Haggerston after identifying a lack of truly open access facilities in the city for pottery. WorkshopEast was set up after a 6-month search for affordable premises in boroughs local to Stratford.

Access

Most spaces surveyed were at ground floor (or ground floor plus upper floor). Level access and adequate loading areas are a given requirement for heavier activities such as woodwork and metalwork, and for servicing and equipment installation. Raw materials are usually heavy or come in long lengths, around which internal layouts have

been specifically organised - for example the surface planer, thickness planer and table saw at WorkshopEast, which enable long lengths of timber to be fed through.

Shared workshops operating from industrial estates, such as RARA in Clapton, benefit from good parking and delivery access, though this can be at the expense of pedestrian footfall in this type of location.

Open access workshops need to strike a balance between providing a secure environment and encouraging memberships. Many cite the challenge of overcoming public unfamiliarity with and unwillingness to enter a workshop environment. Blackhorse Workshop has increased its presence with clear signage on the main road and Sutherland Road Path. Other open access workshops have taken longer to adopt similar strategies but have increased membership numbers as a result - Blackhorse Workshop benefited on this front from a strong initial research/design brief and local authority support, which have helped embed it within a wider development strategy. Combined with targeted marketing this can be a critical factor to success.

Noise, safety, residential

Noise and heat production arise from heavier practises such as metalwork. Landlords can often be reluctant to provide space for businesses working in these areas. Artist studio providers also have limited spaces suitable for heavier crafts and many users had left these types of premises.

Workshop East benefits from being located in a semi industrial area where noise is not



Signage at Blackhorse Workshop to encourage footfall



RARA's less public frontage on an industrial estate

a problem for local residents and where vehicular access is good. This is likely to be an increasing problem for workshops on or near development sites for residential schemes.

Building type

Most co-making spaces operate from B1c Light Industrial premises, often adapted from former heavier industrial or storage use (B2/B8) and frequently quite compromised. Floor areas are typically 100-200m² for core co-making activities, with additional space for other activities on site. Large, column-free floor space is desirable for most efficient equipment and bench layout, but most workshops have adapted to available space and access provision.

Specific structures such as railway arches (like those occupied by Turning Earth Ceramics in Haggerston and by South London Makerspace in Norwood) can be a good means of acquiring affordable, large, column-free floorspace.

Premises for A1 type retail uses (typically traditional high street shop type) comprised 22% of spaces audited. These tend to be for lighter, less industrial disciplines such as printmaking or photography. A key benefit is increased footfall and potential for a street-front shop or gallery. Four Corners Film on Roman Road has a clearly visible gallery onto the street, and had noted an increase in visitor numbers since improving its shop front signage.

Shop units present two challenges however, firstly, compatibility of workshop activities with residential or other commercial uses (there were no woodwork spaces for example

found in high street locations). Secondly, security of tenure in the face of rising commercial rents was an issue in most cases, and especially in retail premises.

Purpose-fitted premises

Capital investment in building fabric is usually minimal. However time and money will often be invested in internal layouts so as to create a safe and efficient working environment - as with Workshop East, Artichoke Printmakers, The Parachute Collective and many others. Maker led organisations tend to set up spaces around the *processes* involved in their disciplines or activities. Print facilities for example, involve moving between presses and preparations areas and so optimum layouts are achieved in which to do this, even in a challenging environment.

The survey found only one new-build workshop - London Print Studio - this in itself more a fit-out of an existing shell. London Print Studio illustrates how early maker/manager design input can maximise potential: in this case organising facilities so that they are feasible for both professional and amateur use, and maximising accessibility, without compromising privacy and security of the workshop space.



Artichoke Printmakers: located within Shakespeare Business Centre



Railway Arches: Turning Earth Ceramics

Hierarchy of space

Most co-making organisations provide a range of making-based spaces, with other uses and ancillary space on site (see plans overleaf). Many provide private work areas alongside a central, communal co-making space. At Workshop East this is a personal work area comprising a workbench and shelving/storage. At London Hackspace, this is a small storage box for each of its 1000+ members. In all the examples overleaf, the individually rented spaces tend to be the most profitable and stable, and support the activities taking place in the wider workshop.

Discipline-specific space requirements

Professional makers often require full time access, more storage, security and privacy. This can be difficult to provide alongside open access for large numbers of members, especially with hazardous or heavier processes. London Print Studio has many members and offers generous working areas. Materials used (e.g. textiles and paper) however take up little room compared with wood or metalwork: this may have contributed to the relative success of co-making facilities for print and photography in London.

The majority of co-making workshops surveyed had some form of user agreement or code of conduct, enabling them to maintain an open access or shared arrangement without compromising safety or efficiency.

Tenure

Most organisations (69%) surveyed were renting premises on standard 3-5 year commercial leases; other rental agreements were also in place, such as private sub-lets and rentals through an organisation. Only 8% owned (or part-owned) the freehold. Long term security of tenure was a concern raised by many organisations interviewed.

Several specific occupancy models were found, which benefited both landowner and tenant.

Interim use is one such model, whereby organisations are granted a cheap - but often insecure - tenancy. For Workshop East, currently in interim use premises, relocation will be a financial challenge.

The original fit out and installation of 3-phase power etc were approximately £7000, the absolute minimum possible at the time. Inflation, additional premises costs and moving costs could make relocation potentially 4 times this figure, or 100% of current annual turnover. Individual tenant businesses will also face downtime. Projected moving costs and rapidly increasing rental rates in the area make this insecurity of tenure the biggest threat to the long term sustainability of the organisation and to the small businesses it supports.

As London Print Studio shows however, relocation can also be an opportunity for growth and development. This is especially true where workshops have operated previously from compromised premises. For Workshop East, relocation may allow

bench space allocation to be increased and diversified. Current provision (typically 9 sq m for woodwork) is ample for early career makers, but potentially restrictive as individual businesses grow. New premises could enable a greater range of tenancy options, and allow more established businesses to support and mentor incoming startups.

Occupancy within an organisation, as opposed to independent tenancies, can also be beneficial. East London Printmakers for example, benefits from building management and subsidised rental as a tenant of Space Studios. Its current lease is secure until 2026. The landlord benefits in return from in-house print and design services, and a long-term, professional tenant.

Freehold ownership arrangements are key to the long term success of some older workshops. For example the consortium owning the freehold for North Street Potters and London Print Studio now being in a position to buy their freehold. Being a permanent institution has enabled these organisations to rent out more private workspaces, subsidise open access workshop space, and widen their remit into specific activities engaging with the surrounding community.

Clustering and other businesses

While most workshops occupy individual premises, they often reveal close connections with adjacent organisations. Sugarhouse Studios has over 30 individuals or small businesses on site. As a tenant, Workshop East is benefiting increasingly from

collaboration on projects and shared costs.

Although shared co-making space can restrict growth of tenant businesses, the survey has found this is often outweighed by the benefits of reduced overheads, pooled resources and peer support.

Purpose built spaces

The few purpose-built set-ups found suggest that despite widespread waiting lists for workshop space, few co-making spaces operate with sufficient turnover to invest in purpose-built or properly adapted premises.

This may be set to change with growing interest in Fab Labs and digital technology, which are more research and development-driven. Lime Wharf and the new London-based Fablab operate as prototyping workshops, explicitly harnessing the experimental work of members to develop collaborations with the high-tech industries (see Part 3b). Potential corporate partnerships, their relatively efficient space use and high demand for these facilities will potentially lead to growth in purpose developed spaces for these facilities.

Comparative plans of co-making spaces

Spatial overview

Organisation & discipline measured (see overleaf)	Individual workspace total (m ²)	Shared workspace (m ²)	Shared "other" e.g. gallery etc(m ²)	Total GIA inc ancillary (m ²)	Approx rent sq ft p.a.	Individual workspace per user (m ²)	individual: shared space ratio (as % of both workspace types) ³
Blackhorse Workshop <i>metalwork</i> ¹	112 (excludes first floor arts trust studios)	227	78	850	£0	6-12	33% / 67%
London Print Studio <i>printmaking</i>	within shared workspace	220	200	550	£11.00	12-16	n/a (no privately rented space)
North Street Potters <i>ceramics</i>	11	54	23	95	£4.11	5	17% / 83%
WorkshopEast <i>woodwork</i> ²	55	102	123	290	£4.26	9	35% / 65%
Create Space (mixed) See p.95	308	403	24	850	£5.50	7 -10	43% / 57%

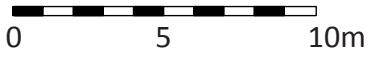
1 - Also offers individual woodwork/assembly space 3m²

2 - Also offers individual sculpture/stonemasonry space 9m²

3 - For preliminary comparison of income generation to space use, see supplementary information



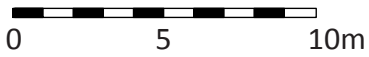
London Print Studio



- Key:**
- Shared Workspace
 - Individual Workspace
 - Shared "other" pace
 - Shared ancillary space
 - Area outside of the surveyed workspace



Blackhorse Workshop (exc upper floor studios)

