



Northumbria University Architecture Portfolios

LIVING BY INDUSTRY

A NEW CULTURAL QUARTER FOR KIEV

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Professor

<https://www.northumbriaarchitecture.com/research>

Front cover

*Axometric Diagram of the
scheme*

1. Project Details

Principal Researcher	Prof. Paul Jones Prof. Nick Dunn Shaun Young
Research Collaborator	Joss Ryan Matt Glover Taylor Grindley Sarah Kidd Harvey Cullis Bart Vautravers Laurie Blower Lauren di Pietro Sophie Thompson Naveen Jayasinghe.
Title	Izolyatsia Art Quarter
Output type	Building and Landscape
Curator	Paul Jones Nick Dunn Shaun Young
Function	A New Cultural Quarter for Kiev
Location	Kiev, Ukraine
Client	Izolyatsia and Architecture Ukraine
Practical completion	2014 -
Funding source	British Council Grant
Grant	£30,000
Structural Engineers	Mistproekt
Developer/ Contractor	Self-build and Various Contractors
URL	Xxxx

1.Summary

The Izolyatsia Foundation invited a collaborative team led by Professor Paul Jones and Professor Nick Dunn of Northumbria and Lancaster Universities respectively to design a new creative centre and associated art landscape for the city of Kiev, Ukraine.

The foundation was established in 2010 as a non-profit, non-governmental, art platform for contemporary culture. The foundation's mission is to inspire positive change in Ukraine by using art and culture as an instrument. It is a multidisciplinary cultural platform open to all genres of creative expression. The foundation has three intertwined directions of activity: art, education and projects geared at activating Ukraine's creative sector.

They initially occupied a former insulation materials factory in Donetsk, the factory was seized by the militia of the *Donetsk People's Republic* in June 2014. Fearing persecution, Izolyatsia fled the city and relocated to a shipyard in Kiev. This location offered great opportunity, as much of the shipyard was empty as a consequence of a downturn in industrial activity in Ukraine. The scale and nature of the landscape, however, presented the foundation with significant challenges and they were interested in insights from designers outside the region. The Ukraine does not have an prominent culture of contemporary architecture and urban design. The years spent behind the *Iron Curtain* has resulted in the continuing adoption of anachronistic architectural styles, particularly the neo-classical. This architectural style was deemed by the foundation to be inappropriate for their radical art agenda.

The team led by Jones and Dunn were invited to facilitate the foundation- through bottom up brief-development and codesign activities- to collectively produce an urban design, placemaking strategy and

building designs for the foundation to guide their development over the next 5-10 years. Their focus is on the refurbishment and adaption of their principal building- a 1930s multi- storey warehouse- as well as a number of industrial sheds and external spaces within the shipyards. The work undertaken is now informing the development of the capital works programme, which continues to be incremental. The construction work is- and will continue to be- paid for by donations, grants and generated income. The patron of the organisation is Luba Michailova, she is an industrialist and art collector and has provides financial support to many of the art and architectural initiatives through her company's charity, including this one. The completed design work was exhibited in the Izone Gallery in 2017; this venue is regarded as one of the most important contemporary galleries in Kiev. This work was also showcased at the CANactions, Mystetskyi Arsenal, Kiev in the Summer of 2018.



2. The Existing Landscape

The Izolyatsia Arts Foundation is located in the shipyards on the Rybalskyi Peninsula on the Dnieper River, adjacent to the Podril neighbourhood of the city of Kiev. In 1897-1899, the peninsula was raised and strengthened, which would later enable it to house a local shipyard for steamboats. At the end of the 1930s, the Kuznya na Rybalskomu shipbuilding

factory was constructed which forms the basis of the shipyard that exists today. The site is now largely redundant due to global shipbuilding moving to Asia, but was recognised by Izolyatsia- and more recently the metropolitan council- through the work undertaken by the foundation, as having significant cultural value. ■



Fig. 01 _ Photos of the site showing the selection of sheds and warehouses from the shipyards



The most prominent building on the site is the 1930 ABK warehouse building, that was to the focus of the design scheme and is now the administration and gallery building. This building is also strategically placed, as it is near the entrance at the north of the site, therefore visitors can readily access it before visiting the other facilities.

The landscape is punctuated by industrial relics that have a functional beauty and elegance (see fig 3). It was anticipated that these building will form the basis of workshops for making and smaller scale gallery spaces. They will be retrained and repurposed as part of the industrial landscape.



Fig. 02_ View of ABK building

Fig. 03_ View of beautiful industrial relics within the shipyards

- To the west of the ABK building are sheds to be converted into maker spaces with wood working and CNC equipment. Adjacent to these sheds there is space for the building of a performance space and theatre, as well as a summer kitchen.

- To the west of the ABK building wanted another café restaurant, with residential units, so that visitors from around the world could rent units as an income source. It was also anticipated that artists showing their work in the galleries could use this accommodation. Within the central zone of the site they requested an event space to accommodate 2000 people. See fig 16. ■

Briefing- schedule of accommodation

The initial brief was split into several individual buildings and territories.

- The principal building was the ABK multi-storey building. This will become the centrepiece of the cultural quarter. The building is four-stories high. Izolyatsia's brief asked for the ground floor to be gallery space. Also on the ground floor they wanted a café/restaurant for income generation.

- On the first floor they requested workshop facilities specifically for artists, as other workshops for designers and craft activity were elsewhere on the site

- The second floor was to be dedicated to art and design based consultancies, such as graphic designers, furniture designers, architects, product designers. On the 4th floor there was a conference and exhibition space for the consultancies to showcase their work and innovation.

3. Research Summary



Fig. 04 _ View of toffee factor Newcastle

Fig. 05 _ View of Baltic Art gallery Gateshead

The conservation and preservation of historical buildings and landscapes are important investments in a nation’s cultural and historical heritage. The Rybalskyi shipyards in Kiev should be considered as important industrial heritage to the people of the Ukraine, providing them with a sense of national and regional identity, and promoting the continuation of local cultural values. According to the Izolyatsia Foundation, the Ukraine does not yet fully recognise the potential cultural and economic value of their industrial buildings and landscapes, and how they have the capacity to increase tourism and create jobs. Ukrainians often see these landscapes as blight and a symbol of political repression. Izolyatsia, by looking to develop this sort of site, believe themselves to be conduits for change in this regard. To do this, they actively seek inspiration and guidance from the West. The research team recognises the significant opportunities to affect the cultural landscape of Kiev; these opportunities that are perhaps not possible in any other European capital.

This design project has been a genuine collaboration with the Izolyatsia Foundation and their patron Luba Michaelova. This collaboration has involved visits to Kiev by the design team to undertake codesign workshops, give lectures and presentations, and produce interim design projects for discussion. The Izolyatsia foundation have visited the UK and exemplar projects in the North East of England.

The British Council also recognised the cultural opportunities of this project; a £30 K grant paid, in part, paid for representatives from Izolyatsia to visit the Northeast of England and to see industrial heritage (buildings and landscape) that had been converted for art and cultural purposes. This region of the UK is very similar to the Ukraine, with many industrial buildings and landscape. The UK

differs in that it now recognises the value of this heritage, with industrial buildings often finding new cultural uses; many are protected by law for their historic importance.

The visit to the UK by the Foundation was highly effective as a primary research vehicle to inform the briefing and codesign workshops. This visit included tours of several buildings in the Ouseburn Valley. The research concerned the use of design methods to develop, reconceive, preserve and unlock the potential of these heritage assets, developing them for contemporary requirements, while conserving the asset’s identity and character. The production of speculative propositions and interventions is increasingly seen as an innovative conservation method. The approach by the research team was to codesign low cost high-impact architectural and art installations that enabled the foundation to refurbish their new premises, while building their identity and promoting the value of the creative reuse of industrial buildings to Ukrainians. The shipyard site was where this design research was applied.

4. Statement of Significance



The project was an opportunity to make a significant input into the cultural landscape of a European city, through the organisation adopting the scheme for a cultural quarter within the city of Kiev. Other aspects of significance include:

1. dissemination to more than half a million people in Ukraine and abroad through TV, radio and social media.
2. an exhibition at Ukraine's influential modern art and design gallery (Izone) for two weeks between an exhibition on Grayson Perry and a respective on Andy Warhol. Over 10000 visitors in two weeks.
- 3 the opportunity to showcase at the CANaction festival in Ukraine with over 40 000 views.
- 4 the project altered the cultural practices of an influential arts foundation by introducing codesign and community led procurement of architectural works to the Ukraine.



Fig. 06_ Flyer for one of the exhibitions

Fig. 07_ Opening night of the exhibition.

'The approach taken by the design team was thorough and inventive and opened the eyes of the people of Ukraine to the value of its industrial heritage for cultural improvement.'

Luba Michaelova Patron Izolyatsia



5. Statement of Rigour

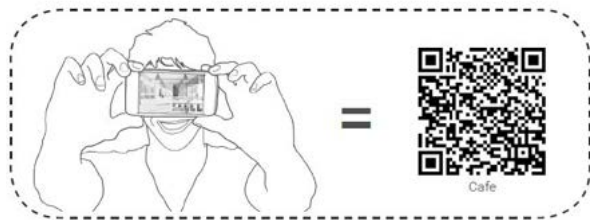


Fig. 08_ Feedback recorded on the design to be fed back into the scheme

Fig. 09_ Innovative technique to give exhibition attendees an immersive experience of the project.

This project has involved extensive practice and praxis-based design activities, as well as more traditional research methods to answer the four research questions to realise the design of the cultural quarter for Izolyatsia.

1. The design team have engaged with primary and secondary research to underpin and inform the design project. This included a comprehensive literature review of placemaking and creative reuse, particularly relating to post-industrial heritage.
2. We used participatory and co-design research methods, including interviews and design workshops with artists, the Foundations management and general the public to gain their insights and design contributions. .
3. A thorough three month design process using drawings, making, painting, modelling, computer modelling were used to arrive at a high quality design that satisfies the brief. This activity resulted in a preliminary scheme, for client feedback, that fed into the finished scheme for a professional quality exhibition produced in entirety by the design team.
4. Writing and presenting 3 No, lectures on urban design and creative reuse theory presented by (Jones, Dunn and Francis) as part of the Ukraine Architecture Foundation invited speaker programme.

5. The project was thorough and extensive covering a seven hectare site, including work from the design and manufacture of furniture, the design of public buildings, an extensive urban design and placemaking scheme. This included the work of 10 designers working to complete this project. (see extent of output at end of report)

6. Extensive computer modelling was used to provide client group and visitors high quality 3D VR and augmented reality for improved functionality and insight, produce high quality graphic material and production/manufacturing drawings to be built from.



6. Statement of Originality



Fig. 10_ Exhibition 'Living by Industry' before opening night



Fig. 9b_ drawings preliminary scheme



Fig. 9c_ Codesign Workshop

1. The adoption of a bottom up co-design and participatory research process. This is original in the context of a post-Soviet State which does not have a culture of co-design. This multi-layered and comprehensive approach used codesign workshops to explore concepts of creative placemaking and creative reuse. Ukrainians are unfamiliar with these concepts in the context of industrial heritage (source: Michaelova, 2017). Trips were organised with Izolyatsia to the North East of England to be shown around by the design team visiting several multi-award winning buildings that utilise creative reuse of industrial buildings.

2. As part of the layered approach, the design team with help from the Foundation, introduced the people Ukraine to the national and international significance of the Kiev shipyards. This was done through the media (TV, radio and social media) as well as three exhibitions including: *Living by Industrial*; *Heels Overhead: Landscape as-found*; and *Speculative responses to post-industrial landscapes in England*. Lectures and presentations by Jones, Dunn and Francis introduced the Foundation and Ukrainian council officers to concepts of Placemaking, Urban Design Theory, Creative Reuse and Space Syntax.

3. Originality was seen in the holistic use of computer software from pre- design to manufacture, including 3D Virtual environments and Augmented reality. In 2016/2017, virtual and augmented techniques were reasonably well developed in the UK, but had not been used to in the Ukraine as a codesign or as an immersive communication tool. ■

7. Research Questions



The research questions were derived from the brief provided by Izolyatsia Foundation

- 1.** How can a *sense of place* be established for the Izolyatsia cultural quarter, by developing a new architecture and urban design strategy?
- 2.** What lessons can be learnt by the Ukraine in dealing with creative reuse of industrial heritage from the UK.
- 3.** How can the building technology aid the construction of the facilities in terms of budget, utilising local expertise and semi- skilled labour.

□

9. Research Methods

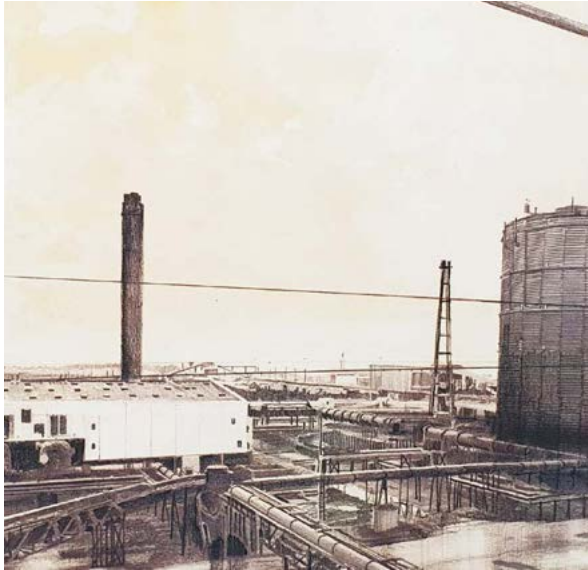


Fig. 11_ Drawing by Jones of part of the site

The research project is a case study that utilises mixed methods. Each method was chosen to be able to address the questions derived from client brief. The methods have been used in combination. The way that the method is used is referred to in the commentary in each section.

- Text based secondary data analysis of research (papers, report and books) including urban design, placemaking and creative re-use theories. Primary methods including visiting existing relevant facilities.
- Inscriptive methods, including: site analysis and surveys to establish site measurements and physical and environmental conditions of the buildings and site- Collaboration with manufacturers and supply chain to undertake designs of building components.
- Praxis and design-related activity using computer and physical modelling, as well as drawing, (in combination) to develop and test design solutions.
- Digital fabrication methods and onsite fabrication.
- Codesign with stakeholders to promote community engagement.



Taxonomy

- Conceptual design iterations
- Drawing
- Model-making
- Construction methods
- Spatial analysis
- Participatory activities
- Text-based research
- Phenomenology
- Theoretical research
- Fieldwork
- Photography
- Topographic survey
- Design research
- Trial and error experimental design processes
- Design-led research
- Historical research
- Typology research
- User experience
- Diagramming
- Interviews/user consultation
- Scale modelling
- Digital fabrication methods
- Site analysis/study
- Visiting similar building types



10. Question 1 & 2

How can a sense of place be established for the Izolyatsia cultural quarter, by developing a new architecture and urban design strategy?

What lessons can be learnt by the Ukraine in dealing with creative reuse of industrial heritage from the UK?