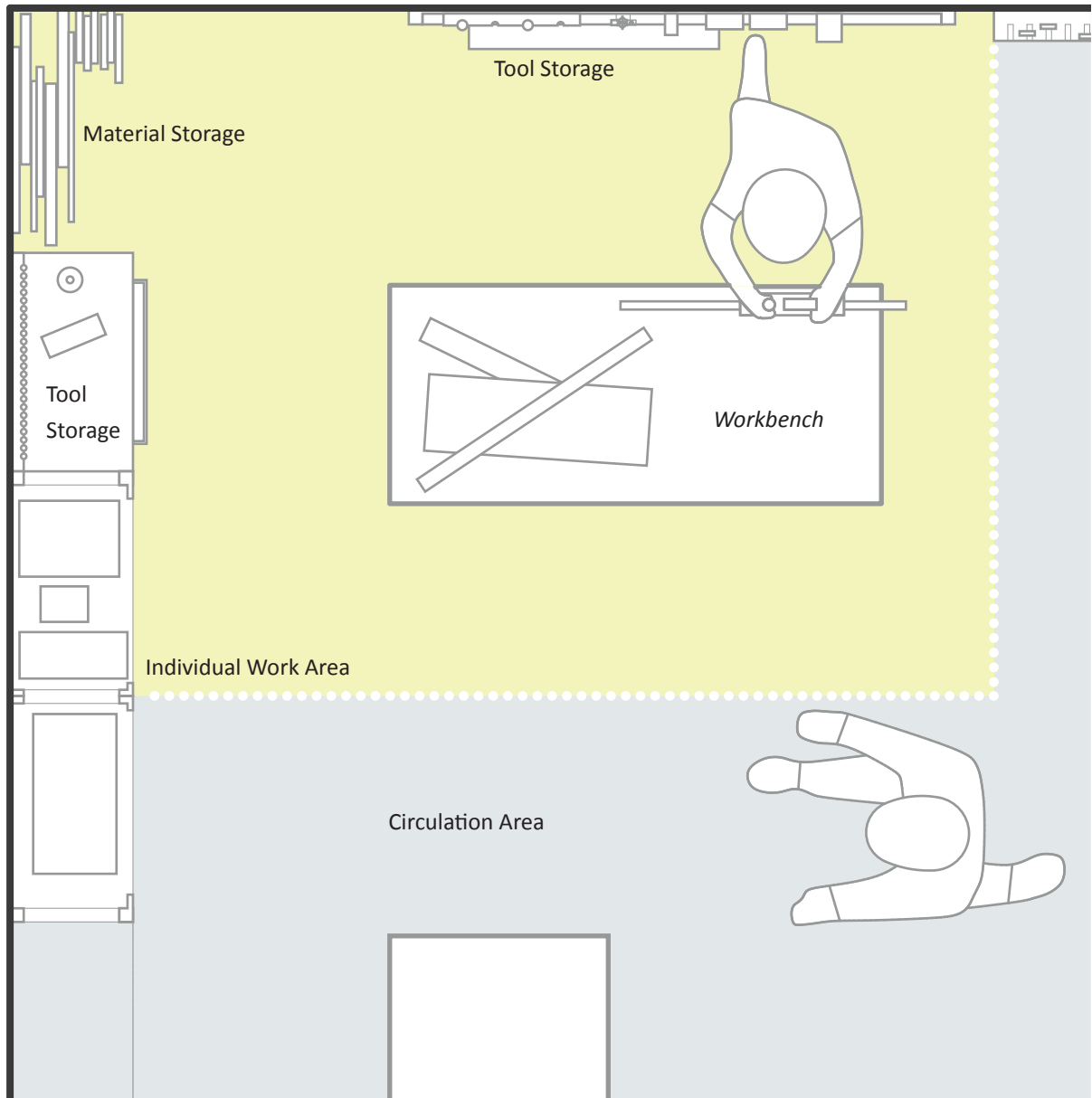


See workspace layout p.85



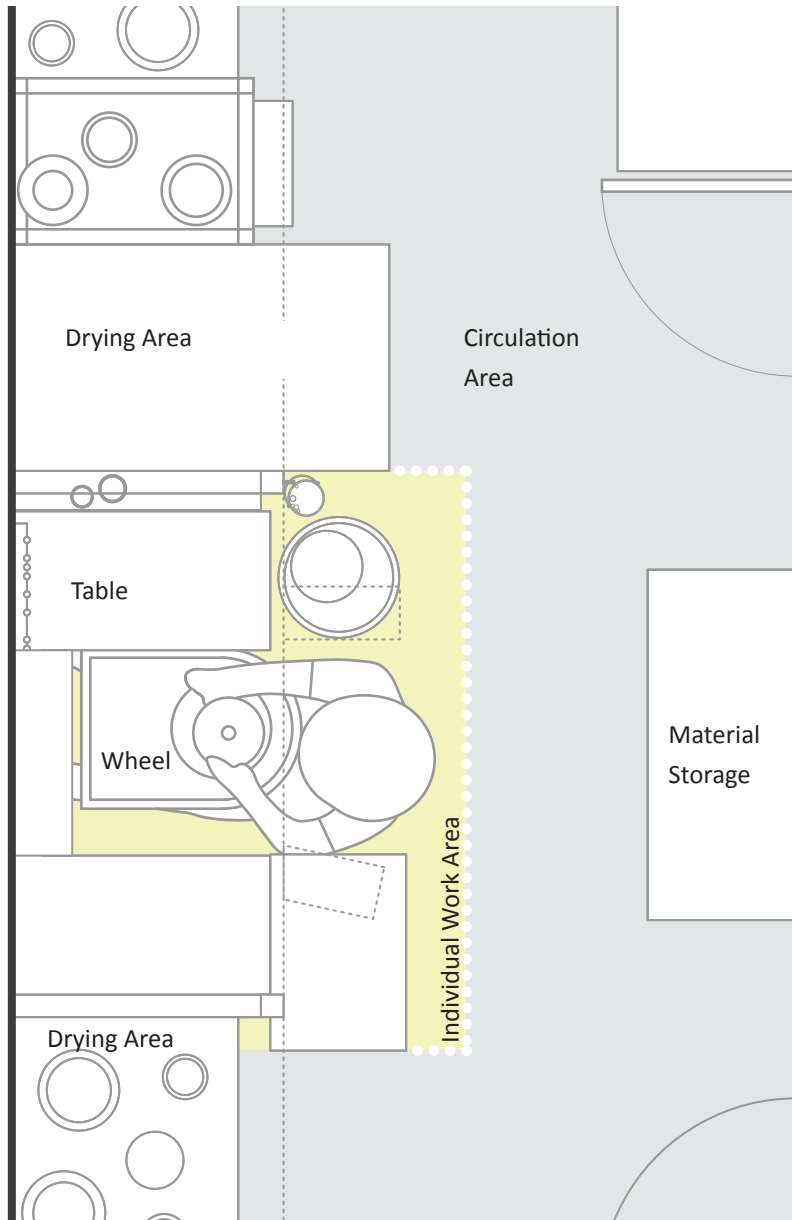
Example workspace layouts by discipline

Woodwork (Workshop East)



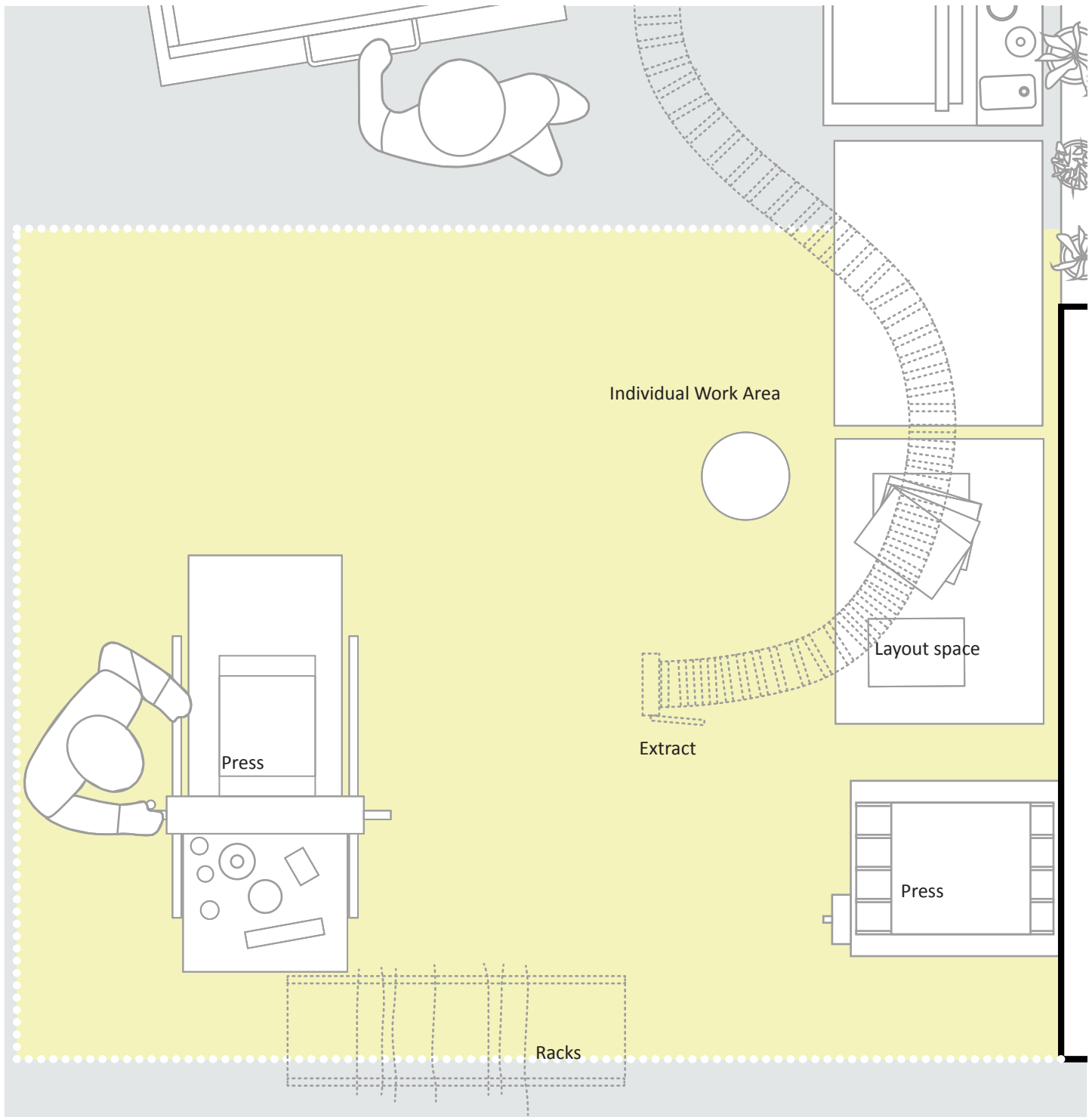
9m² per maker, comprising individual bench (rented by single user), shelves, wall space. Clear of circulation/emergency escape route. Each bench user receives additional 24-hour access to shared machine room.

Ceramics (North Street Potters)



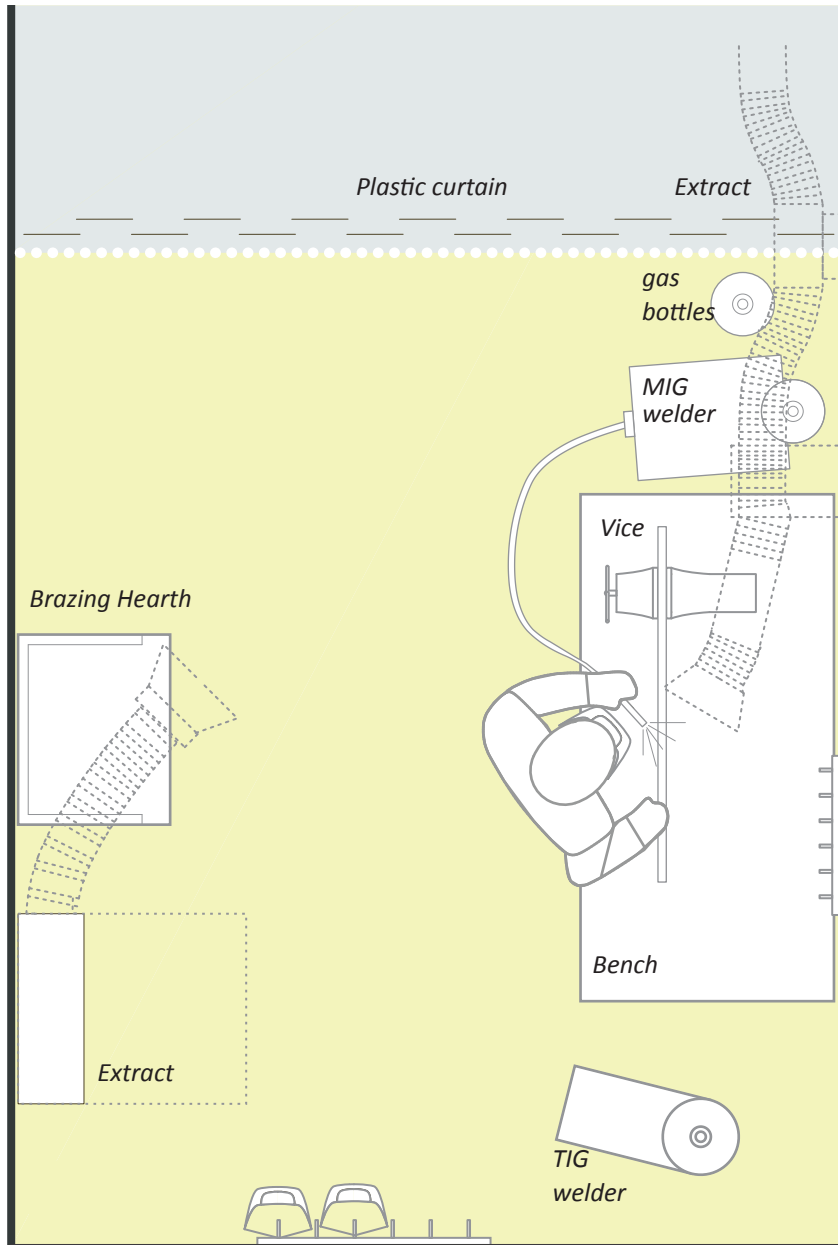
3m² per maker for wheel area, shelves and table shown, plus some additional storage space/wall space (total approx 5m). Each user can also use shared preparation tables, kilns and drying racks.

Printmaking (London Print Studio)



Plan shows single workspace (12-16m² used, depending on activity) -within the larger shared space - comprising presses, racks and preparation areas. Each workspace is laid out to maximise efficiency when moving between areas and equipment required for each stage of the printing process. This example offer more generous working area than others visited.

Metalwork (Blackhorse Workshop)



35m² workspace, divided into “cold working” (general assembly etc) and specialist “hot working” areas. Plan shows hot working area of 12m² with main welding equipment and fittings/fixtures required. May be used by more than one maker simultaneously.

Themes & trends: Finance

Start-up costs

The majority of co-making spaces have been set up by individuals using personal funds or business loans. In many cases there had been a pooling of resources between founder members, typically of £1000-£10,000 each.

Create Space and London Hackspace, among others, set out to be self-financing from the outset (via membership or studio lets), sourcing secondhand or donated equipment and relying on unpaid Trustees and others working on a voluntary basis. Many maker-led spaces typically rely on founders' technical expertise to develop a workable brief and floor layout.

Increasingly, however, the technical and administrative demands of operating a co-making space are encouraging greater initial inputs, especially where there is open access.

Voluntary and salaried staff

Staffing patterns vary; in comparison to other new workshops, Blackhorse Workshop for example has high staff costs. Wages currently comprise 50-60% of monthly costs - compared to 0-10% for most maker-led workshops during their first year.

However, compared to more established spaces Blackhorse Workshop has relatively low staffing: London Print Studio, for example, pays 5.5 salaries (Full Time Equivalent). This has enabled it to build a management and technical team (in both traditional and digital printing) and develop a strong educational programme.

Rates and premises costs

Across the board, high rental and prohibitive business rates were areas of concern for most workshops interviewed. Rents may be low, often around at £5-£8 per square foot, but co-making spaces have low day-to-day occupancy rates at on average 1 person per 10 square metres, hence needing to encourage high memberships and shift-based uses.

Negotiations around premises have benefited many organisations: from Workshop East's 'licence to occupy' to Blackhorse Workshop's peppercorn rental agreement with the council, but business rates, insurance and other building costs often remain high due to the space-hungry nature of making processes.

Diversification

Many spaces surveyed made a separation between maker-based and other income generating activities. The development of a charitable wing alongside the main workshop activities is a popular model, e.g. London Print Studio and North Street Potters.

Generally three main income streams were found across the sector:

Workshop-based income is derived from membership fees, courses and training i.e. activities directly involving making, and using the shared workshop equipment. Some of this may be specifically grant funded education or training programmes.

Individual maker space rental comprises rental from long-term tenancies (which may or may not use the shared workshop facilities).



London Print Studio shop and gallery



Blackhorse Workshop Pilot Market, Sept 2014

Non workshop-based income includes: catering (coffee shop/cafe), sales of products (e.g. prototypes, prints), space hire for non-workshop use (e.g. exhibitions, markets, lectures), external events and activities.

For example, at Blackhorse Workshop memberships and taught classes (weekends/evenings) currently comprise 62% of total income; individual maker space rental 18%; other space uses (Bakery; Coffee Shop; Monthly Market, sublet studios) 20%.

Most workshops reported a direct link between higher footfall from other activities on site and actual workshop memberships. However, activities were generally limited by the extra resources required to manage them. Workshops also reported the need to maintain the core ethos around making and avoid a conflict between makers/members' needs and those of other activities.

Space management & income

While high member numbers increase profits and can make an organisation attractive to funding bodies, there is usually a space- or discipline-specific critical mass. As illustrated in the drawings above, internal layouts are generally geared towards specific activities as opposed to fully flexible use (apart from common areas, events spaces etc), with fixed equipment and specific clear working areas.

Most organisations therefore tend to manage or timetable access in some way.

None of the open access spaces interviewed had limits to overall membership numbers, but online booking systems were a common

way of regulating access. East London Printmakers for example has 11 spaces per session for different activities, all booked online. Fab Lab London has one public open access day per week, with the remainder of the sessions aimed at professional users.

“Unlike an editioning studio, which is consistently engaged in one type of production, albeit with a changing clientele, an open access resource, seeking to attract a wide customer base, must be capable of switching roles and procedures to a considerable degree. The facilities must be multi-functional and the staff adaptable. In mixed-activity environments stress on the organisation increases, and its operational effectiveness is reduced...Systems are therefore designed to ensure that activities are self-contained, and self-regulating.”¹

Organisational strategies, as well as a relatively large core staff, have enabled London Print Studio to become both a community facility and a regular workplace for members. This balance can be difficult to achieve and most spaces tend towards one end of provision or the other.

¹ John Philips, co-founder of London Print Studio. Thesis.



Blackhorse Workshop (photo: Annie Hanson)

3.2: Supporting Enterprise & Business Growth

Case Studies:

Create Space

Themes: Commercial Workshop Users

The 89 organisations surveyed provide premises and equipment for over 500 businesses and sole traders between them. This section looks in more detail at how co-making spaces are benefiting a range of small enterprises. We look particularly at the advantages of access to heavy equipment, digital technology and business support.

Create Space (London)

Established 2013/14

Private Company, Limited by Guarantee

Privately funded

Turnover (2014): £95k

Expenditure: £80k

**Workshop Type: open access, mixed
Disciplines: woodwork, metalwork, other**



50 part-time users



35 full-time/small business users



4 Directors (unsalariated)

Background

Create Space was established in 2011 by a group of 5 graduates from Middlesex University, moving into its current location on the 11th floor of a commercial tower block in 2012. The current company, Create Space London, was incorporated in 2014.

Create Space is a hackspace type organisation, offering affordable open access workshops for woodworking, screen printing, ceramics, 3D printing, laser cutting, computing and electronics. It also has 28 individual, secure studio spaces; all tenants have access to the shared facilities.

The company was set up as a member-owned non-profit organisation, initially funded through a start-up loan, personal finance, and donations of machinery and equipment. Its main income is now through studio rental. It promotes itself through its website¹ and the hackspace network, and reports a growing waiting list for studios, plus steadily increasing membership numbers. Users range from small businesses to sole traders (see overleaf), half of them living within the borough.

Finance

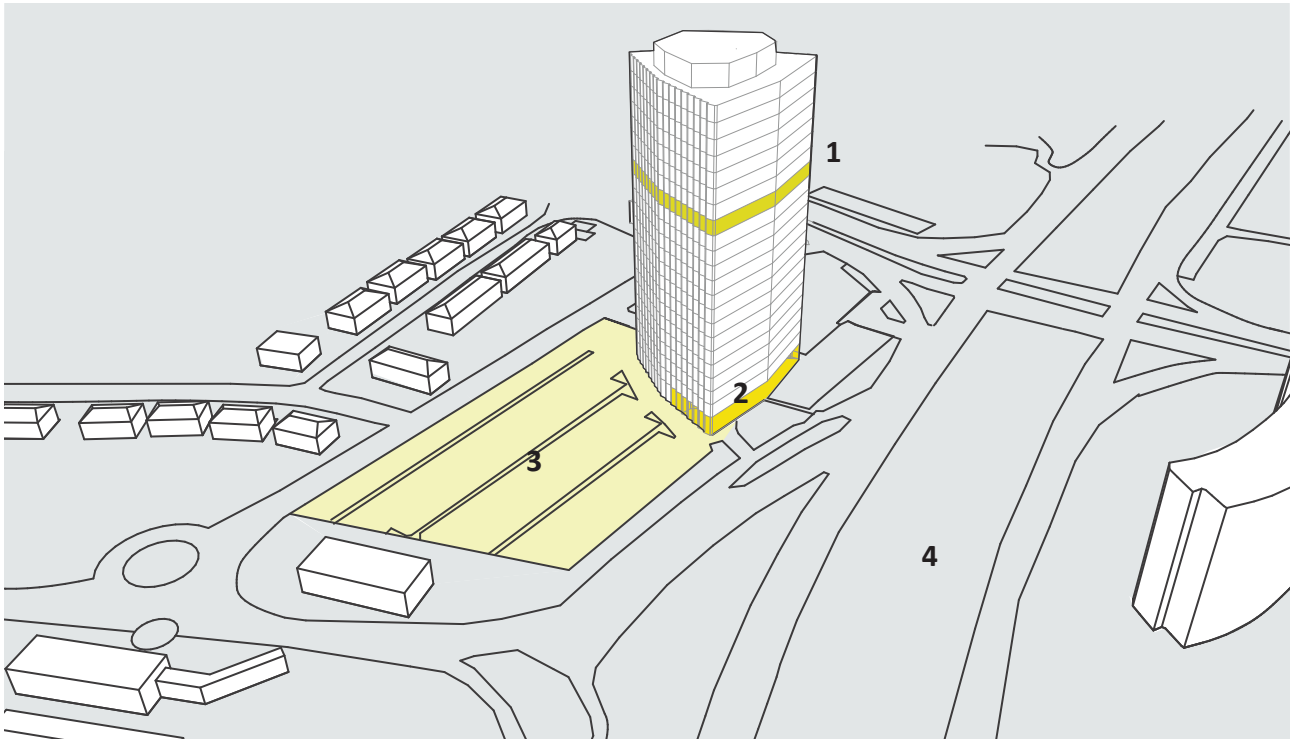
In its second year, Create Space has had an annual turnover of just over £95k, over 90% coming from studio rental. Its annual expenditure this year was just over £80,000 - most of this going on premises rental (58%), rates (16%) and other maintenance costs.

Create Space currently has no paid staff. All directors work part time, unwaged, on developing the business, while working in related designer/maker fields from the premises or elsewhere.

Apart from premises costs, the organisation pays back a start-up loan (5% of monthly expenditure), insurance (also 5%) and has considerable professional fees, having sought guidance on financial and legal matters relating to its structure and other issues.

Create Space has received no grant funding.

¹ Create Space's promotional video can be seen here <http://vimeo.com/105755719>



Key:

- 1. Create Space (11th Floor)
- 2. Main Reception
- 3. Car Park
- 4. North Circular

Location

Create Space occupies the full 850 m² of office space on the 11th floor of a commercial tower block. The remainder of the building is still predominantly office use; planning permission has been granted for a hotel on the upper floors.

The building had been partially unoccupied for some time and was offered to Create Space at a low cost due to work needed to return the floor to a usable state.

The premises are on a five year lease with a six month notice period. Create Space is

currently negotiating a lease for the 16th floor to develop short term accommodation which would include access to the workshops. These plans include a residency programme. As yet, none of the workshops surveyed provide residential accommodation, although several of the smaller, shared workshops occupied premises adjacent to or connected with Directors/users' homes. This was mainly true of the older co-making spaces, which had developed an informal live-work arrangement as part of the purchase of their premises, such as North Street Potters or had set up workshops within their own homes.

Internal layout

Create Space provides both open access and private workspace, the latter subsidising shared facilities which would otherwise operate at a loss. The workshop is accessed via a secure main entrance.

47% of floorspace is mixed workshop providing open access facilities for ceramics, woodwork, printmaking, computing, laser cutting and 3D printing. 36% is occupied by individual studios, all accessed via the main shared spaces.

Additional facilities include reception/common area, a shared kitchen and wash-down areas for printmaking, ceramics and photography. A shared function room, used by a range of community groups, is being replaced with studios and will instead become a larger gallery/event space as part of redevelopment plans for the additional floor.

Users

Create Space currently has 50+ drop-in members, with numbers growing. It also has 28 rented studios occupied mainly by individuals or shared by 2-3 people/small businesses. At £305pcm - £390pcm (for 7.5 - 10m²) rents are average for subsidised creative studio workspace in London, but, crucially, offer the additional benefit of access to shared equipment. Desk space is also available at £30 per week.

The range and flexibility of space encourages diverse tenant enterprises. Although equipment is included in rental, usage varies - some companies being almost entirely

desk based, others using manual and digital workshop facilities regularly.