Method

All listed methods used

Literature Review

The architectural and urban design proposal was informed by a comprehensive literature review of relevant theories and concepts relating to placemaking and creative reuse. Questions 1 and 2 were considered in combination during the design process. The secondary data was used to inform discussions and the codesign process.

The table indicates the wide reading around the subject of placemaking that are specific to the design task; a number of these are referred to in the narrative associated with the research question.



Key Authors/references	Subject relating to place
Baka (2005)	Tourism and Place
Berleant (2003) Woronkovicz (2015)	Aesthetics and Place
Bosman (2011)	Value of History and Place-making
Cillers et al (2104) Landry (2000) Maikusen (2010)	Creative participation to Placemaking
Coates and Friedman (1984)	Placemaking and the city
Hall-Lew (2014)	Heritage Identity and Place
Harney (2006) Pierce et al (2011)	Politics and Placemaking
Hou and Rios (2003)	Community Driven Place-making
Kent (2018)	Governance and Placemaking
Lew (2007)	Place-making and Planning Theory
MacCannell (2007)	Place and Leisure
Main (2015)	Place, Identity and Agency
Martin (2003)	Placemaking as Activism
Manzo (2014) Othman et al (2013)	Place attachment
Silbeberg (2013)	Components of Placemaking
Wortham-Galvin, B. (2013)	Placemaking and Economic Development

Question 1



Fig. 12_ Example of placemaking in Montreal

Fig. 13_ View of the Rybalskyi Shipyards from the East

Place in relation to the design problem

In the context of this research placemaking is regarded as a process, a *philosophy* and a *structure*. It relates to the role that arts, culture and heritage plays in helping to shape new and existing buildings and landscapes, more specifically those occupied by Izolyatsia in the Rybalskyi shipyards Kiev.

Placemaking has increasingly been recognised as an important activity that connects people to their physical environment, through the creation of public spaces and amenities. It helps shape and enhance where we live, work and socialise. It concerns building or improving facilities to serve physical, cultural, and social objectives. These objectives include the promotion of civic pride, neighbourhood connections, economic development, environmental sustainability and cultural education, Silberberg, et al (2013). Good placemaking should also create public spaces and amenities, to promote people's health, happiness and wellbeing. Communities have their own cultural identity, which is shaped by their history, the context and traditions, these traditions are fundamental to a sense of place, Bosman (2011). By engaging communities in a placemaking process, where they help shape their public spaces and amenities, it is argued that they assume a more effective and authentic political and social voice. They become intrinsically motivated to create enriching places that relate to them, Silberberg et al. (2013). This process is also known to empower communities and local leadership.

Placemaking as a process

A robust process is fundamental to good placemaking. When working with community organisation, such as Izolyatsia, establishing a process of place- making- through community participation-

is essential. This is well recognised by placemaking advocates, who often consider community participation as key elements of any placemaking activity, Cilliers et al, (2014); Hou & Rios, (2003). In the spirit of economic, cultural or social improvement the Ukrainian government regularly takes control of land to build construction projects and displaced local communities, Michaelova (2017). Therefore top-down strategies, in this context, are politically problematic, as they represent strong elements of control. The country does not have a tradition of bottom-up intervention; there was consensus between the design team and the Foundation that bottom-up, community involvement, was vitally important to mitigate against this. Izolyatsia was aware of this type of community engagement in the west, but had no experience of it in the Ukraine.

Bottom up strategies within this *process* involved the design team undertaking workshops with members of the foundation. This involved two- 2 day- visits by Jones and Young to the Ukraine to run codesign workshops, as well as two separate meetings with Luba Michailova (the Foundation's patron) one in Newcastle and the other in London. These were to consider how to best phase the project and utilise the crafts people in the production of the scheme.



Fig. 14_ Example of lowcost art installation adjacent to the ABK building

A series of public exhibitions and lectures by the design team resulted in useful feedback to inform the scheme into the construction phase. These workshops involved codesign activities, as well as in-depth discussion with the foundation. The four individual workshops included:

Visit 1 Gathering information, philosophy and structure

WS 1 better articulation of the qualitative aspects of the brief;

WS 2 the arrangement of the programme on the site; the nature of the architectural and urban design scheme.

Visit 2 Client response to initial design

WS 3 Initial architectural scheme- opportunity for Foundation input

WS 4 Initial urban design scheme- opportunity for Foundation input

Visit 3 exhibitions and lectures

Exhibition 1: *Living by Industrial*;

Exhibition 2: *Heels Overhead: Landscape as-found*;

Exhibition 3: *Speculative responses to post-industrial landscapes in England*.

Lectures and presentations by Jones, Dunn and Francis introduced the Foundation to concepts of Placemaking, Urban Design Theory, Creative Reuse and Space Syntax.

This integrated and rigorous process established the underlying philosophy for placemaking and the structure and components of the design scheme.

The creative placemaking process

Alongside utilising the community assets as inspiration for the scheme, the design team recognised that Izolyatsia project would involve a nuanced approach to placemaking, due to the nature of the organisation. With the Foundation being new to the area, it was difficult to draw on the heritage and associated identity to inform the scheme. Creative placemaking was also considered to be a relevant approach. As a placemaking *process*, it involves working with non-profit, and community sectors, using art and culture-based activities, to achieve community priorities that are physical, social, and economic. This takes on varying forms, from temporary art installations and performance art, to permanent buildings and spaces. Architects, artists and designers collaborate together and work with community groups, often in a codesign relationship, to create work that enhances places. The Pls have engaged with this activity in the UK for over two decades, but not substantively abroad, in a country that does not have that tradition or culture. A component of the design challenge, as set out by the foundation, was to promote creative practice to improve tourist and visitor engagement. Placemaking that is intentionally tourist-orientated often has to be planned and is often top-down. Local and national government often employ designers to conceive facilities for social and cultural improvement with little or no input from local people, MacCannel's (1976); Kent (2003). The locals were difficult to engage, but the younger representatives who were already beginning to collaborate with the Izolyatsia provided a local voice in the workshops.

Placemaking as a philosophy

Additional to the schedule of accommodation held within the brief, the workshops, helped the Izolyatsia articulate the more phenomenological and philosophical aspects of the brief. As part of the placemaking strategy they wanted the cultural quarter to attract locals and tourists to extend the impact of contemporary art and design within Kiev and beyond.

Not every landscape supports a sense of place. Augé (2009) classifies many landscapes as non-places where humans remain disconnected and the context

does not hold enough significance to be regarded as “places”. In the first workshop, the design team started with what was significant about focusing on the underlying *spirit* of the context and defining the community assets to build the placemaking strategies around. We argued that this is comprised of the physical building stock of the shipyards and associated industrial buildings, and the powerful imagery of forms, silhouettes and materiality. The shipyards have a very strong presence as a result of over 150 years of industrial activity and collective memory. To many Ukrainians, this landscape has been the backdrop of their lives.

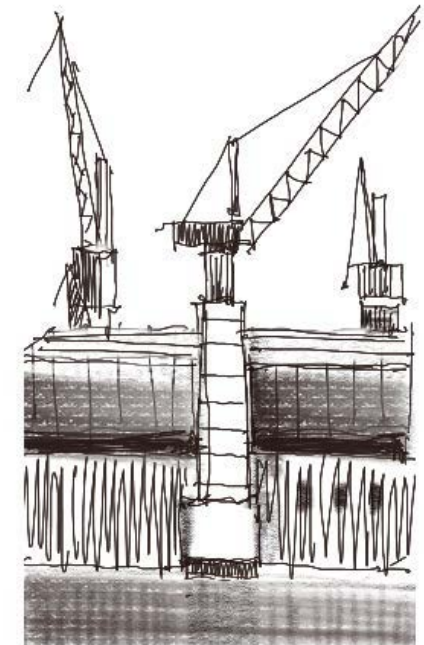
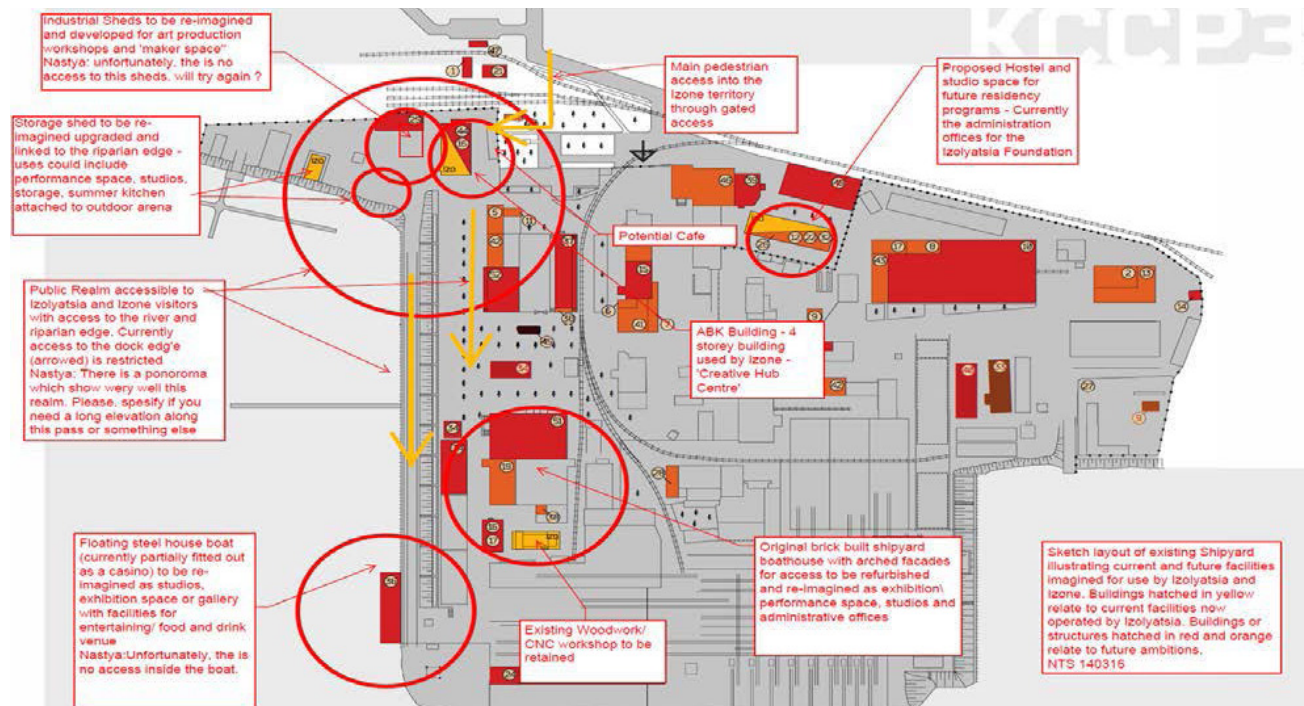


Fig. 16_ Drawing produced by Anastasiia Danyliuk as record of Co-Design workshop

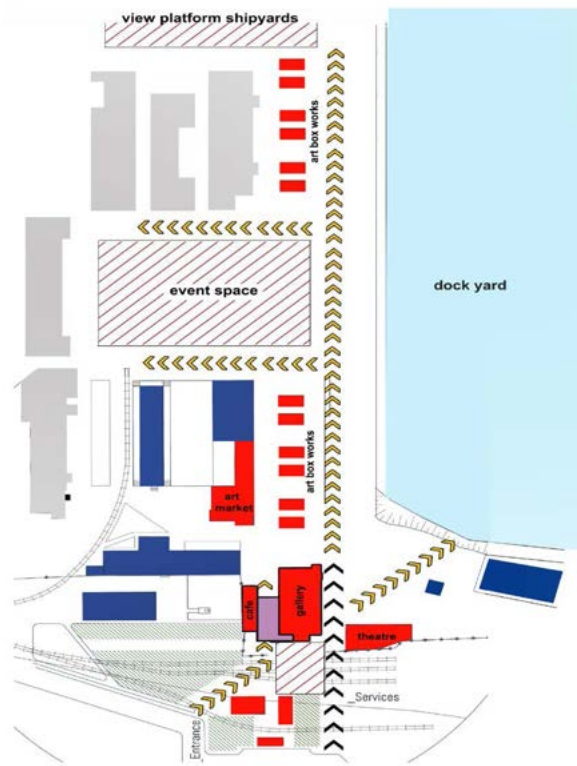


Fig. 17_ Diagram drawn as part of preliminary scheme for Foundation input

To engage with local people, it was even more important to maintain and enhance their relationship with this industrial landscape and fundamental to our the placemaking philosophy. However, through a lack of public facing amenities, there was little or no reason for local people to visit the shipyards. Luba Michaelova (Izolyatsia's Patron) believes another fundamental problems is that the locals view the derelict shipyards as blight. They do not have the same enthusiasm or emotional connection for this type of physical heritage, as we do in the west. However, due to the scale and visual power of the landscape, it is anticipated that once the public were on site, a high-quality creative reuse scheme of the buildings and external spaces, would have comparable impact to anywhere else in Europe. A number of drawings and exhibition quality photos were produced in the first visit that helped to characterise the landscape, see fig 11 as an example.

Structure of place

As part of the first session- as well as working on the *philosophy* behind the placemaking scheme- we worked with the Foundation on the layout of the site and the schedule of accommodation. It is of a significant scale and we recognised that a successful scheme needed a clear diagram with a strong structure that defined how people engaged with and used the landscape. There needed to be two landscapes operating concurrently, one for the public and one for the artistic communities. It was also important that we considered when these landscapes were to be kept apart and when they came together, so that the locals could see the artists working and producing projects. The Foundation recognised that a new cultural quarter had the capacity to generate income for the organisation, so amenities such as cafes and restaurants were important for

a sustainable future; these are also important as placemaking devices.

In the first codesign exercise, we asked the participants to work on the top of a site layout to organise the spaces and buildings to suit their requirements and aspirations. This workshop involved defining an entrance sequence and framing the ABK building. A spine was also defined as a route where all the public activities could be accessed from. This route was terminated with a viewing platform of the shipyards. At this point the structure and the spirit of place combined into one experience. At the end of the session we consolidated the layouts into one general arrangement that the participants were happy with. Anastasiia Danyliuk, one of the art officers at Izolyatsia, drew a plan that became the basis of the urban design scheme to we progressed with back in the UK.

Each component of the scheme was considered, separately by working groups within the workshops. The annotated sketch drawings produced by the PI in Kiev (see fig 18) were used to inform a preliminary scheme that was worked up when back in the UK. Much of our input was within and around the ABK building. In discussion with the Foundation, they wanted this to be the centrepiece to the project. From this building an art promenade would begin that would include a box work space of rentable units for artists and a landscape of art and design with external exhibitions and installations. To the rear (East) would be a performance space and temporary theatre.