Supporting small enterprises

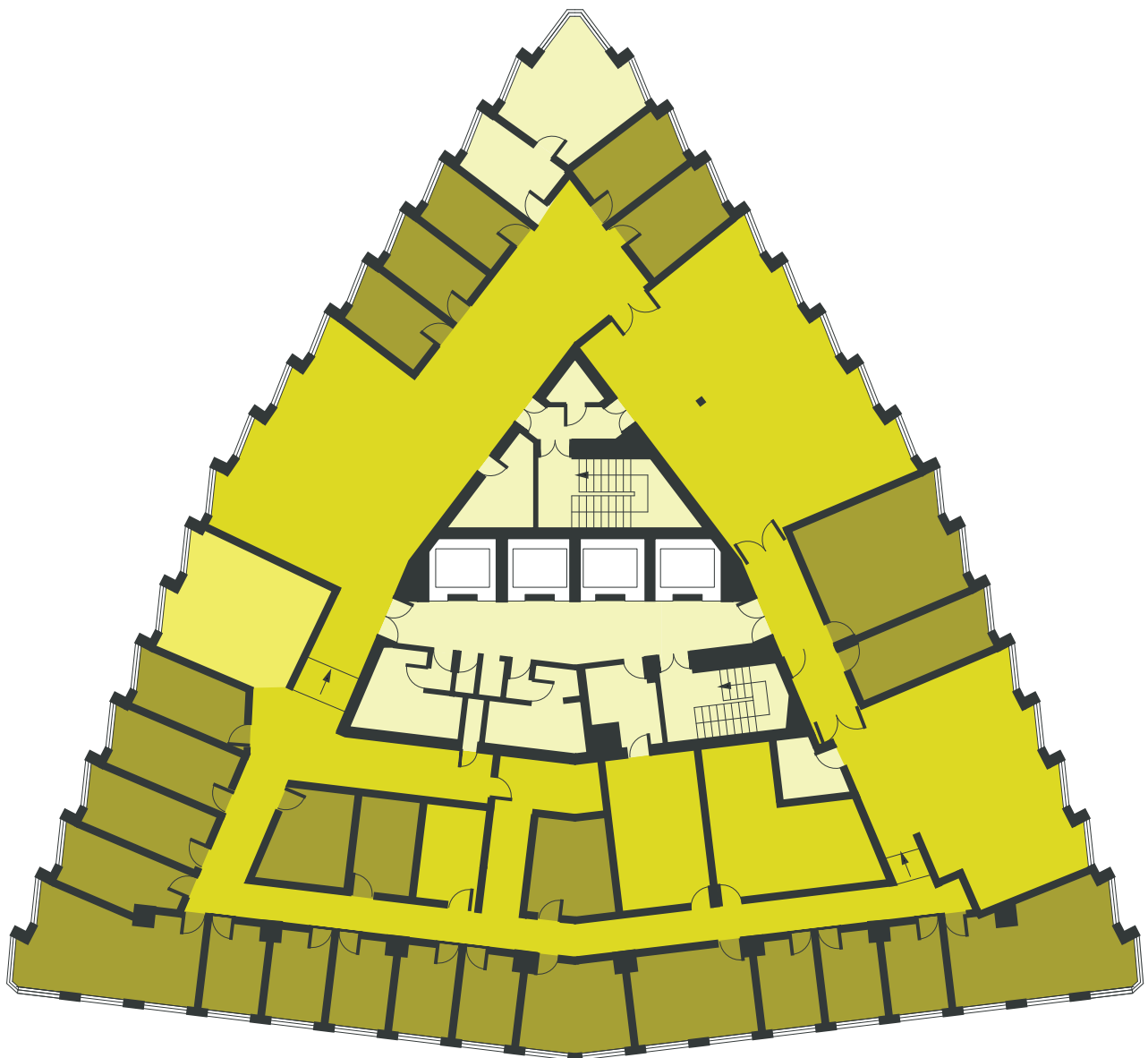
Create Space has been chosen by many of its tenant businesses specifically for the mixture of shared and private workspace available. Occupants fall into three main categories: designer-makers, fine artists and technology startups/hi-tech product developers.

RedIsGo develops both hardware and software for enhanced user experience of exhibitions, marketing and media. Like many small enterprises based here it sees Create Space as its “development lab”. It shares a studio with Iridium Systems and Robotics Corporation Ltd, another technology-driven company using the workshop to prototype public space robotic devices and infrastructure.

Affordability and shared facilities were key factors in these companies’ choice of location. The “space and freedom to experiment” combining both “privacy and community”² were benefits they had struggled to find in other commercial premises.

The directors argue that while their work is very much in digital technology, access to equipment and makers with more traditional skills such as wood and metalwork at Create Space was a major draw. Both companies see it as a valuable base from which to research and develop products before manufacturing from elsewhere in the UK and Europe.

² Interview, September 2014



Key

- Shared work space
- Individual work space
- Shared specialist space
- Shared ancillary space
- Area outside of the suveyed workspace



*Floor Plan: Create Space
(drawing by EHK architects)*

Balance of individual and shared workspace (for comparison see p. 81)

Organisation & main discipline measured (see overleaf)	Shared workspace (m ²)	Individual workspace total (m ²)	Shared 'other' e.g. gallery etc(m ²)	Total GIA inc ancillary (m ²)	Approx rent sq ft p.a.	Individual workspace per user (m ²)
Create Space (mixed)	403	308	24	850	£5.50	7 -10

Supporting Enterprise & Business Growth: Themes & Trends

Workshops and enterprise

Co-making organisations support a range of commercial enterprises. The majority of business users surveyed were benefiting not only from reduced overheads but from peer support and sharing skills and professional networks. Most had made a conscious personal and commercial decision to work from co-making premises.

Progression routes

Interviews suggest professional users of co-making workshops tend to be startups, recent graduates or those whose business circumstances have changed. Many spaces provide equipment that cannot be found or afforded outside education or employment - Create Space and Turning Earth, for example, are meeting a widespread demand for access to ceramics equipment. They are used particularly by recent graduates who have little access to specialist equipment elsewhere in the city.

Co-making spaces can be valuable “incubators” for small businesses. JackJames Furniture produces bespoke items for interiors and the construction industry. Recent graduates of the Building Crafts College, they have been operating for approximately 6 months from WorkshopEast/Sugarhouse Studios. Within the next 12 months, they aim to generate a turnover of approximately £65k from their current shared space (12m² individual studio plus access to shared specialist woodworking equipment at WorkshopEast). Beyond this, increased outputs, materials storage and physical working area is likely to require larger

premises and more constant use of machinery in order for them to remain competitive, and take on employees etc.

Depending on type of business, co-making spaces typically save a sole trader £3k-£15k in basic machinery costs, with ongoing savings in overheads.

Limitations

Growth can in the longer term be compromised by sharing equipment. Designer-maker James Gilpin rents space at Blackhorse Workshop. He is aware of the limitations - downtime while waiting for access to equipment, minimal storage space and distractions caused by other users - but also the social and professional benefits of an open access space to him as a sole trader. His current ambition is to remain at Blackhorse Workshop and, ideally, rent a larger individual space - pending current plans for expansion of individual workspace on site. Several of the older co-making spaces were found to have supported individual enterprises for several decades, particularly in printmaking and photography.

Flexible provision

While working processes often require fixed equipment and assembly space, spaces may also need to offer a degree of flexibility in the long term. No 3 Flempton Road in Leyton has developed a flexible, modular system of space sharing as resident businesses have grown. Established as a shared workshop in 2007 by Constructive & Co - a furniture/cabinet making company set up by Sam Scott, Tim Greany and Dom Shanks. It had



New mobile dust extraction units, WorkshopEast



Professionally equipped shared space, St James Workshop

previously occupied premises in Islington prior to redevelopment. Flempton Road, though further from the centre and from other, complementary businesses, provided physically larger premises. By sharing they reduced the costs of relocating and of re-starting in a new area.

The building has four tenant companies (15 occupants in total). Constructive & Co is the largest, with three maker-directors and six skilled employees. Current turnover varies from approximately £45k - £750k per business.

The building provides 200m² of ground floor space (workshop, machine room and additional temporary office space). Constructive & Co occupies 66m² of individual workspace; other users have approximately 18m² each. The main workshop floor is subdivided by screens into open plan but clearly demarcated modules: as previous tenants have vacated, Constructive & Co, as it grew, has been able to expand into these areas.

Since moving to Flempton Road, Constructive and Co has grown from 3 to 9 employees who are now taking on specific roles in workshop management and CAD design/production drawings, as well as fabrication. Employees typically remain with the firm for between 4 and 6 years. Two former employees have established their own companies in Sweden and Wiltshire.

CPD and skills development

Beyond a basic induction for members, most open access spaces have good provision

for on-site tuition/classes and talks. This includes both entry-level and more advanced specialist workshops: for example 3D printer fabrication at Fab Lab London, or various technical courses in specific disciplines such as woodwork and metalwork.

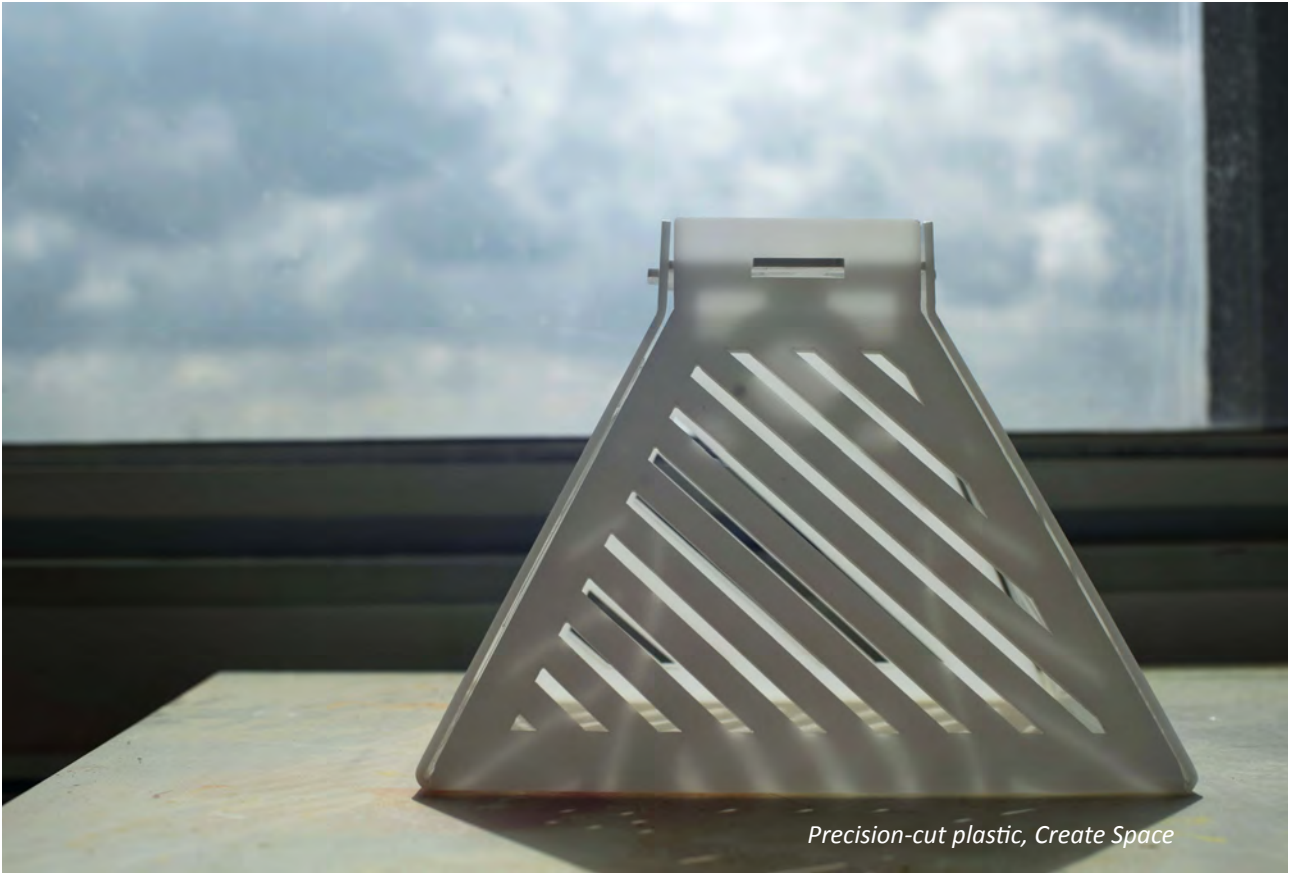
Technology

One of the main ways that co-making spaces can help small businesses remain competitive is through the provision of high-tech, industry-appropriate equipment.