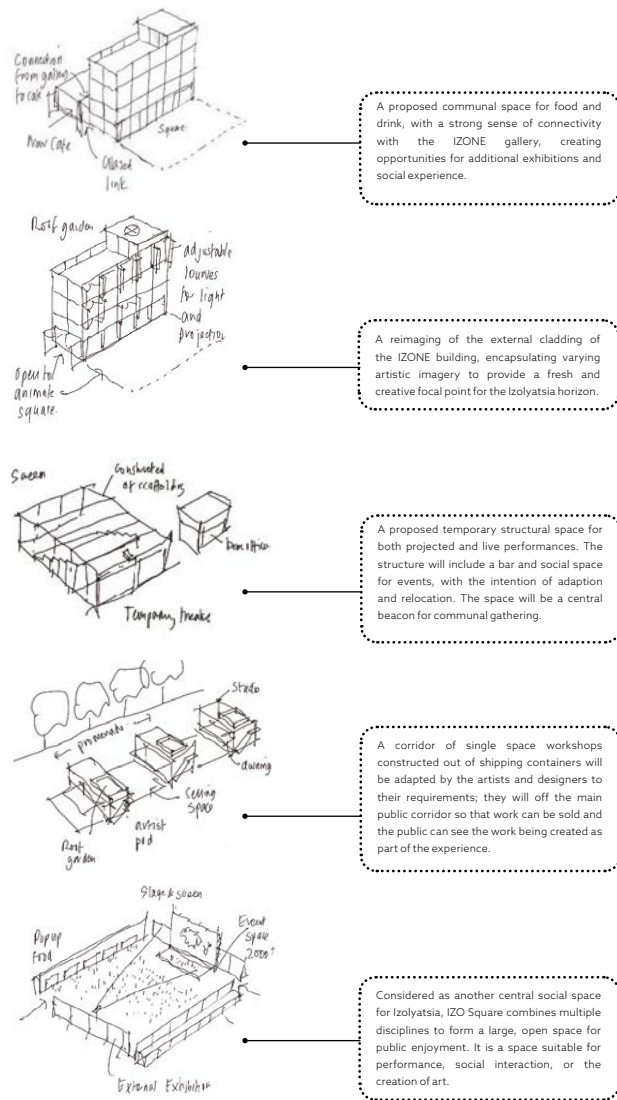
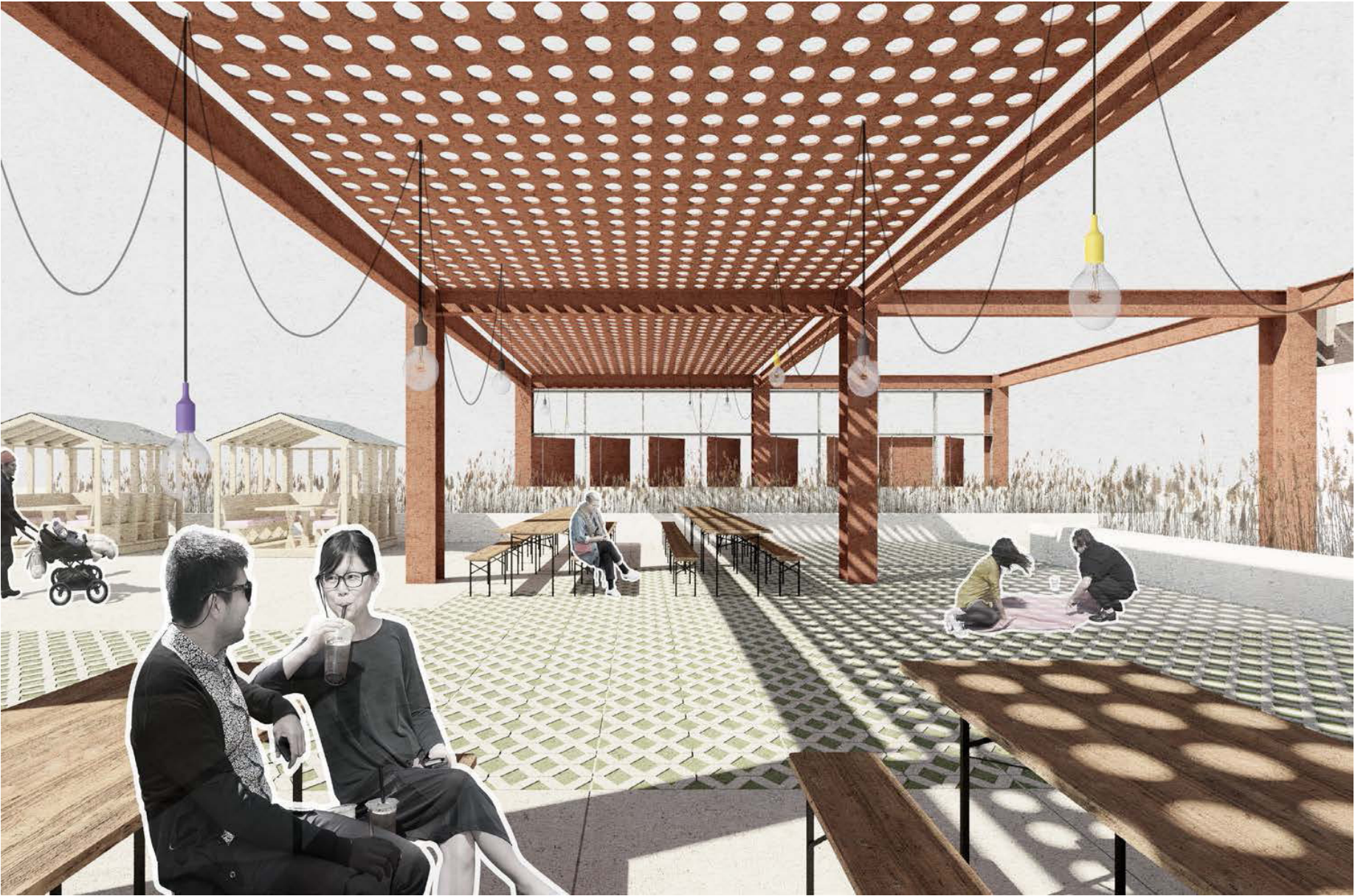


Fig. 18_ Generative sketches produced in the co-design workshops

To the west was a café bar that was connected to the ground floor gallery. The schedule of accommodation for the ABK building was well defined, so the workshop concentrated on the external skin and internal spaces. Examples of the preliminary scheme as shown below. The Foundation was very positive about our approach and preliminary scheme and gave us extensive feedback which worked up into final scheme and construction works. As part of the Our strategy is to weave a new scheme that embraces the existing landscape, adopting a similar industrial materiality, while ensuring that it is clear what is new and what is original through the use of colour etc. The principal buildings would be re-clad in new materials, but the silhouette and scale of the design is very would remain. ■



Fig. 18a_ Drawings of the preliminary scheme along the main route to inform discussions with Foundation



Question 2

What lessons can be learnt by the Ukraine in dealing with creative reuse of industrial heritage from the UK?

Method

Text based secondary data analysis of research (papers, report and books) including urban design, placemaking and creative re-use theories. Primary methods including visiting existing relevant facilities



Fig. 19_ Example of Grade II* high quality industrial building in Ouseburn

The table indicates the wide reading around the subject of creative reuse that are specific to the design task; a number of these are referred to in the narrative associated with the research question.

Key Authors/references	Subject relating to Adaptive Re-use
Louw (2009)	Re-use dialogue between old and new
Stone (2019)	Re-use and Cultural Memory
Highfield (1987) Bullen and Love (2011) Snyder (2005)	Re-use and Heritage Buildings
Ball (1999) Orbasli (2009) Bullen (2007)	Re-use and sustainability
Wilkinson (2009) Sowinska-Heim (2014) Ball (2002) Tappe (2017)	Re-use and community identity Re-use and industrial buildings
Henehan (2004)	Re-use vs renovation
Conejos (2011) Clark (2008)	Re-use strategies and methods
Browne (2006)	Re-use and commercial benefits
Rabun (2009) Jokiletho (1996)	Re-use and conservation vs preservation



Fig. 20_ A recently complete restoration of St Michael's church in Kiev

Fig. 21_ Shipbuilding in Kiev planned for demolition

Placemaking and creative reuse of buildings are inextricably linked. Good, creative reuse- like placemaking- involves harnessing the heritage value and preservation of an existing built landscape; in this case a post-industrial landscape. Historic buildings add value to a place through their variety, character and a sense of familiarity. Latham (1999) describes creative reuse to be a process that moves beyond a renovation scheme to also include the challenge of identifying suitable buildings and landscapes, understanding their essential qualities, and selecting an appropriate function, for both their settings and the people who will use these facilities. There are several techniques that can be used with creative reuse, including refurbishments, restoration, design intervention adaptations and conversions, often used in combination. In creative reuse projects, heritage buildings are the focal point of projects, and are often used to also express an organisation's identity. The contingent nature of the shipyards for instance was one of the factors that attracted Izolyatsia, aligning with their own contingent circumstances.

Commercial pressures on land, particularly in city centre locations, has resulted in perfectly good buildings being demolished and regularly replaced with poorer substitutes. There are multiple reasons for conserving, maintaining and creatively reusing existing buildings. Wilkinson (2009) argues that countries have a moral and environmental responsibility to reuse existing buildings; they are also vitally important for establishing a sense of place and regional identity. The Ukraine regularly demolishes high quality industrial buildings that have genuine heritage value and are important for the country's national identity, Rowbotham (2017). Spending money on constructing new buildings to replace perfectly good stock makes little economic sense- especially as the Ukraine is classified as a

developing country. In the context of developing countries, conservation-led regeneration is not fully appreciated or understood. If historic landscapes are protected, they tend to be through preservation, Othman (2018). Heritage-led regeneration in Ukraine is rare; it is generally limited to preservation of religious and civic buildings as tourist attractions (see fig 20). Creative reuse is unheard of, particularly in an industrial context.

With this research, we are interested in the placemaking benefits of creative reuse that can be derived from successfully strategies in the UK for industrial heritage generally and more specifically the Rybalskyi shipyards. In recent years, there has been a growing body of literature, studies and reports supporting the value of historic and existing buildings in developing sustainable communities. Mason (2005) argues, however, that although the field of historic conservation maintains a strong research agenda, this has not generally been extended to cultural and creative heritage conservation. In developed countries, heritage-led creative reuse is now accepted as a recognised approach to regeneration, although there is little recorded research as to successful strategies and approaches to it; this work generally remains tacit, Timothy (2009).

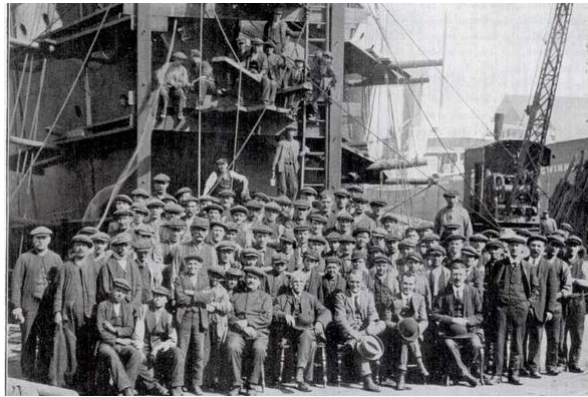


Fig. 22_ Turn of the century River Tyne shipyards

Fig. 23_ Creative Reuse of Mill buildings in Manchester with new extensions

Creative reuse of industrial buildings and landscapes

There is something about industrial buildings and associated external environments that lend themselves to creative reuse by art and cultural organisations. It is perhaps due to the connections that these buildings have with making things or craft activities, or the size of spaces that works well as studios, workshop and gallery spaces, Brooker & Stone (2004). Stone (2019) argues that the more secular and ordinary buildings, such as factories and warehouses, offer better opportunities for creative reuse, than religious and civic buildings. Industrial buildings are generally more connected to people and are symbolic reminders of a great industrial past as a repository of collective memories of ordinary people, such as shipbuilders and factory workers. Conserving these buildings prevents the loss of individual and collective memory. The UK perhaps has the best examples of creative reuse of industrial buildings in the world. This is due to the UK having the highest density of historic industrial buildings, through being the most industrialised nation in the 19th and early 20th century, Latham (2009). Some of the earliest successful conversions of industrial landscapes are in the northern cities of England, particularly in Manchester and Liverpool, which have proven how creative reuse can generate economic, as well as significant cultural improvement, Orbasli (2009). Many industrial buildings were very well built; the factories and warehouses of the Northeast, and the Mills of the Northwest, have only recently (within the last 25 years) been acknowledged for their quality and historic importance.

Lessons Learnt from the UK

There is much discussion in the literature about tangible and intangible benefits of placemaking

and creative reuse. Societies are fixated with demonstrating tangible benefits that are quantifiable, usually measured in monetary terms. The first wave of benefits are nearly always intangible. Over time these result in tangible benefits that can be measured, but these can take many years to be realised. There are numerous examples around the world of how placemaking and creative reuse strategies have gone onto elevate business rates and rents. They have led to increased house prices and income revenue from the food and leisure industries, Brown (2006). Even with the large body of evidence, national and local governments rarely instigate placemaking and reuse strategies; they do, however, regularly intervene once an area has demonstrated success, usually looking to gentrify an area for increased business and domestic rates (Conejos, 2006).

Improving the quality of *place* and *regional identity* are two such intangible benefits of the creative reuse of industrial landscapes in the UK, which the Ukraine could learn from. An example of this can be seen in the cultural renaissance of the Northern part of Manchester City Centre in the 1990s and 2000s- branded as the *Northern Quarter*. The power of *place* and *identity*, driven by creative reuse of a post-industrial landscape, was the catalyst of this renaissance. Like the Rybalskyi shipyards, this area of Manchester was previously threatened with mass demolition in the 1980s, due to a lack of value attributed by the City Council to the Victorian mills and warehouses, (Leese 2008). At the time, this city-along with other northern cities such as Newcastle and Liverpool- was deemed to be a symbol of what Thatcher called '*...the British disease*', due to it being run-down and plagued by social, economic and environmental problems, O'Connor and Wynne (1996). The *Northern Quarter* began to improve in the early 90s, through the incremental occupation



Fig. 24_ Ben Kelly- Dry Bar
-example of Manchester
Industrial Style

Fig. 25_ High quality Art by the
Northern Quarter community

by arts and cultural organisations, independent shops and eateries, who were attracted by low rents. This process involved interesting and cost-effective creative reuse schemes of many industrial buildings. Young, up and coming designers and architects, such as Ben Kelly, and Ian Simpson, arguably pioneered the Manchester industrial design style in this area, that has since been celebrated and exported around the world. Fundamental to its success, was to vehemently resist top-down intervention. Like the shipyards in Ukraine, this area was considered low priority for investment and there were very few planning restrictions. This enabled the community to speculate and experiment; buildings were altered and adapted with minimal council intervention. Likewise, developers were generally disinterested and happy to see their buildings tidied up, occupied and renovated.

The Pls (Jones and Dunn) both worked in the *Northern Quarter* during this period, contributing to award winning projects and engaging with- and pioneering-early forms of bottom-up community participation and codesign activity. This valuable experience directly influenced and inspired the approach taken in Kiev. There were obvious parallels between with the shipyards in Kiev and the Northern Quarter. Within a decade, this area had been reconsidered from blight to prime real estate and highly regarded by planning departments. It is now a Manchester City Council Conservation Area.

A very similar bottom-up creative reuse process improved an industrial area in Newcastle, known as the Ouseburn Valley. This is a much smaller area than the *Northern Quarter*, but here social and cultural improvements in the area were driven by arts and cultural organisations without help from the Council. Such is the quality of the heritage and the public realm, the Ouseburn Valley (like the *Northern*

Quarter), was classified as a conservation area having previously also been regarded as blight. It is now a tourist destination and a go-to place for local people for its cultural scene, bars, restaurants and industrial heritage.

The design team thought the Foundation would be better informed if they saw good quality creative reuse schemes within their real-life industrial setting. Therefore, during the codesign stage, a delegation from Izolyatsia, including their patron, Luba Michaelova, came to the UK to visit several excellent examples. While the delegation was in the UK, the Pls (Jones) gave a presentation at Northumbria University, referring to key examples in the UK and the key literature, before taking them around the Ouseburn Valley, visiting the Toffee Factory, the Cluny Art and Music Centre and the Seven Stories, all principal buildings where community organisations developed creative reuse strategies. They met with delegations from these facilities who gave them valuable insights in their own development process. During the trip, they also visited similar facilities in the Northwest and the London docklands. After visiting the UK, the Foundation decided to commission an exhibition of UK architects who had designed creative reuse projects; this exhibition was curated by Jones and Dunn.



Fig. 26_ Cluny Art Centre within early 19th century warehouse



Fig. 27_ Low Cost Art installations as part of cultural improvement



Fig. 28_ Seven Stories renovation of Warehouse in Ouseburn

The principal lessons learnt from the UK were to recognise the value of bottom up community-led creative activity, and how these communities can drive change.

More specifically the following were taken back to the Ukraine:

- *Retain and repurpose building where possible.*

This is clearly important in financial terms but also to preserve a sense of place. In the first phase of the Northern Quarter scheme 95% of work carried out was to existing buildings. Consequently, there was a uniformity and consistency of urban form.

- *Where possible utilise the skills and expertise of the community.*

This has multiple advantages, the first being that it significantly reduces the renovation costs. Art based communities have an amazing array of skills including: building, making, restoration, interior design and decorating. Auditing what skills are available within the community is very important in coordinating the work. Helping to design and build the facilities increases a sense of ownership and helps build identity, which are known to increase the sustainability of the project, as people are more likely to conserve and maintain the projects.

- *Value low cost interventions.*

Not every project needs to be designed, or involve significant financial investment. Using low cost materials and processes can often be as effective. Simple wall finishes; using artwork to add interest; making sculptures incorporating found objects. (see fig 27).

- *Utilise the full extent of art and design practice:*

The *Northern Quarter* and the *Ouseburn* were movements in their own right, utilising art, architecture, sculpture, graphics photography, land art, music and performance etc. The *Northern Quarter*, as well as being an example of outstanding creative reuse and placemaking, also helped facilitate the Manchester music scene that is now world famous. It also promoted the work of influential photographers and Graphic Designers such as Kevin Cummings and Peter Saville.

- *The work should be place based.*

Despite some methods being exported to the Ukraine from the UK, the design team were keen that the artists and designers develop an *aesthetic* specific to the location. The successes of the UK schemes are built on the work having a sense of local identity. The creative use and placemaking schemes of Manchester and the Ouseburn could not have come from anywhere; this helped to define a sense of identity.

- *Encourage a mix of functions within the development.*

It is important that there are facilities that attract people and make them want to stay. People are fundamental to placemaking. Factories and Warehouses converted into restaurants, cafes, shops etc. are all important as part of the offer to local people and tourists (see fig 30). Both the Northern Quarter and the Ouseburn provide many opportunities to support the local economy. In the second phase of these developments, the mills and factories started to be converted into residential accommodation. This means that there is a baseline population supporting the local economy throughout the day and night, so when the tourists leave there is still money being spent.



Fig. 29_ Clear establishment of old and new

Fig. 30_ Performance in Ouseburn



Fig. 31_ Toffee Factory as a focus of art of programme

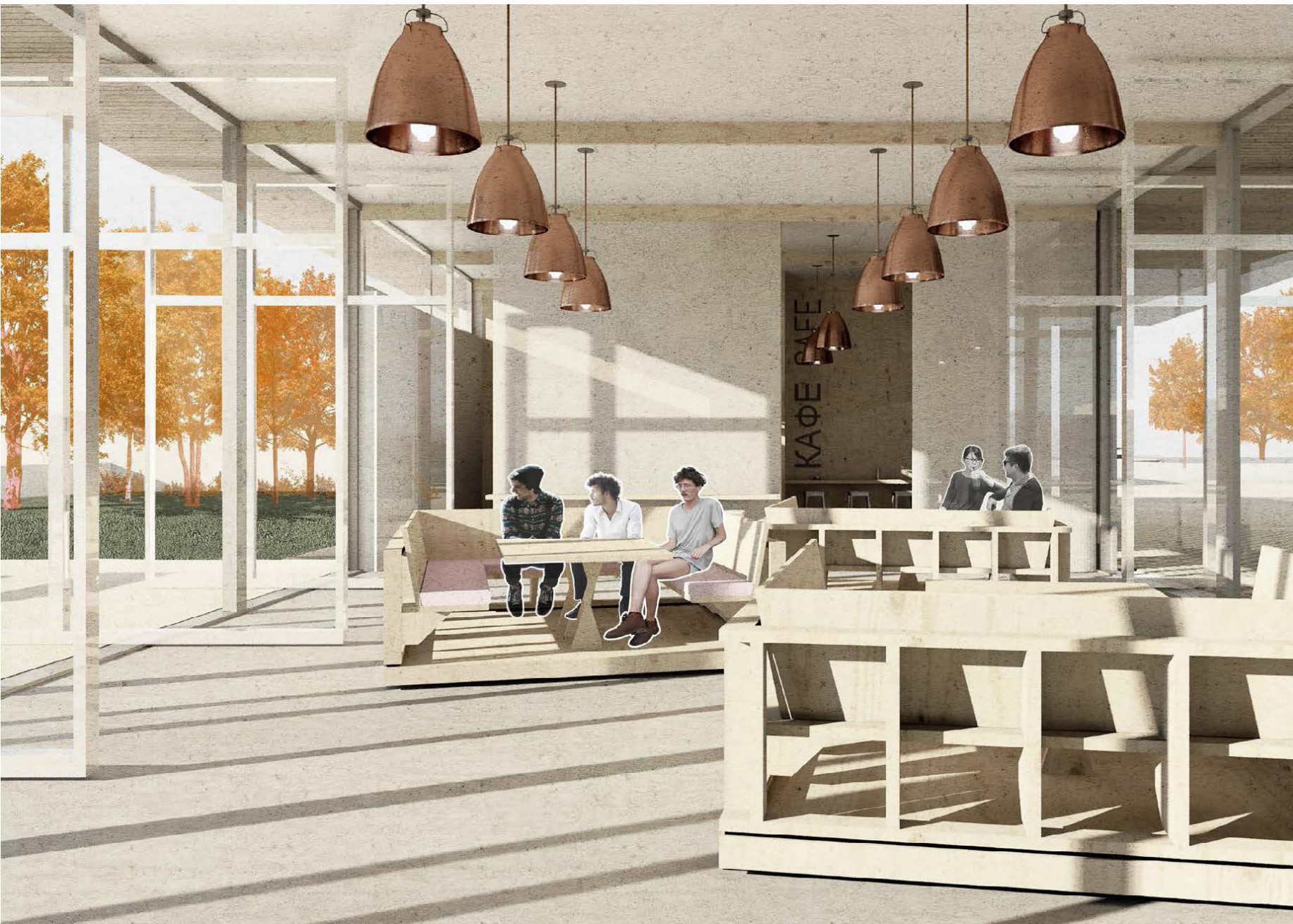
-Be clear what is new and what is original.

It is important with creative reuse and placemaking to deny oxymoron and pastiche. Authenticity is important (see fig 29).

- Define several key buildings where grants can be sought for their development.

This strategy is to create hubs within the development. In the UK schemes, principal buildings were highlighted to apply for European and National Lottery money (see fig 31). These buildings were clearly distinguished as being more important and acted as wayfinding devices as well as showcasing the work of the community. Examples are galleries, museums, visitor centres. These buildings often follow in the second phase of the development but are important for the future sustainability of the place.

All the above here have been integrated into, and informed, the scheme of works produced by the research team for Izolyatsia. ■



11. Question 3

How can the building technology aid the construction of the facilities in terms of budget, utilising local expertise and semi-skilled labour?

Method

Methods, including: site analysis and surveys to establish site measurements and physical and environmental conditions of the buildings and site.

Praxis and design-related activity applied to the research questions, using computer and physical modelling, as well as drawing, (in combination) to develop and test design solutions.

Digital fabrication methods and onsite fabrication.

Izolyatsia has developed an international profile for the quality of its art and design practice. It has developed a robust financial position through the letting out space to art and cultural organisations for office accommodation and exhibitions/conferences. It has also attracted European and British Council funding. Despite a healthy balance sheet, a capital works programme of this size required a funding strategy. The foundation's finance could be used to start the refurbishment works, while applying for significant funding from Europe for principal components, such as external façade of the ABK building.

The internal fit out of the ABK building for the gallery spaces and workshops, the outside theatre, and the makers' street were designed to utilise the existing expertise and skills within the community (see fig 31). This approach was used by the Ouseburn Trust, who looked to the art and making community to undertake creative reuse, within their own capacity, while applying for funding from the Heritage and Arts Lottery for works that required professional contracting firms.



left

Fig. 32_ Cost effective surface treatment to one of the entrances built by community

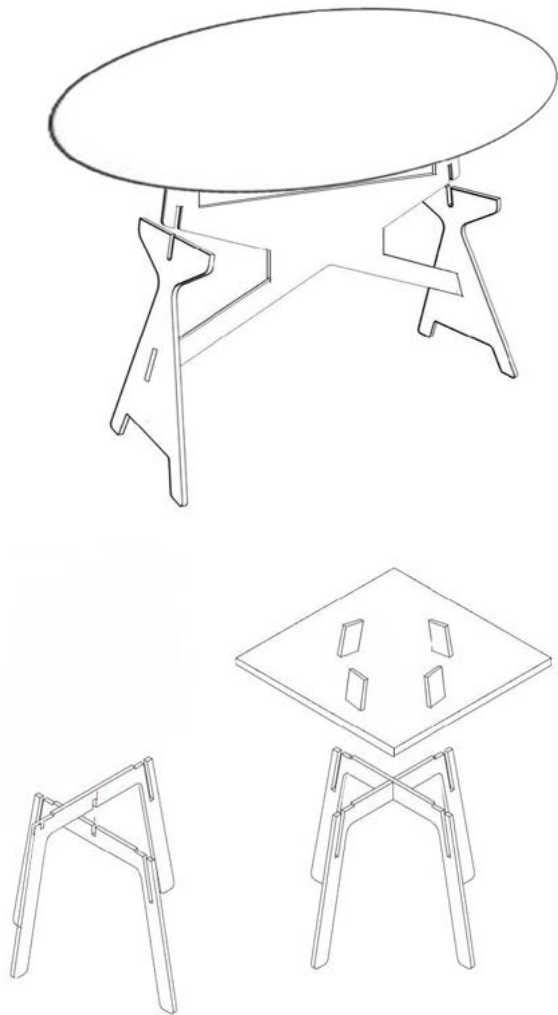


Fig. 33_ CNC drawing produced for large cafe tables Izolyatsia for easy assembly

Fig. 33a_ CNC drawings of the small café tables

The Foundation, on occupying their new facilities, hired several local craftspeople who were invaluable in the community-led construction work. They had welding and riveting sheet metal expertise, as well as carpentry and cabinet making skills. Within the design community there were a number who were experienced in the use of rapid prototyping. This set of skills was exciting to utilise: we combined the strategy developed in the codesign workshops (regarding place and creative reuse), with an understanding of the existing expertise and skills of the community, to develop the final scheme. The scheme was split into fixed furniture packages and simple buildings that the community could build, and those components (such as the external façade of the ABK building); that required professional contractors. We recognised that if funding was successful, then it was more than likely that a professional architect from the Ukraine would be commissioned to oversee the work that required a professional builder.

The production information was drawn to be more diagrammatic than constructional, to give the craftspeople flexibility and opportunity to interpret how the project was ultimately built. Izolyatsia had recently purchased several CNC and laser cutting machines; one of which was large format. This significantly helped as components could be constructed using CNC technology, so that novice builders could get involved, overseen by the craftspeople. In effect, the interior fit out of the ABK building and makers' sheds etc. became more of an assembly process than a construction project. The design team did a series of exploded and cnc line drawings of different components (see fig 33,34 as examples). We could embed STL files in our drawings, with that could be read by the CNC machines for cutting. The size of the grant did not allow us the time

or resources to do full construction drawings, so we also used perspective drawings as a vehicle to relay information about the nature of the scheme to those who may assemble the project (see fig 35, 37, 39, 44)

The following slides give examples of four components of the scheme and the types of drawings that were produced by the design team to guide the foundation.



The approach taken within the ABK building, to avoid having to cut the heavy-weight structural frame, was to design lightweight walls and screens to be easily erected by the craftspeople, illustrated by the design team. The welders employed by the Foundation from the shipyards constructed crittal-type screens of welded light-gauged angle sections. These cost effective glazed screens were used to form the offices, allowing light into the body of the building (as seen in the perspective).

This was seen as an example of utilising the existing expertise to produce a cost effective and high quality component.



Fig. 34_ Drawing showing hand made version of crittal window

Fig. 35_ Crittal windows to offices built by local craftsman (originally shipbuilder)

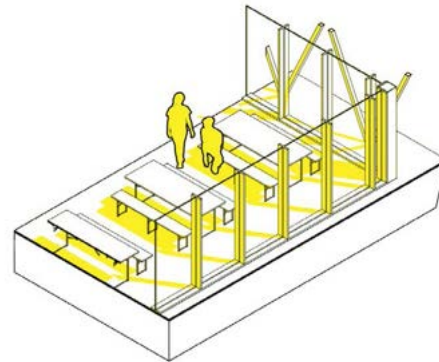
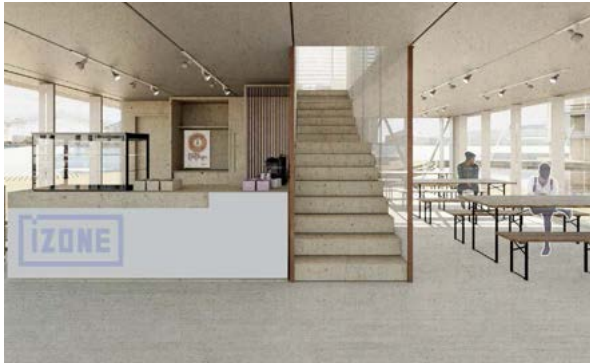


Fig. 36_ Axo diagram of primary frame to office before fitting windows.



To further utilise the expertise within the Foundation, a number of fixed furniture elements were designed using 20 mm ply fix to a 75mmx50mm softwood frame. The ply could be cut accurately, utilising the flat bed digital router, so that between the employed craftspeople and the artist/makers these components could be made expediently and to a very high standard of finish. This work was the first to be built and enabled the Foundation to get established and start making funds from the café/restaurant and the office rents.