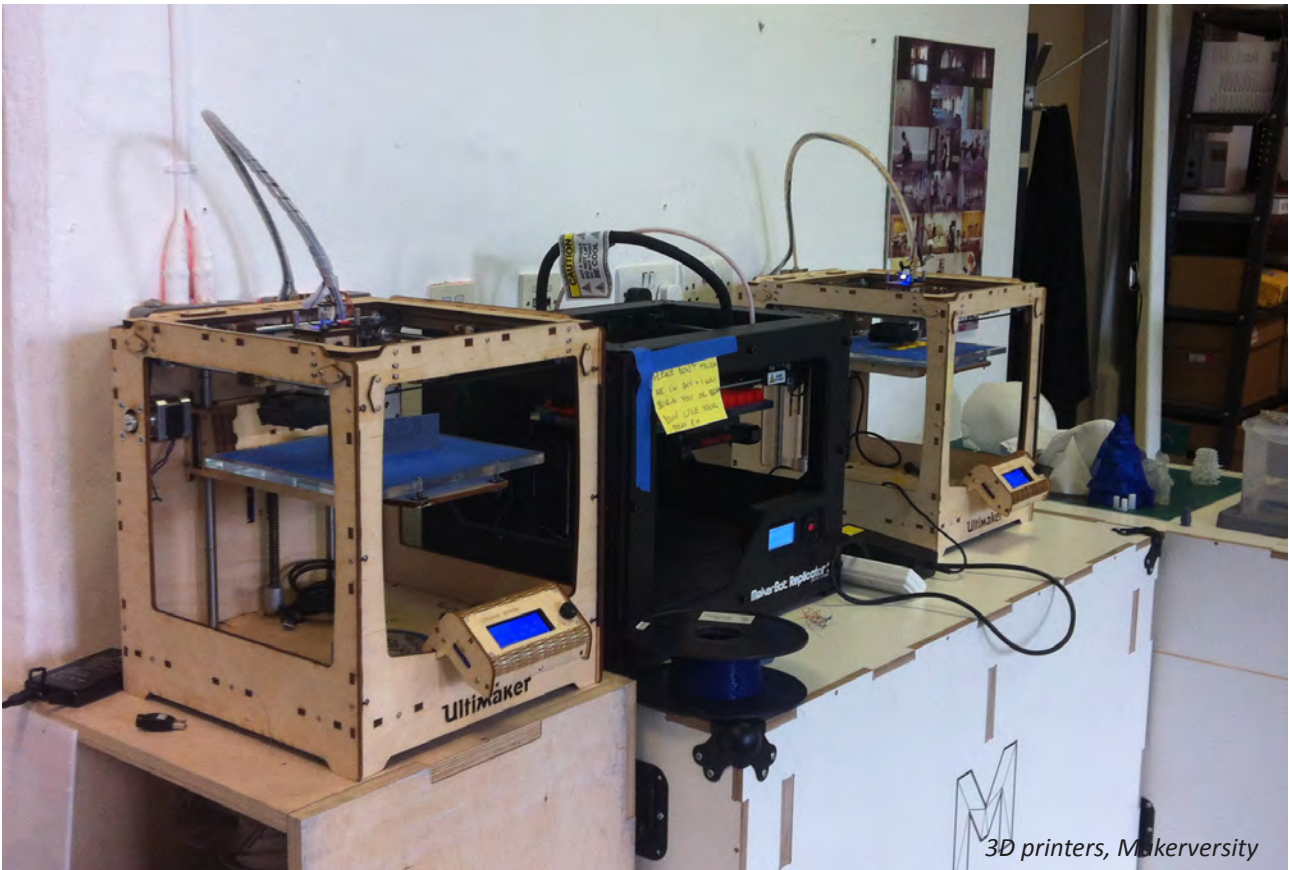
This may be discipline-specific machinery, (e.g. for woodwork, a modern, heavy duty tablesaw to cut sheet timber materials; for textiles, an overlocker for commercial stitching) or, increasingly, laser cutting and 3D modelling equipment.

Access to professional machinery and software is an obstacle for many small businesses, a trend highlighted in the We Made That *Local Area Study for Fish Island* (2014). Technology such as CNC and 3D modelling is expensive to purchase and to staff: taking on or training up skilled employees can be prohibitive for a small firm operating on marginal profits. Co-making spaces, however, can provide access to the latest equipment, as well as the expertise in using it.

The audit suggested technology on offer was generally limited to 2D printing, digital editing for film/photography/printing, CAD and occasionally laser cutting. Most organisations rely on users having design software at home, and so focus mainly on hardware provision. Only 9% of workshops surveyed



Precision-cut plastic, Create Space



3D printers, Makerversity

had 3D printing/laser cutting/CNC equipment, usually as part of mixed, hackspace type organisations, such as Create Space, London Hackspace and Fab Lab London.

Development of digital fabrication

Digital fabrication itself - i.e. 3D printing and laser cutting - is, however, a rapidly developing area, and is integral to the business plan of many of the newer workshops. Compared to other activities it offers relative flexibility and accessibility, as well as opportunities to develop products for mass production.

Fab Lab London was set up in summer 2014, with backing from various corporate and other organisations including Intel, Tech City, Bathtub-2-Boardroom (a startup support enterprise backed by the Mercers Company, KPMG & Temple Bright) and RSA - The Great Recovery, a materials re-use initiative. Fab Lab occupies a 400m² basement and ground floor space fitted with both digital and manual workshop equipment. One day a week is public access, the remainder is for business use, when it operates a booking system with hourly rates for 3D printing and laser cutting. Membership is encouraged through significant discounts.

London Hackspace, South London Makerspace and Create Space have similar equipment for digital production, with an ethos of open access and transparency (information and discussions are shared widely through public online forums). Such spaces enable “collective autonomies”: by reducing overheads and bringing together a range of individuals and skills sets, they allow

greater individual freedom at the same time as fostering collaboration and creative partnerships.

Harnessing collaborative practice

“This space has opportunities for biotech, for hacking, for anything really ... It’s only limited by imagination.”¹

Co-making spaces such as Fab Lab and Machines Room (at Lime Wharf) build on this concept of knowledge sharing and experimentation, marketing themselves as “hubs” or laboratories. These organisations are geared towards prototyping and product development, and through provision of affordable, well-equipped experimental space, their long term aim is to foster ongoing links between investors, users and industry.

“The intention I have for the Machines Room...is an environment where we can experiment and also accelerate business”²

Thomas Ermacora founded the Lime Wharf Machines Room in Hackney in 2014. The aim was to exploit the “bottom up” potential for co-making and shared workshops to contribute serious technological innovation to the design and manufacturing industries. Ermacora’s vision for Lime Wharf is a properly structured ‘social making space’ that should support innovation but also lead to viable outputs. A well managed space, he argues, has the potential to form serious partnerships and lead to properly financed production.

1 - Wired article on London FabLab launch, September 2014.

2 - Thomas Ermacora, Machines Room live broadcast <http://limewharf.org/machines-room/>

Prototyping and outsourcing

Many enterprises interviewed who operate at the high-tech/industrial end see co-making spaces as essential to their research and development process, before outsourcing mass production of their products - as Create Space's tenant RedIsGo shows, co-making space enables low-cost experimentation in a central "development lab". It is predicted that co-making spaces will increasingly foster prototyping as use of and interest in digital fabrication continues to grow.



Maker Day at Newton's Cottage, Queen Elizabeth Olympic Park, 2014. Workshop East's hands-on woodwork stand (photo: Rahil Ahmad)

3.3: Community & Placemaking

Case Study

-  **North Street Potters (with reference to London Bike Kitchen & other examples)**

Supporting and Creating Community: Themes & Trends

In this section we look at how, over time or through specific programming, workshops are supporting not only small enterprises and the maker sector, but how they can also offer vital third sector services within communities, providing training and skills as well as creating a sense of connectedness within their area.

North Street Potters

Established 1978

Private Company, Limited by Guarantee & Registered Charity

Privately funded

**Current (charity only) turnover: £130k
Current (charity only) expenditure: £90k**

Workshop Type: shared

Disciplines: ceramics



6 part-time users



1 full-time user



1 Director (unsalariated)

Background

North Street Potters is a maker-led ceramics workshop which also operates a charitable educational facility, Clapham Pottery, from separate premises (see illustration opposite)

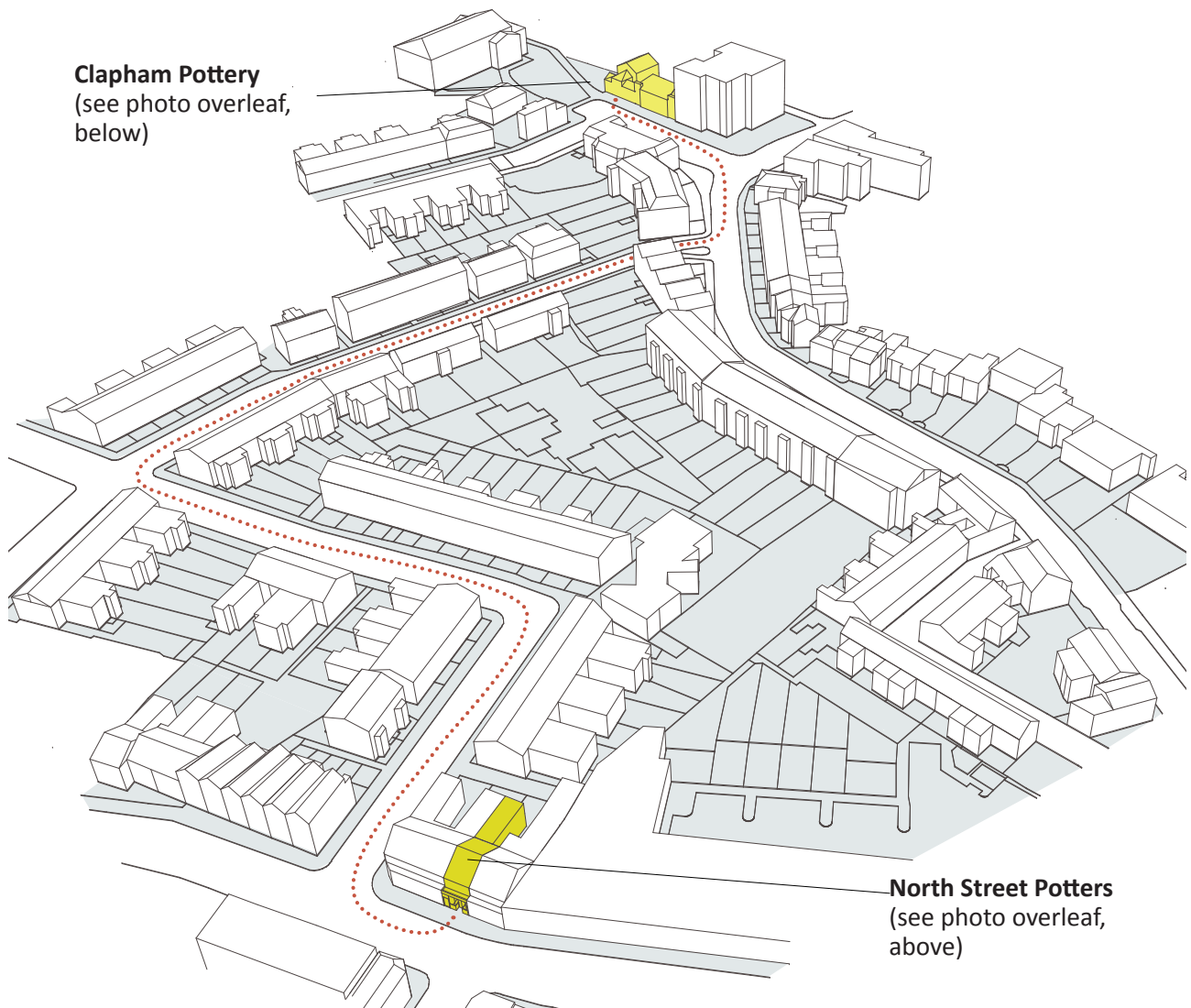
North Street Potters was started in 1978 by Naine Woodrow who still works full time from the workshop. It is a collective of professional makers, all of whom operate as sole traders, though they frequently collaborate or employ each other to work on large commissions. There are currently 7 potters working from the site, full and part time, most producing ceramic products for commercial and domestic clients.

North Street operates as a cooperative - tenants pay a monthly rent for use of the workshop. Clapham Pottery, a registered charity, was established through a local demand for classes, and was set up in a separate building due to restricted space. The charity now runs classes throughout the year to all age groups, as well as providing transport for elderly attendees. 12 people teaching part time at Clapham Pottery, most of whom trained at North Street.

Finance

The freehold of North Street Potters is owned by a consortium of users and local residents with the interests of the pottery at its core (see p.108); tenant users pay an affordable monthly rent back to the consortium.

Clapham Pottery runs both fee-paying and free/subsidised courses, including classes for young carers aged 5 to 14, isolated elderly people, homeless groups and young adults with compound needs. During term time they provide classes for approximately 200 students a week, generating approximately £75k per annum - this from both private course fees and from other social enterprises or grant funding bodies who have established partnerships with the pottery.



North Street Potters and their educational charitable wing, Clapham Pottery, have occupied two buildings a 5 minute walk apart. This setup provides both professional making space and more open access, community space.

Location

North Street potters occupies a small shop unit (ground floor and basement) in a residential/small scale retail area near Clapham Common. It has operated from this building since opening. The accommodation provides 3 workspaces for potters (used mainly on a timeshare basis) as well as storage space, drying tacks and kilns.

A small shop in the front connects directly

with the workshop. There is a 10% levy on any sales which is paid to the consortium and the shop is staffed by whoever is working in the workshop that day. Prices are kept affordable and the shop acts as a permanent exhibition space as well as a retail outlet.

Clapham Pottery occupies a former school chapel in a residential area. It has a single main space for classes, with permanent rented space for ceramicists at mezzanine level.





Supporting & Creating Community: Themes & Trends

Shared ownership and place-making

North Street Potters demonstrates both the role a co-making space can have in a community and how over time a sense of ownership may develop - sufficient to safeguard its future. Its founder Naine (affectionately known as 'the benevolent dictator') drove a campaign to buy the pottery premises in 2000, when it was hit with a major rent increase. A consortium of 23 local residents, customers and potters bought the premises outright; the pottery now pays a monthly rent as a cooperative. Every five years members have the option to leave the consortium and sell their share in the building at the current market rate, but few have opted for this. This sense of 'ownership' by the community has been a key factor in the longevity of the organisation.

'Third Sector Education'

Many co-making spaces provide a platform for education and skills training; skilled makers teach or mentor part time, and form a core group of third sector educators.

Many of those affiliated with the co-making spaces audited were teaching in some capacity - paid and/or unpaid in adult education, and with specific communities, providing training in areas not covered by the mainstream curriculum.

North Street Potters run their own informal apprenticeships and training. They usually have two apprentices at any one time who arrive with either very basic or no experience. The apprentices can be any age and Naine tries to retain a healthy balance of ages in the workshop as a whole, in her own words,

"someone in every decade" - each able to contribute their own experience and skills. This helps to keep the workshop community both stable and diverse. North Street Potters do not advertise for apprentices, they find that they receive enough applicants turning up in the shop by word of mouth, which is testament to the reputation of the workshop and the quality of the training offered.

Over 36 years, the cumulative benefits of North Street Potters have been impressive. The workshop has helped numerous apprentices and resident makers to set up and launch careers and is a key example of the slower, more qualitative impacts that shared workspaces often have.

As yet, few spaces offer formal apprenticeships, although individual makers occasionally do. There is potential for development of more opportunities in this area, in partnership with sector skills councils or training providers.

Integration through retail

The shop space at North Street Potters showcases work by current and former resident makers. An issue raised in the audit and interviews was that of encouraging public access and overcoming a general unfamiliarity with the workshop environment. North Street and other organisations such as London Print Studio and Four Corners film exploit their street frontages to encourage access. It is possible to see into part of the North Street workshop from the shop, and this proximity provides an important link between makers and visitors.

Shops, exhibitions, open studios and simply the people working from the location all create footfall and community, and can contribute significantly to place-making and local enterprise.

Internal community

Visits to spaces and interviews have found that a core group of founders or an individual exist at the heart of most shared workspaces. Few were set up primarily for financial gain for the organisation - but mainly to provide affordable workspace for small businesses (often including founders). Charitable or social enterprise elements have often, but not always, been part of the original business plan but a combination of personal ambition/politics and financial incentive have led many makers to engage with users well beyond their own professional community. This can create a conflict between the need to develop as a small business (most makers need to prioritise workshop time to maintain outputs) and the benefits of engaging with outreach and education. Most grant funding tends to favour the latter, but support for makers' businesses can be critical to their being able to continue sharing skills.

Comparison: London Bike Kitchen

London Bike Kitchen represents the most open access community-focused workshop types. Set up in 2012, it currently has 1240 members. Located in a small shop space on a quiet road in Hoxton, its emphasis is on community: enabling and teaching people to fix their own bikes. They provide tools and expertise during drop-in times, and courses at beginner and intermediate level. It is lively

and busy, particularly at the weekends and is self-sustaining and self-funded.

The costs of using the facility are low and this is partly aided by the lack of large, expensive or dangerous machinery necessary for this type of work. The sheer volume of people who have taken out the yearly membership of £10, means the organisation has a base level income of £12,400 without taking into account additional drop-in income.

London Bike Kitchen has developed a large user base of all ages and occupations. Many are local but many are just passing, or have come from further afield within London. It is an example of a truly open access setup.

Conclusion

Shared workshops do not all have training programmes and charities attached, and many disciplines would not be suited to that level of community involvement. It also takes considerable resources to run an organisation on this basis. North Street Potters has the advantage of secure premises and very low rents, but many organisations simply don't have the capacity. North Street Potters shows, however, the impact shared workshops can have, whether in providing a training ground for apprentices, a shop space that creates footfall and promotes makers' businesses, or putting on exhibitions. Or simply, and just as importantly, providing a place for trained professionals to work from and to develop and share their skills with trainees or with the wider community.

4. Conclusions & Recommendations

Co-making spaces are seeing a growth in London, and a particular growth in the mixed, open access sector - the majority opening in the last five years, and many in the last 24 months alone. This reflects the rise in co-working, incubator and accelerator (IAC) spaces generally. It also reflects a wider, global growth in the hackspace and open access makerspace movement.

However the study has also found many more established spaces that have been sharing or providing access to facilities for several

decades. There is also considerable diversity and specialism, and a continued demand for access to more specialist fabrication facilities by graduates, startups and SME's generally.

A number of common issues were found. These relate to general operation and to the built environment, especially in locations such as the LLDC policy area - where a number of micro-manufacturing and 'making' enterprises already operate from former industrial premises and where there is rapid growth of residential and retail.

4.1 Location and space requirements

Conclusions:

Premises vary according to affordability and suitability to use. The study found co-making workshops predominantly fall into B1c, or B2 use classes, and tend to occupy light industrial premises. However, they are not restricted to these types of premises and were found to occupy a wide range of buildings. Proximity to residential or retail areas can mean higher footfall, which is advantageous for open access spaces. Many smaller shared enterprises occupy industrial sites with more privacy and security. See below for more on this topic in relation to planning policy.

Chosen location is due largely to availability or local/professional connections made by operators. Professional and corporate partnerships/sponsorship have helped high profile spaces such as Makerversity establish city centre premises.

Financially, the majority of workshops operate on a low-overheads, low income basis, making just enough to cover costs every month. The majority rely on makers and volunteers for day-to-day management.

Adapting premises and substandard building fabric, to make them safe, secure and suitable for heavy machinery, was one of the main cost challenges faced.

Inflation of premises costs and security of tenure represent the biggest longer term challenge.

Low profit margins can mean compromises are made - usually on building/machinery maintenance, safety and ultimately quality of work produced.

To **manage use of space**, many operators have adapted premises, equipment and their user/membership models with experience. This usually involves developing individual

workspace or studio rental alongside core co-making space provision. It can also involve separation or timetabling of professional and non-professional use.

Recommendations:

- *Existing co-making spaces are a valuable source of information. Where new spaces are established, it is recommended that professional groups and individual co-making spaces are consulted on spatial and organisational factors - and that these relate to disciplines and target users. While few purpose-built spaces exist, space layouts are often implemented by experienced makers, and can be an undocumented but valuable resource.*
- *Any new space should consider target user group - professional, amateur, start-up, etc. - as this is key to business model.*
- *While co-making space itself requires high capital inputs and may initially operate at a loss, most spaces develop a successful*

business model over time. High start-up costs could be supported by improved access to funding or partnerships - that acknowledge the support they provide for small enterprises. Further links could be made with industry or education, e.g. in the construction, technology, design and manufacturing sectors.

- *Interim use strategies currently benefit several organisations. This could be applied more widely, say to retail locations - use of empty shop spaces etc. - either to house co-making spaces themselves or to provide retail outlets for existing spaces. 'Pop up shops' and markets can raise profile and attract a wider range of users into the workspace. e.g. Cycletastic pop-up shop in Brent. Interim use strategies generally are an excellent way to provide affordable and appropriate premises, to meet organisations' needs on a temporary basis and to test viability. However the implications of relocation need to be factored in from the outset - financial or other support could be offered for this.*

4.2 Supporting Enterprise & Business Growth

Conclusions:

This study found many co-making spaces operate as **incubators** for early stage sole traders and startups, offering vital financial and other benefits. Typically a shared space can save a sole trader £3k-£15k in equipment costs, with further savings in fit-out, rent, insurance and storage.

These savings have further impacts: by reducing overheads co-making spaces can

enable sole traders to take on apprentices or assistants. This may help address the current lack of skills transfer and training opportunities within the semi-industrial and micro-manufacturing sectors.

An **autonomous set-up**, often maker-led, has allowed the spaces surveyed to develop diverse industry links, directly support and promote the SME's using their facilities. The diversity of the sector encourages access across a broad range of age and social groups.

While the majority of spaces tend to operate shared facilities at a loss, both established and newer models show these aspects are often their **unique selling point**. These spaces foster experimentation, entrepreneurship and attract diverse user groups.

Organisations prioritising the **core co-making activities** - both financially and spatially - have developed a reputation for their services, attracting professional users from across London. Ongoing input from experienced makers is important to ensure core facilities are safe and fit for purpose.

Local links had sometimes been slow to develop, so individual organisations have developed specific strategies for this. Networking and skills exchange schemes, such as Lambeth's "Open Works" can help widen spaces' appeal beyond the existing maker community.

The study found **corporate partnerships** or **equipment sponsorship** established by newer organisations meant more ambitious and long term programmes could be developed, and improved technology/equipment provided. This in turn is critical to longer term business development of individual users.

Recommendations:

- *A more quantitative or ongoing survey of business users is recommended (e.g. looking at select small enterprise progression over, say, 3 years). Waiting lists for spaces suggest demand, and most business users reported a struggle in finding suitable premises. The reasons for this - and the wider impact on making and micro-manufacturing generally -*

merit further research.

- *New and existing spaces can benefit by providing professional facilities and equipment alongside open access programmes. This can foster local enterprise and could create a critical mass of micro-manufacturing around open access spaces. A distinction should be made between open access and professional use in assessing positive impacts of spaces.*
- *Most small enterprises within the sector do not fall into wider employment studies. Existing self-registering schemes for makers/small manufacturers could include information on location and business premises. Funding bodies and local authorities should also consider the commercial as well as the community role of co-making spaces - existing funding criteria tend to favour the latter.*
- *Co-making spaces increasingly offer facilities for prototyping and digital production. However, while accessible technologies look set to rise, anecdotal evidence from interviews suggested this can lead to a misconception that more specialist technology - e.g. commercial woodworking or sewing equipment - is obsolete or less in demand. It is recommended that any policy developed around co-making spaces recognises the sector revolves around its specialisms, rather than promoting only one type of makerspace.*

4.3 Community & Placemaking

Conclusions

Open access co-making spaces often operate as '**libraries**' - providing skills training and becoming a social amenity. Accessibility is linked to location and building layout: while a workshop space can be seen to be at odds with a residential setting, this can also be key to encouraging more local users. How this integration could be achieved is discussed further below.

Most co-making spaces, whether employing paid staff or not, rely on experienced makers and managers in developing their education and training programmes. They can provide access to skills that are important in construction, design and technology. These skills may support professional development, social integration and general wellbeing.