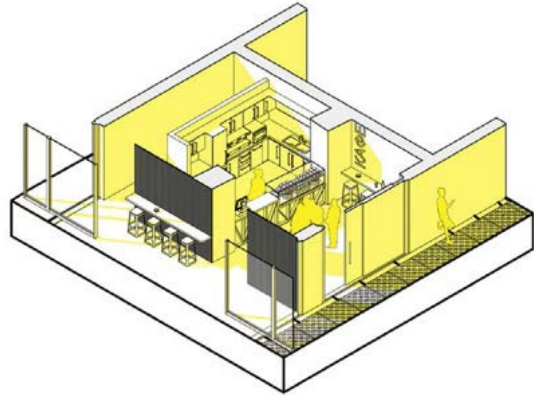


Fig. 37_ Perspective for café used as influence in ABK cafe

Fig. 39_ Axonometric of café and kitchen for ABK



This technique of using CNC drawings and the router also translated well into cutting the structure for the sheds. The router can cut up to 50mm, so using span tables the design team produced the structural system with closer centres so that the widths of the primary elements did not exceed 50mm. The timber sections were brought in at low cost from a local timber yard. Slots were cut in the ends of the timber for steel flitch plates to be fixed to the floor slate. The metal plates were formed by the welders. ■

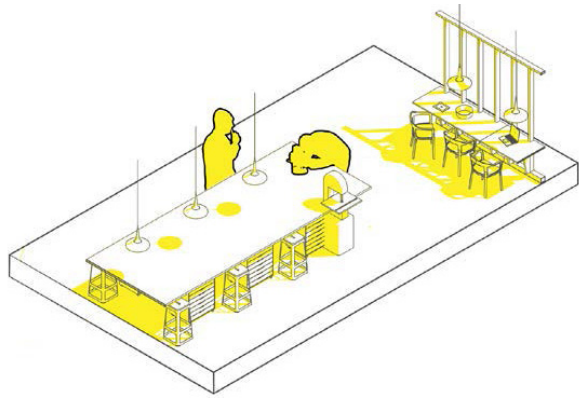


Fig. 40_ Photo of completed workshop

Fig. 41_ Axonometric of the workshop

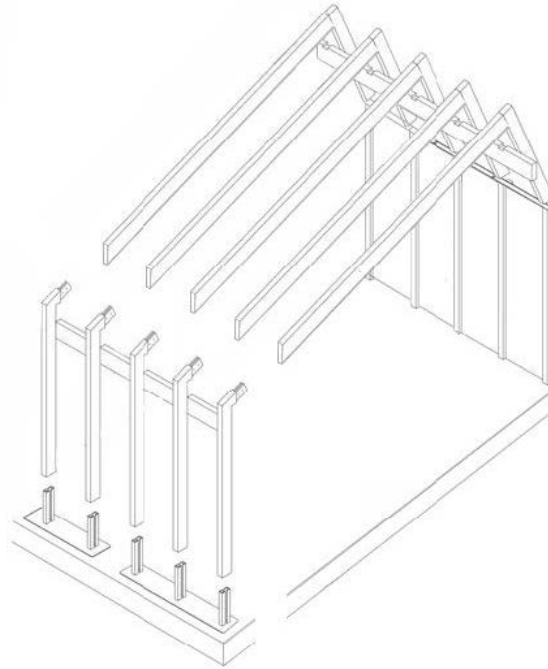
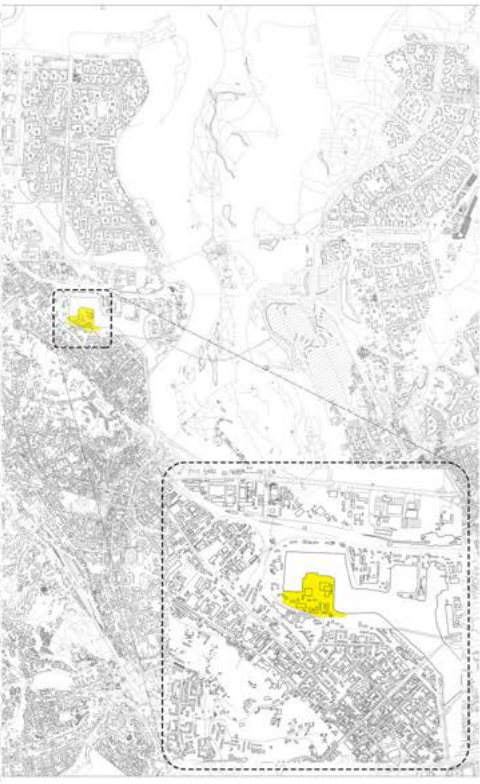


Fig. 42_ Drawing of workshop structure

ZONA

PLATFORM FOR CULTURAL INITIATIVES



_IZOLYATSIA

Transforming the Kiev docklands of Ukraine through the Arts, Craftsmanship and Community.

A project undertaken by Matthew Glover, Taylor Grindley, and Joss Ryan.

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Izolyatsia is a platform for cultural initiatives. It is a multidisciplinary cultural project open to all genres of creative expression. It is a point of attraction for all those passionate about cultural and social change. Izolyatsia has three interrelated dimensions of activity: art, education and projects generated at activating Ukraine's creative sector.

The initial concept behind the redevelopment of the dockland centres on the creation of cultural, social, and artistic connections embedded through Izolyatsia's designers. The idea that all aspects of art and performance can be conducted and experienced on site through a master plan of integrated public buildings and urban landscaping. The three principles which build the foundation of the design concept are the importance of the arts and its exhibition, open and integrated craftsmanship for quality art and design, and a sense of social well-being and shared values through an artistic community.

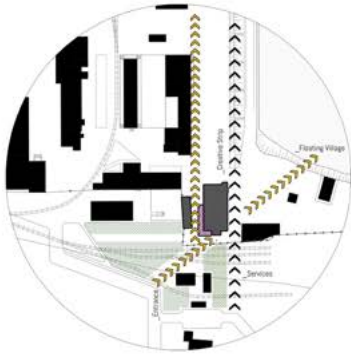
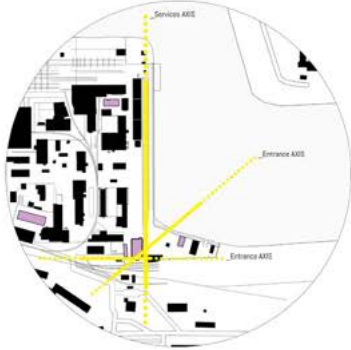
The site itself houses a number of existing derelict buildings, which would not be suitable for retention and refurbishment, with the exception of the ZONE building and the sheds to the east upon the waterfront. The location of the development is around the south of the site. The primary entrance across the existing disused railway line. These spaces will be developed into a new urban centre.

_Design Analysis 02

The initial design concept for the development of the urban spaces between the existing structures naturally creates a series of defined routes leading further into the site. There is potential to re-define the existing landscape through a natural area cutting straight through the site, leading to the potential location of the floating village. This area will transform the landscape into an open route, leading to new developments.

_Design Analysis 03

Further development of the transformation of the urban landscape lends itself to the inclusion of the manipulation of ground materiality. The arrows defining the route through the site can be integrated physically into the landscape itself, providing a visual aid to those journeying into the site. There is also potential here to manipulate the levels of the landscape, to create new island style forms to further enclose these routes and where they lead.



_THE ARTS

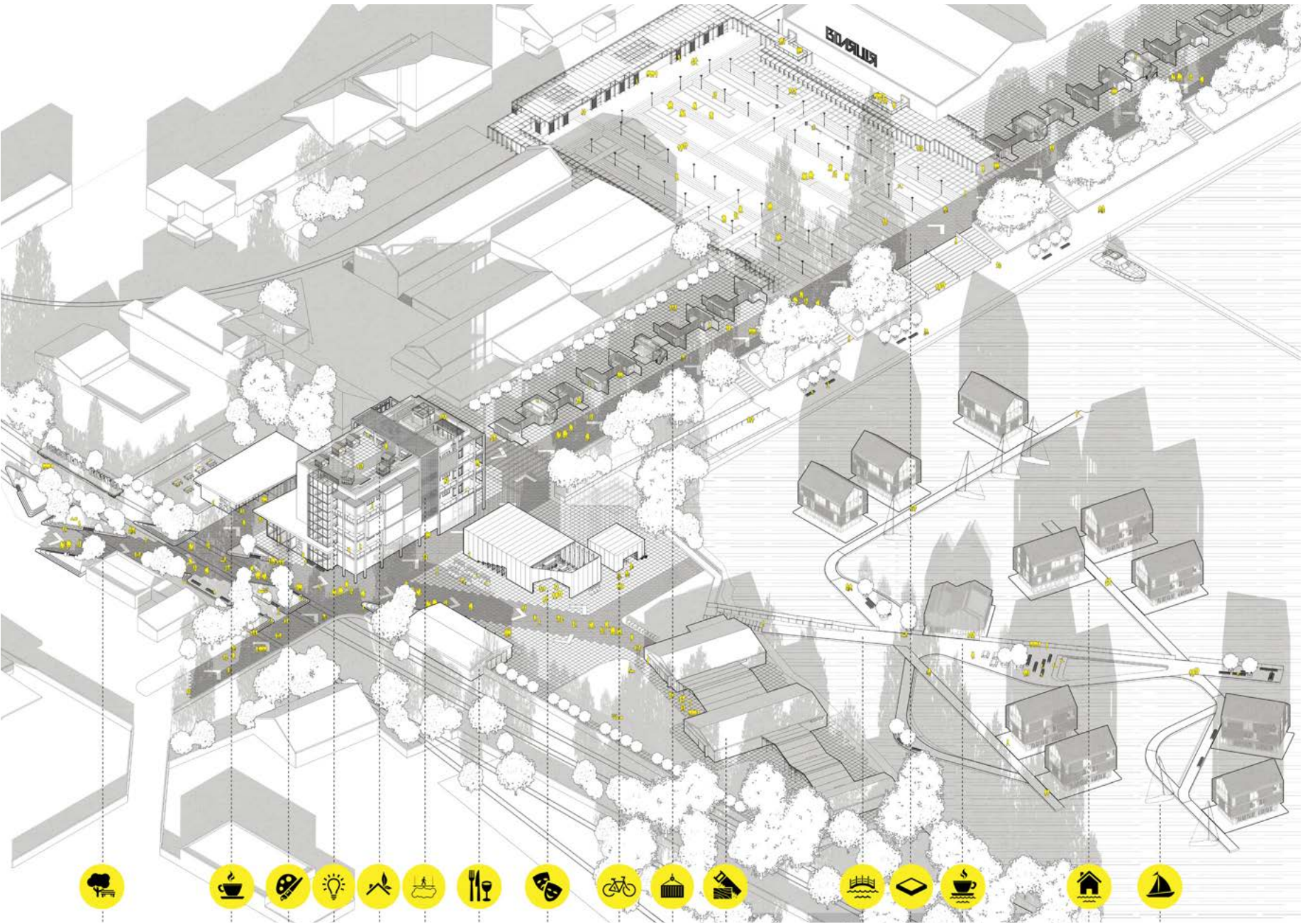
- A proposed common space for food and drink, with a strong sense of connectivity with the ZONE gallery, creating opportunities for a rich and vibrant social experience.
- A proposed customisable gallery and reception space within the existing ZONE building with potential office and logistical space on the floor above.
- A proposed re-design of the existing site entrance, creating a scenic and defined route through the site, leading towards the ZONE, Arts Park, and the Floating Village. Existing railway tracks will be retained and incorporate the history into the present design.
- Providing another element to the Skywalk breaks the connection of internal and external space, allowing the public to enjoy accessible external spaces in view of all aspects of Izolyatsia.
- A reimagining of the external cladding of the ZONE building, incorporating existing artistic imagery to provide a rich and creative focal point for the Izolyatsia facade.

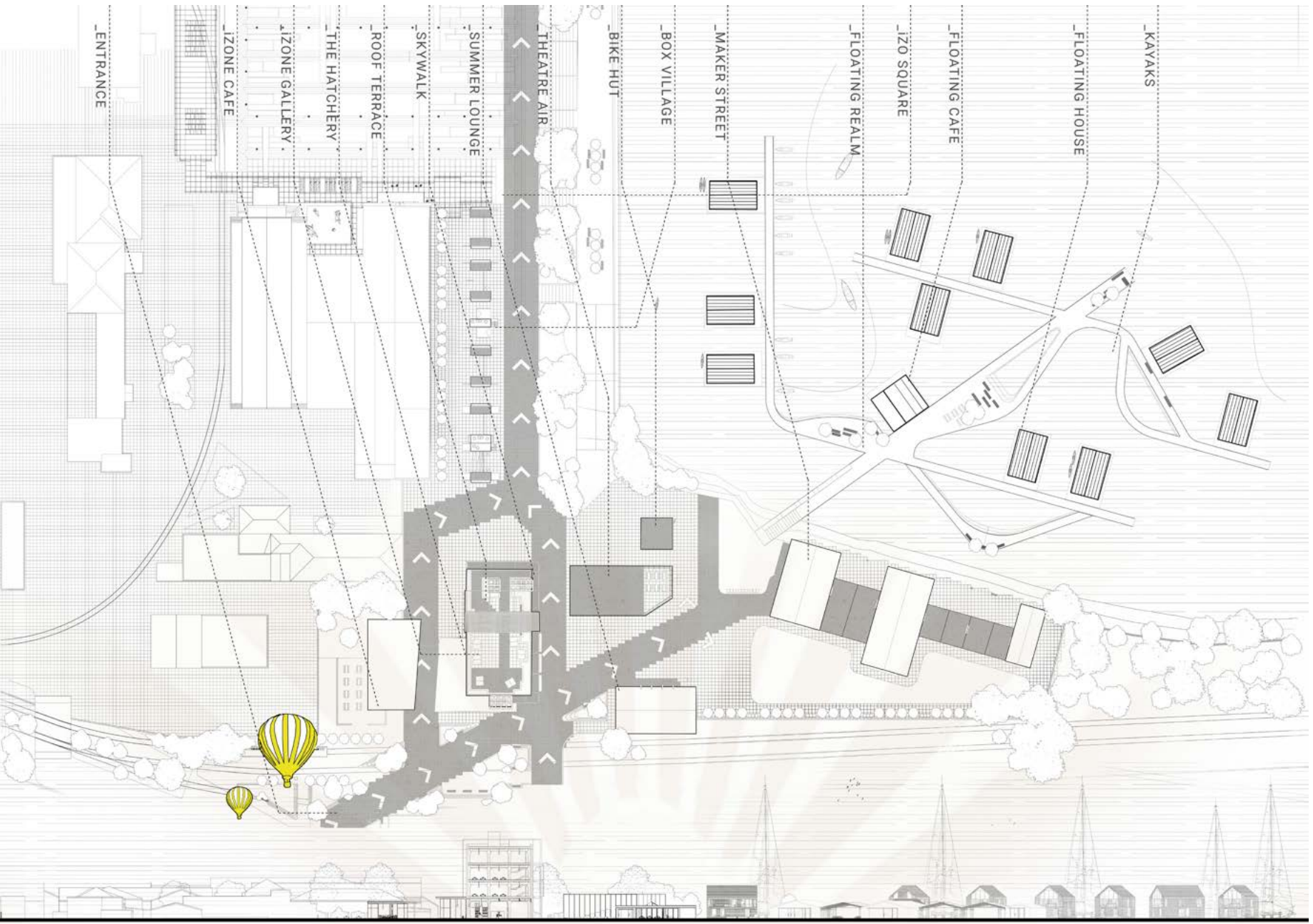
_CRAFTSMANSHIP

- A proposed transformation of a derelict section of the site, to be re-imagined as a centre of productivity and creative working through studios, workshops, and performance spaces.
- A proposed temporary structural canopy for both limited outdoor performance. The structure will include a bar and social space for events with the intention of adapting and re-imagining the space into a central location for community gathering.
- A proposed space of varied use, specifically for relaxation and contemplation. In view, both food and drink alongside the potential to enjoy live performances of music, comedy or literature.
- The Village taps into the environmental aspects of design, through the view and re-imagining of site planting containers, connecting to an outdoor space for the arts and community engagement.
- Located above the ZONE gallery, the structure provides a creative, educational space for children to generate ideas, fuel their imaginations, and learn about art.

_COMMUNITY

- A proposed collective community of floating houses, establishing a creative village and social centre upon the Dnieper River.
- A proposed floating café building, combining shared interests of the residents of the floating village, creating a communal hub upon the water.
- A proposed modern style urban gateway, meandering towards and throughout the floating houses and café, defining and connecting the village as a singular entity.
- Set upon the highest point of the ZONE building, the roof terrace sports a more intimate area for contemplation. With abundant space for art and performance, alongside an outdoor area for public use, it is an area for talking, rehearsal.
- Considered as another central social space for Izolyatsia, D&S Square combines multiple disciplines to form a large, open space for public engagement. It is a space suitable for performance, social interaction, in the context of art.

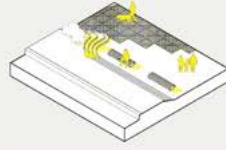




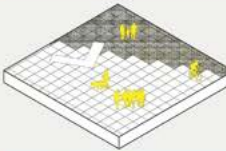
THE ARTS

Providing a plethora of artistic and creative opportunity for any artist and performer, both established and upcoming, the arts is a pivotal aspect to the conceptual foundations of Izolyatsia.

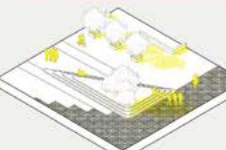
Presenting a variety of spatial qualities across the entirety of the site, design creativity for fine arts and support the opportunities available. The site accommodates a wide range of activities, from gallery spaces and a variety of art disciplines, fully supporting the arts in all forms. Arts is not only present within the internal spaces, but also forming the exterior design of these new buildings, emphasising the importance and celebration of creativity.



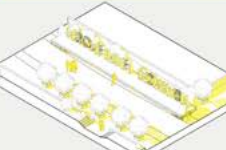
Traverse (red benches) strategically integrated into the form of the raised concrete walkway, and placed throughout the site, provide insight from the experience of visitors.



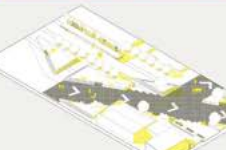
Sections of ground-level vegetation allow for a sense of progression and influence the user along the axes of the site, with greenery providing an important sense of release, allowing users to flourish through concrete and grass that provides a better response.



The raised islands located around the entrance to the site provide accessible, natural space for relaxation and thought, as well as physically defining the users' movement through the site.



Approximating the historical significance of the site, the existing jet-tied provides a footprint of a loggia area, interconnected through the ceiling and implementation of a raised walkway. Providing a dynamic sense of space, this region is a stepping stone which provides the users of the development upon the approach.



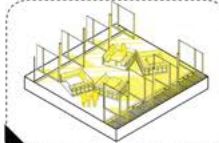
These islands combined create a new urban environment for 'lookalikes' called the Strip, an open and naturally progressive space to be utilised for commercial interaction and the appreciation of the arts and experimentation.



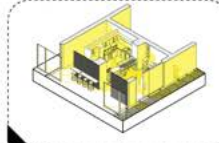


_iZONE+CAFE

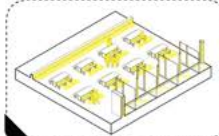
The focal point of the Izolyatsiya experience, the iZONE building and its cafe create a social and artistic community upon the Strip. Presented as the feature building for the master plan of the Kiev Docklands, the iZONE building has been redesigned as a communal hub for artistic expression and presentation, alongside a strong sense of collaboration and craftsmanship, implementing a new reception and cafe space, the definition between internal and external spaces becomes blurred, where progressive pathways through the site are possible in multiple forms. These spaces can perform as large communal centres, where on a typical day events and exhibitions can be experienced publicly before returning to the cafe for a taste of local food and drink.



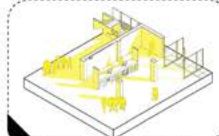
Reconfigurable movable cafe seating modules allow for a fully customizable social space, not only for eating and drinking, but also artistic events and performance in a more informal environment.



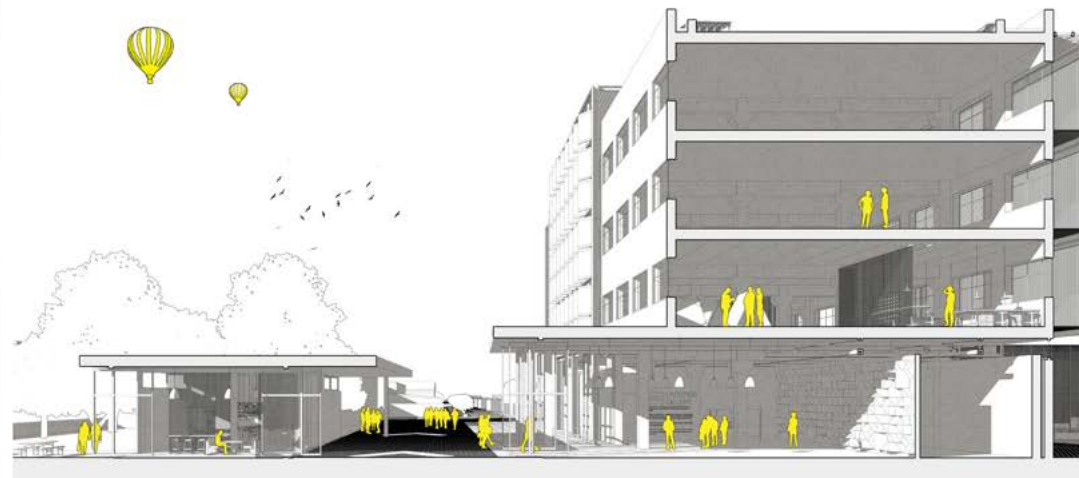
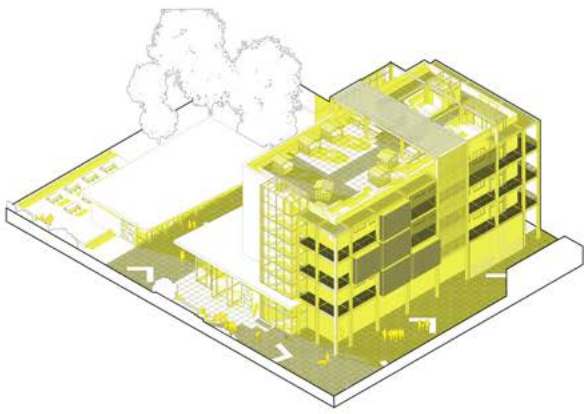
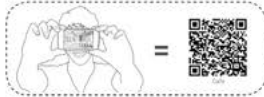
Set to the side of the cafe space, the modular kitchen space allows for the busy consumer to arrive and purchase their food and drink, before leaving to continue their journey, or allow for others to remain and enjoy the artistic urban surroundings.



Weather permitting, the cafe accommodates the expansion of external space into the external environment, through the large rotating doors, creating a sense of seamless transition in order to enjoy the early afternoon sun bleeding through the trees.

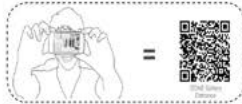


The expansion to the existing iZONE building provides a large open reception space, naturally lit and connected spatially to the Strip, for transitional experiences into the gallery spaces, or to hold cultural events outside those of exhibitions and projects.

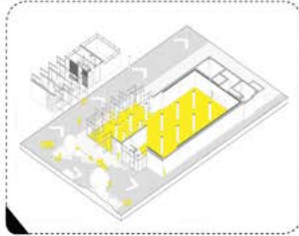


GALLERY

A blank canvas for artistic expression, the IZONE gallery space is the central experience for the newly refurbished structure.
 The design programme allows for full spatial customisation through movable walls and lighting, creating unique exhibitor and project spaces tailored perfectly for the chosen artist. Looking from the open reception space, the gallery has the potential to be fully open, or completely enclosed, catering for both open art viewing occasions. With new artistic possibilities, the gallery space provides the opportunity and ambition to design, create and present in the smartest way possible.

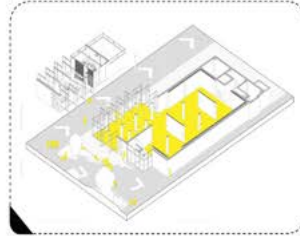


_V01



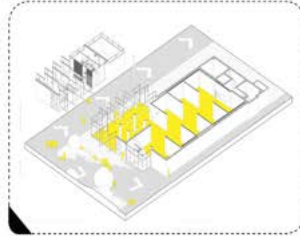
A large open gallery space available for large scale exhibitions and projects.

_V02



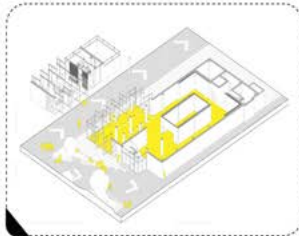
A large open gallery space with five horizontal sequential partitions allows for exhibitions to be split into parts and add a level of depth.

_V03



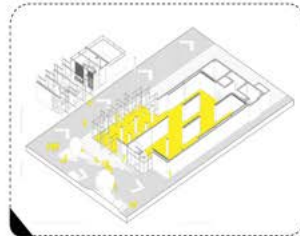
A partially open gallery space with horizontal sequential partitions on a grid formation, to allow for exhibitions to be split into parts or accommodate multiple exhibitions and projects within each aisle.

_V04



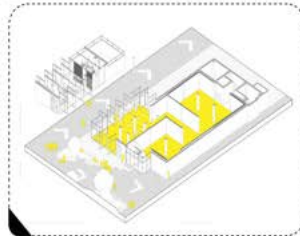
A central secondary gallery space set within the primary gallery spaces allows for custom exhibitions in a more private space to be used for specific feature art pieces.

_V05



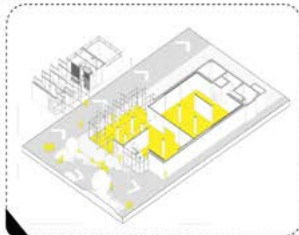
A centrally open gallery space with vertical sequential partitions on a grid formation allows for exhibitions to be split into parts or create a journey through the exhibition trail.

_V06



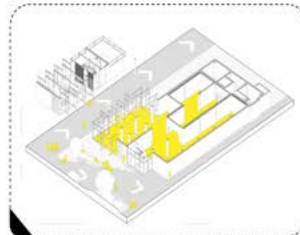
Multiple enclosed gallery spaces leading from a corridor, through the reception space. The partitions allow for two spaces to be used separately or for a singular exhibition to be split into parts.

_V07



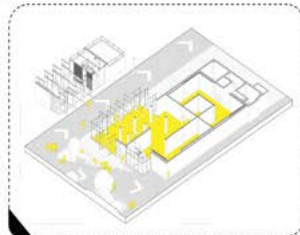
A large enclosed gallery space with partitions allows for more private exhibitions and projects. External gallery spaces can be utilised alongside for smaller exhibitions.

_V08



An enclosed gallery space with close partitions allows for more private exhibitions and projects. External gallery spaces can be utilised alongside for smaller exhibitions.

_V09



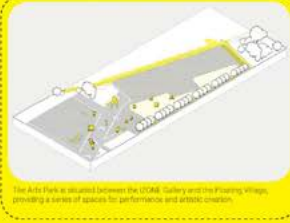
Relatively complex gallery spaces, the gallery space containing a sub-space for more specific featured art pieces. Secondary external gallery spaces can be utilised alongside for other exhibitions.



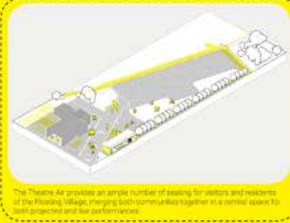
_CRAFTSMANSHIP

Art and performance would not be possible without the love, passion, and consideration for quality creation which accumulates into craftsmanship behind the work.

The site for Innovation promotes the importance of the craftsmanship and is doing so, provides architectural quality through large workshop spaces and generous areas for artistic creation and collaboration. Whilst the work is in place to create art, the potential to extend the community through supported creative activities is also created to flourish through the site. Moreover, spaces suitable for performance art through music, comedy, and theatre are also provided amongst physical artistic creation.



The Arts Park is situated between the UCAH Gallery and the Planning Wings, providing a series of spaces for performance and artistic creation.



The Theatre Air provides an ample number of seating for visitors and residents of the Housing Village, bringing both communities together in a central space for both practical and for performance.



Adjacent to the Theatre Air is the Summer Lounge, where the audience has the opportunity to spill into an informal lounge space for relaxation.



Major street envisages a large amount of Arts Park, housing extension facilities for the production of art and design such as worksheds, studios, 3D printing, laser and CNC machines, as well as hand tools.

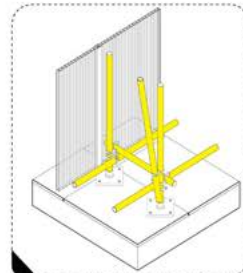
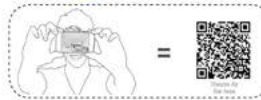




THEATRE AIR

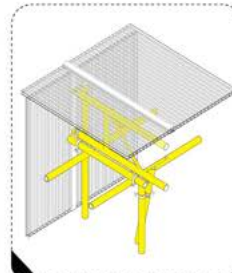
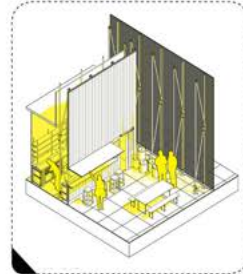
An open air structure promoting performance and theatrical arts.

The Theatre Air is a temporary structure created through the use of polycarbonate and scaffolding connecting a public space in order to promote the theatrical arts. The translucent material allows for the play of light and shadow across the urban landscape to reveal the inner craftsmanship and movement of people. Working closely with the fabric of the space building the theatre promotes both proposed and live performances.