Co-making spaces have developed **diverse programmes** and activities to encourage wider use. More established workshops have found this has helped with securing funding, enabling them to ensure space and equipment remains usable and up to date.

Established workshops illustrate how, over time, organisations can develop an **extensive user base**. Many have evolved to offer a range of facilities and classes, attracting both local and non-local users. Their often independent and non-institutional set up can enable them to reach a wide and socially diverse user base. Different sectors and disciplines surveyed however tended to attract specific age or other groups.

Recommendations

- *Promotion of activities can contribute to the place-making potential of workshops, as well as to encouraging access to resources and training. Co-making spaces could be linked with or registered on websites of central bodies such as the Crafts Council or Creative & Cultural Skills.*
- *Co-making spaces can potentially operate as highly inclusive social enterprises. Potential links could be made or premises shared with artist studio providers (who often operate successful outreach programmes). Links could also be made with larger manufacturing enterprises in the vicinity - to develop targeted apprenticeships and training partnerships. See sections 4.4 & 4.5 for more on this.*

4.4 Planning Strategy

Conclusions

A key aim of this study has been to understand the spatial and organisational requirements of co-making spaces, and how this relates to physical setting. As studies suggest this type of space is likely to increase, it is increasingly relevant to understand opportunities and challenges for the sector in relation to future development strategy.

Many existing spaces are in areas subject to escalating land values and face rental increases, insecurity of tenure or possible demolition. As the audit shows, the majority operate from B1c or B2 class premises in zones 2 & 3, where floor areas are sufficient and affordable, and where they are also accessible to users.

Growing pressure from residential and typical residential/retail mixed use development in these zones is currently perceived as the main threat to existing organisations. Workshop East, for example, currently expects to be 'priced out' of such an area within the next 5 years.

However, the amenity and economic value of co-making spaces suggests they can in the long term make an active contribution to local development strategy. The rest of this chapter identifies some of these opportunities.

Intensification of industrial areas is a potential opportunity offered by co-making spaces. Existing spaces support a range of processes from design and manufacture of bespoke, one-off items up to small-scale manufacturing. Their ability to support

multiple SME's and sole traders sits them between scales of manufacturing, therefore potentially offering an opportunity for challenging existing industrial zoning. This could be achieved through physical proximity or by developing and incentivising links with existing local manufacturing enterprises.

Many are used specifically (and increasingly so, as new technology is acquired) for product prototyping and could therefore set a precedent for developing a more integrated local supply chain. The model for spaces such as Machines Room at Lime Wharf for example, revolves around creative development of products on site, for manufacture elsewhere, either locally or further afield. This could potentially be developed into a more structured local network.

Within organisations themselves, varying scales of production offer further opportunities. The ground floor at London Hackspace for example, supports lighter digital work and social space, and the basement heavier fabrication work. This is a model that could be developed further – supporting both social space and heavier industrial uses within a single building or set of buildings. Within a purpose-built setting, it may be possible to accommodate heavier processes, such as glassblowing and metalwork, currently lacking in this sector.

Proximity to residential communities can be beneficial, for both accessibility and public profile. Loading, noise and hazard levels vary, but many examples show that with the right management and safety/access considerations

spaces can be successfully integrated into residential zones. The various organisations operating from railway arches are just one example of this type of light industrial/creative use within residential areas.

Where this study identified that co-making space has the greatest potential is perhaps in creating a positive interface between established zones of planning use classes.

The ability to reach a broad demographic and provide facilities open to the public alongside subsidised and private workspace makes them potential assets to local placemaking and employment strategies.

In formerly industrial and rapidly changing areas such as Hackney Wick, however, this dual role could help form an interface between the existing enterprise (of artists' studios and small manufacturing operations) in the centre of Hackney Wick and Fish Island to the south, and existing residential areas to the north.

No spaces were identified in London that had been newly constructed as part of a major redevelopment strategy, so there are few precedents. However, as examples such as North Street Potters and London Print Studio show, organisations can have a long term positive and cohesive impact on an area. This is true also where they support uses generally deemed too hazardous for a residential or central urban setting: although not a co-making space, London Glassblowing (established by Peter Layton in 1976) occupies a central location in Bermondsey, and illustrates the potential for a small industrial

enterprise to engage with the public, through its open plan workshop and gallery space.

Most studies suggest increasing 'collaborative consumption' is likely to lead to growth of co-making space (and co-working space generally). Recognising this particular type of space use as both economic and social asset on a local level could enable existing spaces to be integrated into, rather than 'zoned out' of typical mixed use schemes.

Recommendations

- *Co-making spaces can actively contribute to planning and development strategy within an area. They should not only be assessed on measurable social outputs but on the wider regenerative impacts of the SME's they support.*
- *The survey has shown that organisations benefit from a degree of autonomy and ownership over their main co-making space, needing to manage use and access. A built form that provides secure, private workspace (internal and external) is most appropriate for small enterprise use, but accessibility and some form of public engagement can also be beneficial. The dual role of many organisations means they present a significant opportunity to connect strategic zones.*
- *Most co-making workshops are adaptable to some extent to premises. Therefore, where new or relocated organisations are considered, a broad, creative approach is recommended - whether this is in assessing suitable building stock or partnerships with other organisations (see below).*

4.5 Public Sector Collaboration

Having identified co-making space as a specific type of co-working environment this study considers finally how they might be supported by wider policy around incubators, accelerators and co-working spaces (AIC's). Examples of existing public sector collaboration include subsidised rental, specific planning agreements (e.g. interim use) and online networks such as Lambeth's Open Works project. But the study has found only isolated examples as opposed to any consistent approach.

10% of spaces surveyed had received local authority funding at startup, others were receiving further public sector support, either financial (e.g. Arts Council grants) or in kind, such as vacant premises or subsidised rental. Open access facilities, as opposed to those shared privately by SME's, were far more likely to have sought and received both public sector or other grant/philanthropic funding.

This study shows co-making space in itself often requires relatively high inputs for low return. This may account for the **low investment so far by both the public and private sector compared to IAC's generally**. It also suggests why few artists studio providers offer such facilities and why many have therefore been set up and financed independently - often by professional and/or enthused amateur makers.

Increasingly, typologies are developing that offer privately-rented incubator space in order to subsidise shared facilities on site, for example Create Space and Blackhorse Workshop. These demonstrate the potential

for spaces to develop a more sustainable business model, which could justify greater startup support.

Older spaces reveal useful trends in how the sector is evolving: e.g. transitioning from heavy reliance on grant funding to more profitable use of space, significant philanthropic support - often reflecting their positive value to a particular community and/or professional sector - and partnering with other social enterprises or public sector programmes.

The case- and site-specific nature of the sector suggests more than one approach should be considered. Many spaces are managed by driven and entrepreneurial individuals, and respond to a specific lack. This suggests that, as with other AIC's, a supporting and facilitating role is more appropriate than direct provision.

On the basis of this research therefore, a **sector-specific feedback exercise** is recommended, offering existing co-making space providers the opportunity to engage further with relevant policy. This would enable the following recommendations to be prioritised.

Recommendations

- *Facilitating access to affordable space and secure tenure would address the key ongoing challenge faced by most organisations. Most are adaptable to some extent to premises, therefore a broad and case-specific approach is recommended, e.g. interim use, empty space within existing public buildings, subsidy*

on rental within existing light industrial zones (especially where organisations are contributing local services such as the Building Bloqs cafe). This could offer mutual benefits, with organisations/users bringing security, improved amenity or specific contributions such as skills training. As discussed previously, interim use agreements are proving successful to several existing organisations. How this translates into long term viability – especially where there are high fitout and equipment costs associated with moving - should be considered.

- Access to capital for specialist equipment either at the outset or for developing existing spaces is critical to viability. Obtaining a lease on equipment enabled Workshop East to establish a professionally fitted out workshop, but many organisations have specifically identified being unable to qualify for loans as a key obstacle to growth and productivity. As stated previously, funding criteria currently tend to favour active social engagement, and to overlook the positive impacts of smaller spaces shared privately by SME's.
- Several organisations are supported through pro bono professional advice; this could be formalised through skills exchanges such as Economy of Hours, corporate or public sector partnerships.
- Encouraging partnerships between co-making spaces and artist studios or other work space providers, while it may not suit all organisations, could offer long term mutual benefits in relation to management and finance. Incentives to incorporate some form of co-making facility or shared light industrial equipment into larger creative workspaces

could help overcome the costs they incur.

However, the specialist requirements of the sector need to be considered: for example, anecdotal evidence from interviews suggests risks in merging artists studios with co-making space - these included on the one hand, eventual loss of co-making space to more profitable cellular studio space and on the other hand, concern in the artists studio sector that the rise in co-making space validates closure of studios.

A model which retained the independent identity (and/or independent premises) of the co-making space might be mutually beneficial in terms of management and in maintaining a unique selling point. It might also be more likely to retain and build upon the core user base. This was suggested early on to Workshop East by a major studio provider as a possibility for the future.

- Other types of partnership: Smaller open access spaces can potentially be incorporated into or linked with existing public services and other organisations, not just other creative workspace. The growing phenomenon in the USA and Netherlands for example, of open access makerspaces within public libraries (also being developed in the UK, as set out in the Arts Council's Common Libraries initiative) illustrates how easily some types of co-making space can be integrated into existing community infrastructure. As discussed previously, at the other end of the spectrum there are potential links with heavier industrial operations that merit further research. It has been suggested anecdotally through interviews with providers and users, that in some cases user engagement may be

*encouraged specifically by **not** allying co-making spaces with other types of creative workspace. The further feedback exercise would ascertain how widespread this is.*

- Provision of space for small businesses, not just individual studio users, around specialist shared facilities should be encouraged in order to maintain the diversity of SME's in this sector, to promote clustering and to provide support at a range of scales.*
- Promotion of organisations through networks and online resources is one way the public sector can provide key support. This is underway with the GLA co-working spaces map, but could be widened into links with professional networks, local community networks and the sector skills councils. The current NESTA research into UK makerspaces also aims to start this process on a national scale.*
- It is recommended that although challenging to implement, support for co-making spaces should allow for their often discipline-specific and niche positions. Again, this suggests a facilitating rather than direct managing role by the public sector and/or workspace provider may be most appropriate. Many existing spaces have been set up to address a specific lack in the sector, with specialist requirements that may not be met through more generic or centrally managed creative workspace.*

Glossary

Craft - in this report the term 'craft' is used to mean (and as far as possible is substituted with) the general term 'making', and is intended to encompass a broad and diverse range of processes taking place in co-making spaces.

Hackspace (*also known as a hacklab or hackerspace*) - type of open access, mixed workshop typically offering electronic/digital facilities alongside woodwork etc. Generally deemed to have started in Germany in the 1990's, hackspaces are now part of an informal but widespread international movement, with an ethos of cooperative management, transparency and inclusive access. Documents and member forums are publicly accessible: see <http://hackerspaces.org/wiki/>

Fab Lab (*from 'fabrication laboratory'*) - a more formal development of the hackspace movement, with a particular focus on technology and digital media. The programme began as a collaboration between the Grassroots Invention Group and Massachusetts Institute of Technology in 2001.

Makerspace - general term to describe open access, multidisciplinary workshops.

Industrial craft - production involving heavier machinery and processes than can be accommodated in domestic or small studio premises. Equipment is the same as that used in commercial and industrial production, e.g machined woodwork, metalwork, stonemasonry. May include elements of mass-production, as opposed to solely one-off, artisanal work.

Micro-manufacturing enterprises - used in this context to refer to small manufacturing enterprises, often using CNC/laser cutting and 3D modelling technology (for more on this 'make it yourself' movement, see <http://www.bbc.co.uk/news/business-24203938>).