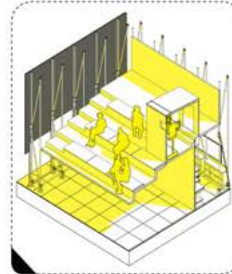
The Theatre Air continues the approach to craft through the use of scaffolding and polycarbonate. The adaptability of the structure allows for the theatre to be customised and repurposed, if necessary.

Beneath the stepped seating lies a communal space of a differing function. Amongst the summer lounge the bar provides a space for community engagement before, during and after show times.



Through the use of polycarbonate sheeting the structure of the theatre is revealed and captures the fragments of community engagement through shadow.

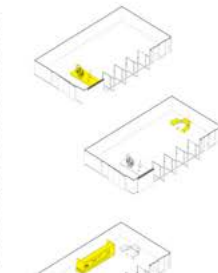
As to the conventional cinema across the world the theatre air provides a cinematic experience below the stars.



SUMMER LOUNGE

An informal space for the activity of liberal lounging and frivolity, with the potential to experience and appreciate live performance arts.

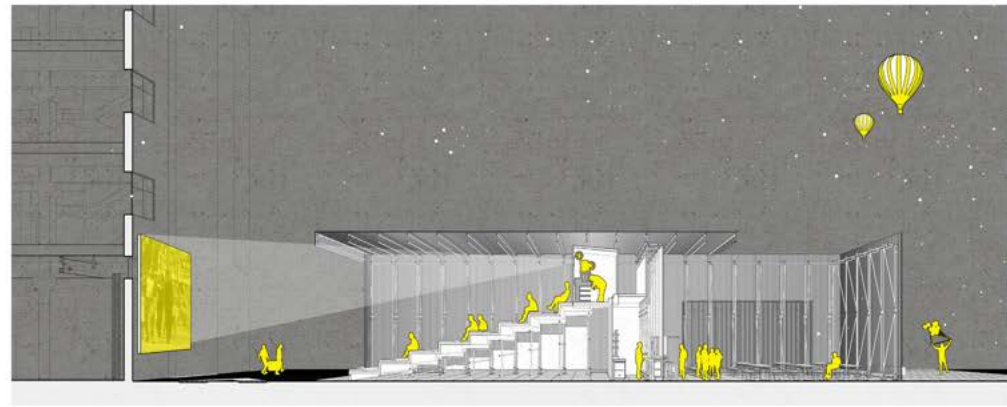
The Summer Lounge is an openly informal public space for relaxation and contemplation, a space separate from the excitement of the arts park. The lounge flows soft light and plays with shadow in a comfortable space to enjoy both food and drink, whilst becoming enveloped in the beauty of performance arts, such as live music, comedy, and literature. Whether you are enjoying the arts or finding solitude, the Summer Lounge is a space for enjoyment.



The wide array of varied seating provides a selection of relaxation methods for those who wish to rest their legs. The space takes on a quieter atmosphere through its bespoke design and attention to detail.



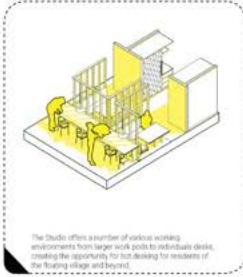
When quiet contemplation and relaxation are not on the cards, the Summer Lounge transforms into an exciting space of live artistic performance, showcasing upcoming talent from across the world.



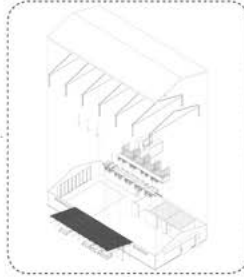
MAKER STREET

The factory floor of the artistic craft, and the focal point for creation. Maker Street provides opportunity to turn ideas into reality.

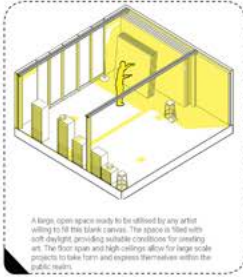
Located within Arts Park, being the central hub for all aspects of co-creation for the site, Maker Street is the ideal location for creative ideas to flourish and become reality. Housing a multitude of workshops for both painters and sculptors, the street opens up to both internal and external spaces, allowing for artistic creation to span amongst the urban environment. Overlooking the scenic amenity of the floating village, Maker Street also provides a number of external spaces sheltered by pergolas and lit with hanging lights. The street inspires creativity and encourages upcoming artists to draw into their work and experience what localities have to offer.



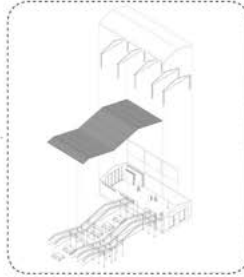
The Studio offers a number of various working environments from larger work pods to individual desks, creating the opportunity for hot-desking for residents of the floating village and beyond.



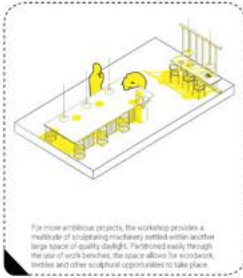
The largest of spaces along Maker Street is The Studio, providing a think tank for creative minds. The Studio remains as one large open space offering a number of smaller work pods and long opening desk space. In addition to kitchen and toilet amenities, The Studio also provides a large open space for various events such as yoga and art workshops housed with the subtle scheme of the floating village as the backdrop.



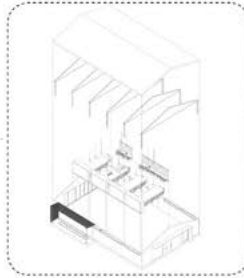
A large open space ready to be utilised by any artist willing to fill the blank canvas. The space is filled with soft lighting providing suitable conditions for painting art. The floor space and high ceilings allow for large scale projects to take form and express themselves within the public realm.



The intermediate spaces between the three internal spaces of maker street, provide sheltered work space with the floating village of the backdrop.



For more ambitious projects, the workshop provides a multitude of occupying materials filled with secure large space of quality daylight. Partitioned easily through the use of work benches, the space allows for woodwork, textile and other sculptural opportunities to take place.

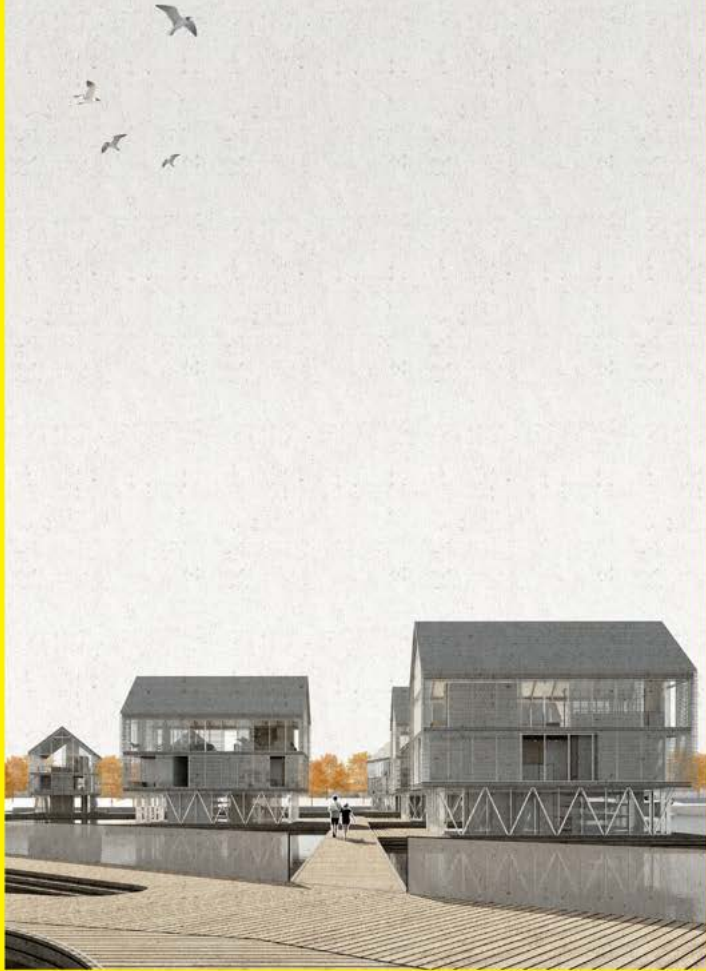


The workshop provides a platform for various strands of productivity such as textile, woodwork, laser cutting, 3D printing, silver smithy etc.



COMMUNITY

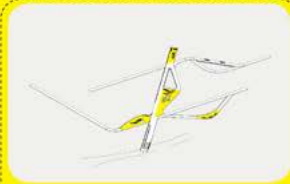
A creative community resting upon the waters of the Dnieper River.
The floating village comprises of 20 individual houses set around a central floating walk, as residents and guests visit the village by foot or by boat a number of community spaces appear along the way, creating opportunities for leisure, public engagement. Designing spaces whereby public interaction and vitality can thrive has been essential in establishing a sense of community. Spaces along the pathwork include a junction water side apiece and a series of small floating park spaces, outdoor indoor recreational spaces include an adaptable central cafe, all providing views over the water, allowing you to forget that you're in the middle of a busy city.



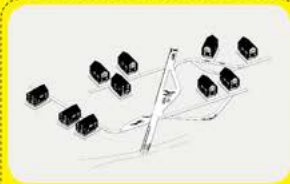
The floating village was born out of the idea of a centralised space that follows the line linking the entrance and village.



By extending the main routes, curved pathways create secluded areas for communal vitality through public participation.



A number of green spaces create an opportunity for reflection and engagement within the artistic community.



The arrival of artistic studios brings a creative community of like-minded values.



Creating a central hub bringing together the shared values of residents and artists.

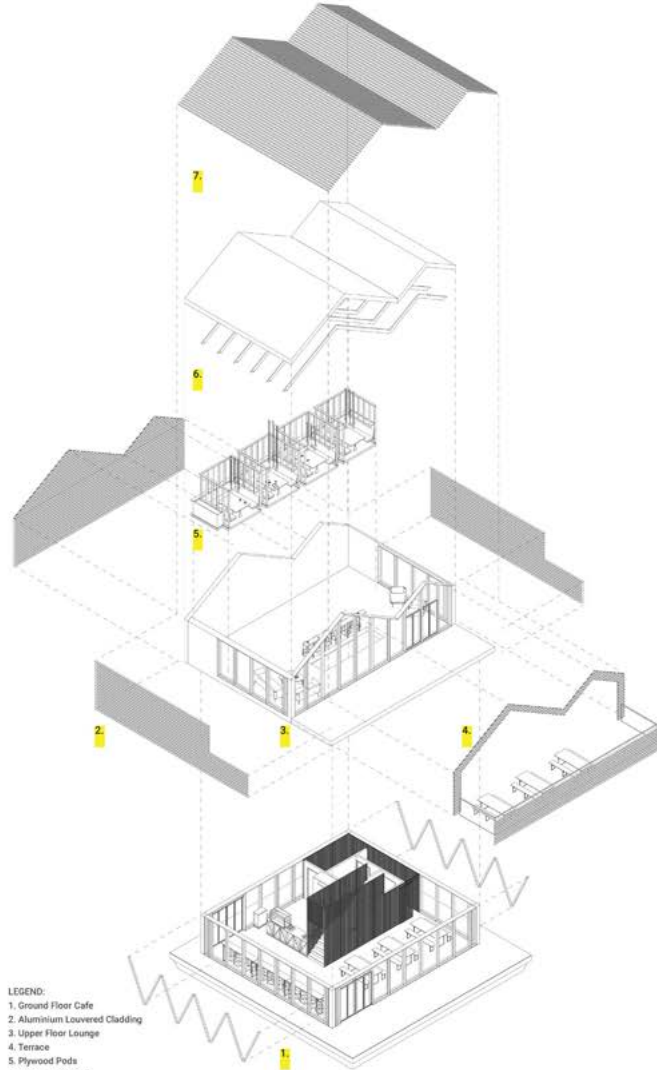




_CAFE ☀️

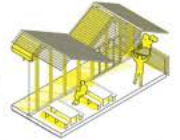
The central core of the floating village community, a space for social experience.

A lifting psychology highlights the floating cafe, with a central location the cafe acts a central hub for activity and public engagement. With two floors and a terrace area the floating cafe can be used for various events and functions such as temporary exhibitions or a venue for a shop reception. During the day residents of the floating village and guests alike can walk along the perimeter or kayak up to the floating cafe.

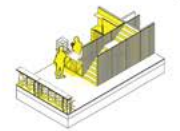


- LEGEND:
1. Ground Floor Cafe
 2. Aluminium Louvered Cladding
 3. Upper Floor Lounge
 4. Terrace
 5. Plywood Pods
 6. Structural Rafters
 7. Aluminium Louvered Cladding

Morning coffee on the Dnieper
 The terrace over looks the surrounding floating homes and the Dnieper river beyond. A cluster of hanging pendant creates a restaurant moment between the structure and water as the double pitch typology of the floating cafe. Barreness and creates a slight reflection during the evenings.



Dining on the Dnieper
 The floating cafe houses a small dining counter, this can be used either formally as a commercial venture or informally as a bar point for artists and residents to make their hands while working with in the cafe.



Various Levels of Comfort
 A number of different spaces across the floating cafe, create levels of varying comfort. Four small timber pods can be used as a work station or a creative business meeting location, a number of pods can be used to catch up with friends, while a number of tiered tables can be used as a meeting point for more collaborative occasions.



A number of small timber seating booths divided by a wall of glass needs create a number of spaces that can be used to relax or to create their next big idea.



A number of movable tiered tables allow for residents and guests to enjoy the view with a coffee or to use the space for more social gatherings. A central stair case provides access to the first floor and responds to the language and materiality used within the floating homes.

_HOUSE

A serene artist's retreat floating on the Dnieper River

A white clad aluminium artist's residence floating on the Dnieper River offers a retreat for artists and their families. Each of the 20 floating homes is reminiscent of traditional Ukrainian houses and collectively form a sense of community. Segregated on the floating village's exterior, a series of spaces is created by fixing the cladding above the river and above lower floor. The use of polycarbonate walls and full height glass windows enable you to enjoy the view, while an open layout allows for heterogeneous activity to spill in.



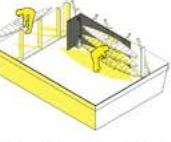
A view of the river

The second floor comprises of a large open-plan space, including a work space, and a large lounge with kitchen and dining areas. Each space has been designed with practical formed room-builders whilst creating an open-plan feel.



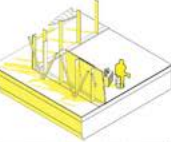
A new way of commuting

A large drive way alongside the off-road stair built wrapped in polycarbonate. Up to four bicycles can be stored, attached by the front entrance allows for easy access to the water, whereby each member of the family can kayak along the Dnieper River, or use the floating raft as a new to see friends in various public spaces across the region.