Co-making spaces - data table

Map ref	Name	Postcode	Borough	Date opened	Access type	Discipline	Website
1	Assemble & Join	SE1 7AB	Lambeth	2012	open	Mixed	http://www.assembleandjoin.co.uk/
2	Blackhorse Workshop	E17 6BX	Waltham Forest	2014	open	Mixed	www.blackhorseworkshop.co.uk
3	Building Bloqs	N18 3QT	Enfield	2012	open	Mixed	http://www.buildingbloqs.com/
4	Camden Town Shed	NW1 9XZ	Camden	2011	open	Mixed	http://www.camdentownshed.org/
5	Create Space (London)	HA9 6DE	Brent	2013	open	Mixed	http://createspacelondon.org/
6	Fab Lab London	EC2R 8AE	City of London	2014	open	Mixed	http://fablablondon.org/
7	Goldfinger Factory	W10 5NY	Brent	2012?	open	Mixed	http://www.goldfingerfactory.com/
8	Institute of Making	WC1E 7JE	Camden	2010	other	Mixed	http://www.instituteofmaking.org.uk/
9	Lime Wharf (Machines Room)	E2 9DJ	Hackney	2014	open	Mixed	http://limewharf.org/
10	London Hackspace	E2 9DY	Hackney	2009	open	Mixed	https://london.hackspace.org.uk/
11	London Sculpture Workshop	SE1 5SF	Southwark	2012	open	Mixed	http://londonsculptureworkshop.org/
12	Make Space/Metropolitan Works	E1 1LA	Tower Hamlets	2011	open	Mixed	http://metropolitanworks.org/
13	Makerversity	WC2R 1LA	Westminster	2013	open	Mixed	http://makerversity.co.uk/
14	Pangaea Sculptors' Centre	SE15 3SN	Southwark	proposed	other	Mixed	http://www.pangaeasculptorscentre.com/
15	RARA	E5 9ND	Hackney	2012	open	Mixed	http://r-a-r-a.com/
16	South London Maker Space	SE24 9AA	Lambeth	2014	open	Mixed	http://southlondonmakerspace.org/
17	Stratford Workshops	E15 2SP	Newham	1970's	shared	Mixed	http://www.newham.gov.uk/
18	Swan Wharf Workshop	E3 2NQ	Tower Hamlets	2013	open	Mixed	http://www.swanwharf.org/
19	Studio North	E15 2SP	Islington	-	shared	Mixed	http://www.studionorth.org.uk/index.html
20	Sugarhouse Studios	E15 2QQ	Newham	2012	shared	Mixed	http://sugarhousestudios.co.uk/
21	The Goodlife Centre	SE1 0QL	Southwark	2011	open	Mixed	https://www.thegoodlifecentre.co.uk/
22	The Remakery	SE5 9HY	Lambeth	2012	open	Mixed	http://remakery.org/
23	The School of Stuff	E8 2EB	Hackney	2011	open	Mixed	http://www.theschoolofstuff.co.uk/
24	Westlake & Lomas Ltd	SE15 5EB	Southwark	-	shared	Mixed	n/a
25	Working Men's College	NW1 1TR	Camden	1854	open	Mixed	http://www.wmcollege.ac.uk/

Map ref	Name	Postcode	Borough	Date opened	Access type	Discipline	Website
26	56a Bikerroom	SE17 3AE	Lambeth	1991	other	Bicycle Maintenance	http://56abikespace.wordpress.com
27	Bikeworks	E1 5QJ	Hackney	2006	other	Bicycle Maintenance	http://www.bikeworks.org.uk
28	Cycletastic Bike Shed	NW6 7ST	Brent	-	other	Bicycle Maintenance	http://cycletastic.org.uk/
29	London Bike Kitchen	N1 5QA	Hackney	2012	other	Bicycle Maintenance	http://lbk.org.uk/
30	Micycle	N1 1TP	Islington	2013	other	Bicycle Maintenance	http://www.micycle.org.uk
31	Squeaky Chains	SE1 0RB	Southwark	2011	other	Bicycle Maintenance	http://squeakychains.com/
32	London Centre for Book Arts	E3 2NQ	Hackney	2014	open	Bookbinding	http://londonbookarts.tumblr.com/
33	Mazzotti Books/Paulo Tadeo	N16 5SA	Hackney	2011	shared	Bookbinding	http://mazzottibooks.co.uk/ http://wemakebooks.co.uk/
34	London Fields Arch (+ various others)	E2 9DJ	Hackney	-	open	Catering	http://www.kitchentorent.co.uk/index.html
35	Made in Hackney	N16 6PA	Hackney	2011	shared	Catering	http://madeinhackney.org/
36	The Kitchen Under the Moon (Rejuce Ltd)	E3 2NT	Tower Hamlets	2012	open	Catering	www.rejuce.co.uk <i>(dissolved Jan 2015)</i>
37	The Olive Grows	NW10 7QP	Brent	2009	open	Catering	http://www.theolivegrows.co.uk/
38	The Outdoor Kitchen Project	E6 5LT	Newham	2014	open	Catering	https://spacehive.com/newhamoutdoor-kitchen
39	The Social Kitchen	N15 5AZ	Haringey	2011	open	Catering	http://www.socialkitchen.org.uk/
40	Glebe Road Studios	E8 4BD	Hackney	2012	open	Ceramics	http://www.londonsartistquarter.org/events/glebe-road-open-studios
41	Lewisham Art House	SE14 6PD	Lewisham	2014	shared	Ceramics	http://www.lewishamarthouse.org.uk/index.html
42	Maze Hill Pottery	SE10 9XE	Greenwich	1994	shared	Ceramics	http://www.mazehillpottery.co.uk/
43	North Street Potters	SW4 0DZ	Lambeth	1974	shared	Ceramics	http://www.northstreetpotters.com/
44	Parade Mews Pottery	SE27 9AX	Lambeth	1995	shared	Ceramics	http://www.parademewspottery.co.uk/index.htm
45	Sheen Pottery	SW14 8TA	Richmond	2012	shared	Ceramics	http://www.sheenpottery.co.uk/index.html
46	Sue Clark Ceramics	BR3 1AY	Bromley	2011	other	Ceramics	http://www.sueclarkceramics.co.uk/
47	Turning Earth Ceramics	SE5 9HY	Lambeth	2012	open	Ceramics	http://turningearthceramics.co.uk/
48	Hackney Fashion Hub	E9 6ND	Hackney	proposed	open	Textiles & Fashion	http://www.hackneyfashionhub.co.uk/
49	Here Today, Here Tomorrow	N1 4AU	Hackney	2010	shared	Textiles & Fashion	http://www.heretoday-heretomorrow.com/
50	London Fashion Studios	NW6 6HY	Brent	-	other	Textiles & Fashion	http://londonfashionstudios.co.uk/ <i>(not currently fully operational)</i>

Map ref	Name	Postcode	Borough	Date opened	Access type	Discipline	Website
51	The Parachute Collective	E2 0EJ	Hackney	2013	shared	Textiles & Fashion	http://www.theparachutecollective.co.uk/
52	11 Mount Pleasant	WC1 0AR	Islington	2011	shared	Jewellery	n/a
53	Amanda Mansell Jewellery	EC1N 8DH	Camden	-	other	Jewellery	http://www.amanda-mansell.com/pages/about
54	The Goldsmith Centre	EC2V 6BN	Islington	2007	open	Jewellery	http://goldsmiths-centre.org/
55	Holts Academy	EC1R 3GB	Islington	1999	other	Jewellery	http://www.holtsacademy.com/
56	David Anthony Reid	SW8 3NS	Wandsworth	2007	shared	Musical Instrument Making	http://www.darluthier.com/
57	Black & White Basement	NW8 0EB	Westminster	-	open	Photography	http://www.bwbasement.com/
58	Double Negative Darkroom	E5 0JE	Hackney	2009	open	Photography	http://dndr.org.uk/
59	Fotofusion	SW9 8LA	Lambeth	1979/ 1991	open	Photography	http://www.photofusion.org/
60	Four Corners Film	E2 0QN	Tower Hamlets	1974	open	Photography	http://www.fourcornersfilm.co.uk/
61	North London Darkroom	N17 9QU	Haringey	2011	open	Photography	http://www.londondarkroom.com/
62	Photochats	E9 6DF	Hackney	-	open	Photography	http://www.chatspalace.co.uk/photochats/
63	Rachel's Darkroom	E17	Waltham Forest	2008	other	Photography	http://racheldarkroom.co.uk/
64	Rapid Eye	EC2A 4QS	Hackney	1996	open	Photography	http://www.rapideye.uk.com/
65	Space Studios (Studio 10) Darkroom	E8 3RH	Hackney	-	open	Photography	http://www.spacestudios.org.uk/archive-studios/victor-house-e8-studio-10-darkroom-facilities/
66	The Camera Club	SE11 4DS	Lambeth	1885	open	Photography	http://thecameraclub.co.uk/
67	The Gate Darkroom	SE14 6BL	Lewisham	2010	open	Photography	https://thegatedarkroom.wordpress.com/
68	Zoom In	SW9 6DE	Lambeth	-	open	Photography	http://www.zoom-in.org/photography-courses.php
69	Art Hub Studios	SE8 4SA + SE18 5TF	Lewisham/ Greenwich	2014	open	Printmaking	http://www.arthub.org.uk/
70	Artichoke Printmaking	SW9 8RR	Lambeth	1992	open	Printmaking	http://artichokeprintmaking.com/
71	Bainbridge Studios & Gallery	SE27 0AR	Lambeth	2008	open	Printmaking	http://www.bainbridgestudios.co.uk/
72	East London Printmakers	E8 3RH	Hackney	1998	open	Printmaking	https://www.eastlondonprintmakers.co.uk/
73	Inky Cuttlefish	E17 6DS	Waltham Forest	2008	open	Printmaking	http://www.inky-cuttlefish.co.uk/
74	London Print Studio	W10 4RE	Westminster	1974	open	Printmaking	http://www.londonprintstudio.org.uk/
75	Peckham Print Studio	SE15 4QL	Southwark	2012	open	Printmaking	http://peckhamprintstudio.com/

Map ref	Name	Postcode	Borough	Date opened	Access type	Discipline	Website
76	Print Club London	E8 2DS	Hackney	2007	open	Printmaking	http://printclublondon.com/
77	Sonsoles Print Studio	SE15 4PU	Southwark	2012	shared	Printmaking	http://sonsolesprintstudio.co.uk/
78	Thames Barrier Print Studio	SE18 5NR	Woolwich	2011	open	Printmaking	http://www.thamesbarrier-printstudio.co.uk/
79	The Print Room	SE23 2DD	Lewisham	2009	open	Printmaking	http://www.theprintroom.talktalk.net/
80	London Carving Co-op (City Studios Ltd)	E17 6RA	Waltham Forest	1995	shared	Stonecarving /sculpture	http://thelondoncarvingco-op.com/index.htm
81	Shared workshop, Bussey Building	SE15	Southwark	2014	shared	Stonecarving /sculpture	n/a
82	3 Flempton Road	E10 7NH	Waltham Forest	2007	shared	Woodwork	n/a
83	54-57 Mill Mead Road	N17 9QU	Haringey	-	shared	Woodwork	n/a
84	Harlesden Station Workshops	NW10	Brent	-	shared	Woodwork	n/a
85	Hired Woodwork Space (HSS)	SW11 5HD	Wandsworth	-	shared	Woodwork	http://www.hirewood-workspace.co.uk/index.cfm?sid=941&pid=13799
86	Martin Grierson	W3 7SR	Ealing	1975	shared	Woodwork	http://www.martingrierson.co.uk/index.htm
87	St James Workshop (The Oblique Workshops)	E17 7NW	Waltham Forest	2011	shared	Woodwork	http://www.cldarwent.co.uk/
88	Workshop East	E15 2QQ	Newham	2013	shared	Woodwork	http://www.workshopeast.co.uk https://twitter.com/WorkshopEast
89	Unit 19, Astbury Business Park	SE15 2JR	Southwark	-	shared	Woodwork	n/a

The above table is based on information available in August/September 2014.

Notes:

1) Map ref: see main map on pages 18/19

2) Access type: See pages 9 & 15 for definitions of access type.

List of Supplementary Data

(available separately)

1. Data Table

Complete research data on audited spaces

2. Workshop Profile Sheets

Survey data and photographs on the 22 profiled spaces

3. Running Costs

Income and expenditure for case study workshops.

4. Workshop East startup costs

List of main woodwork equipment and other costs for Workshop East.



Photo courtesy of Turning Earth