Arts Studio

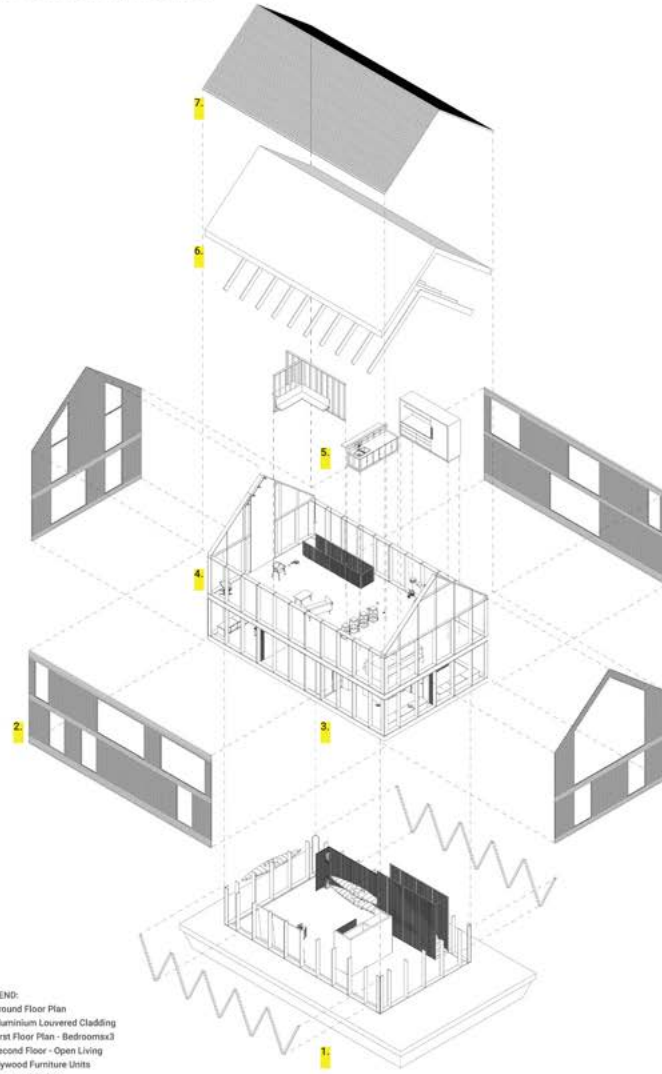
A central storage core allows for the storage of large canvases and art equipment. Under a polycarbonate sliding door, by providing a large open space the lower floor can be used in various ways. A vast amount of daylight creates an approachable ideal for creating artwork, whilst during warmer days lowered panels can slide across, playing with the desired shadows.



In keeping with the overarching theme of the scheme the kitchen has been designed specifically for the floating homes. A large sliding plywood and hardware storage and electrical goods and responds to the dimensions of the stair cores allowing for a continuous grid to be maintained.



The original floating house comprises of three large sized bedrooms each with built in furniture and opens across the portico and river. A large family bathroom is centralised in order to be serviced by the central core and has been clad in dark faced plywood. The large landing space benefits from two large storage cupboards and transparent stair cores allowing for a view of landscaping.



- LEGEND:**
- 1. Ground Floor Plan
 - 2. Aluminium Louvered Cladding
 - 3. First Floor Plan - Bedrooms
 - 4. Second Floor - Open Living
 - 5. Plywood Furniture Units
 - 6. Structural Rafter Units
 - 7. Aluminium Louvered Cladding



SKYWALK

The Skywalk acts as stage creating an opportunity to showcase moments of internal exhibitions on the facade of the Izone building. In addition to offering an insight into the current and future exhibitions taking place within the Izone building, the Skywalk also provides a venue for projection to the rear by Theatre As. A series of rows illustrates the verticality of the Izone building and provides access to each level whereby events and exhibits provide varying levels of transparency across Izone Tower and the Housing Village beyond.

Initial Design Concept by: Oliver Fong, Suk Hyun Lee, Kerry Lee
 Design Interpretation, Modelling and Visualisation by: Matthew Glover, Taylor Grimley, Jesse Ryan



Structure
 The walkways extend from the Izone building and are built around a steel grid structure comprised of cast-in steel trusses. This grid structure follows the external structure of the existing building, interweaving with steel platforms supported with steel brackets.



Walkways
 The external walkways provide a secondary element to the Izone building, allowing for the higher spaces to have direct access to external spaces. This design feature is accessed by the existing staircase to the north of the building and provides a number of visual connections to other aspects of the site.



Beams
 Set within the grid structure of the facade elements are a number of horizontally placed 'Penguin' beams. These beams provide a window to light and space when experiencing the walkway, and connect to the facade when viewing the Izone from the ground.



Canopy
 The walkways are covered by a matching Cor-Ten steel canopy wrapping itself around the third floor walkway, providing shade and shelter to the spaces below.





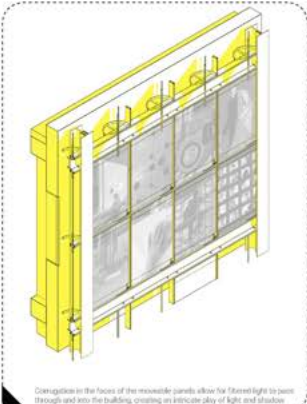
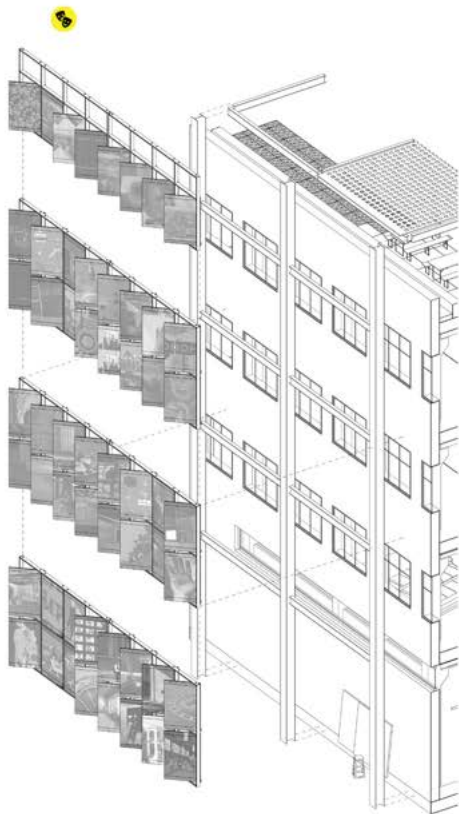
_SHUTTERS

A reimagining of the external cladding of the IZONE building, encapsulating varying artistic imagery to provide a fresh and creative focal point for the industrial horizon.

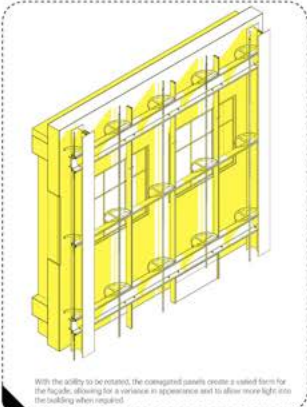
The shutters provide an opportunity to celebrate the art and culture of Newcastle. The street elevation of the Izone building will display the work of local artists across 150 movable perforated cast iron steel shutters. The irregularity of each shutter allows for new artworks to be added over time.

Initial Design Concept by: Laurie Brown, Lauren Di Pietro, Husein Jovanovic, Sophie Thompson

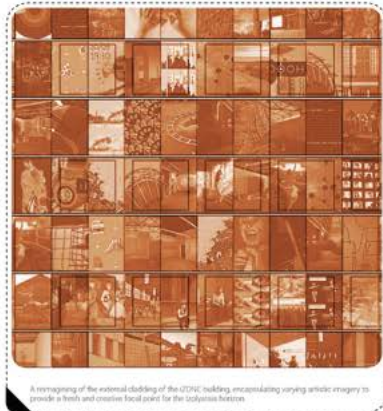
Design Integration, Modelling and Visualisation by: Matthew Clower, Taylor Gimbley, Jessi Ryan



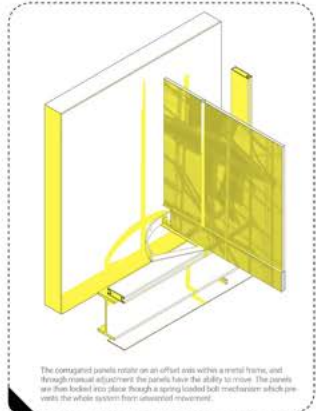
Corrugation in the faces of the movable panels allow for filtered light to pass through and into the building, creating an intricate play of light and shadow.



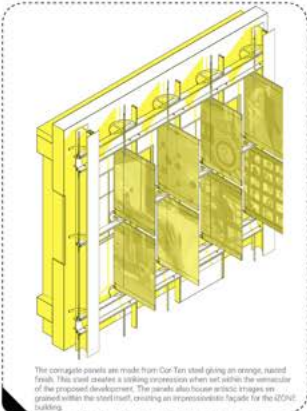
With the ability to be rotated, the corrugated panels create a solid form for the facade, allowing for a variation in appearance used to allow more light into the building when required.



A reimagining of the external cladding of the IZONE building, encapsulating varying artistic imagery to provide a fresh and creative focal point for the industrial horizon.



The corrugated panels rotate on an offset axis within a vertical frame, and through manual adjustment the panels have the ability to close. The panels are then locked into place through a spring loaded bolt mechanism which prevents the whole system from unwanted movement.



The corrugated panels are made from Cor-Ten steel giving an orange, rusted finish. This steel creates a striking impression when set within the concrete of the proposed development. The panels also house artistic images set against a grid within the perforations, creating an impressionistic facade for the IZONE building.

_BOX VILLAGE

Box Villages taps into the environmental aspects of design, through the re-use and re-imagining of old shipping containers, converting them into habitable spaces for the arts and community engagement.

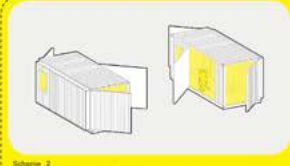
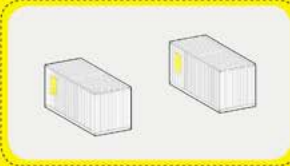
The core of Box Village provides a carterhouse space that incorporates three main areas which can be opened by hydrolysis. The central container forms provide space for sculpture on both sides, but with a 'signature' space at the front. The second container, where features, elaborate interior working space, primarily used for the creation of mobile scale vehicles, and sculpture. What sets this scheme apart is the collaboration between craftswomen and practitioners, as the artists control what the interior spaces, can be presented with a focused presentation space when the containers are opened. A further 22 roof spaces have the potential for social space, considered to be more intimate, private spaces for engagement.

Initial Design Concept by: Anagabri Elena Toranzo, Daniela Jimenez, Maria Rachel Diacoinco

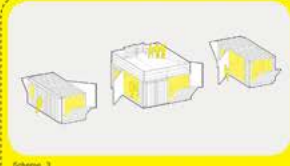
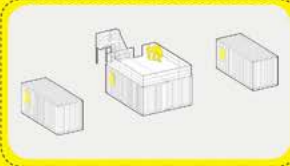
Design Interpretation and Visualisation by:
 Matthew Glaze
 Taylor Grindley
 Josh Ryan



Scheme 1
 The first container scheme is a roof and social space for both artists and visitors. The containers also feature further usable space on the roof.



Scheme 2
 The second container scheme features elaborate interior working space, primarily used for the creation of smaller scale artistic and sculpture.



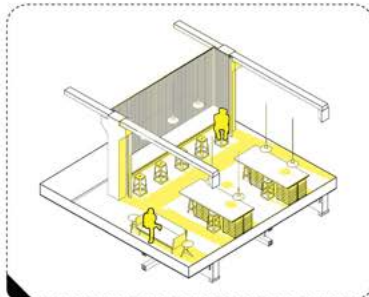
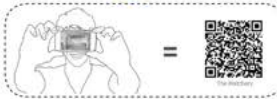
Scheme 3
 The third container scheme provides a both large interior and exterior spaces for working, as well as for displaying pieces of work.



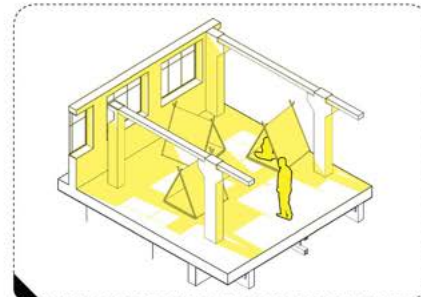


_THE HATCHERY

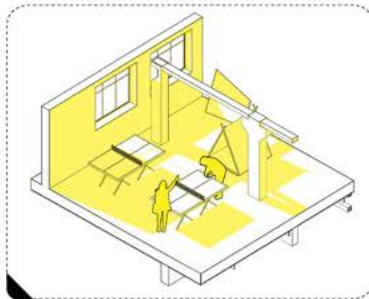
Located above the iZONE gallery, the Hatchery provides a creative, educational space for all ages to generate ideas, fuel their imaginations, and to learn about art and design. The Hatchery is divided into multiple areas with the intent to provide various spaces in which visitors can learn and become involved in the ethos of iZone. The various spaces include more casual settings such as a soft seated working area for casual talks and demonstrations. Other spaces include a lounge area, ping pong tables, bars and more formal work spaces.



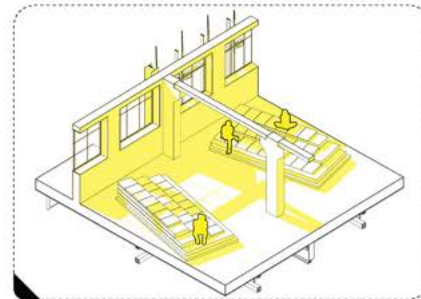
More formal work spaces provide an area for visitors and researchers to work within a creative and inspiring space.



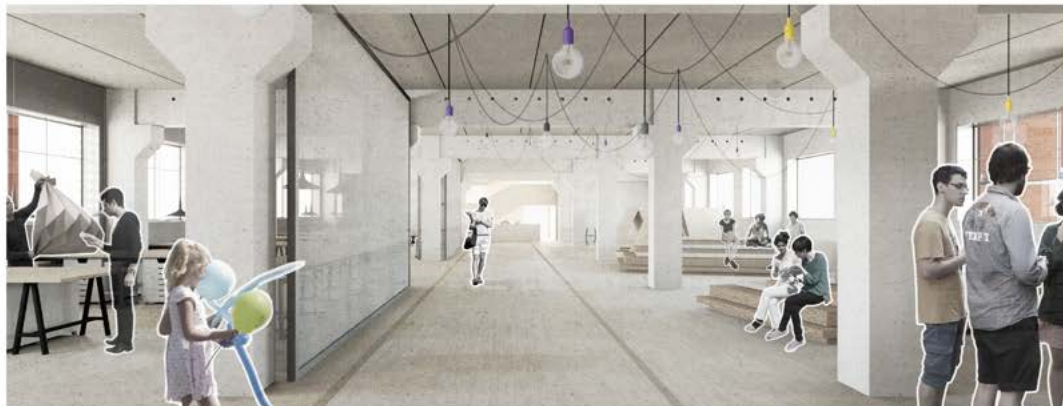
A mixture of forms create an interesting and fun alternative to the more formal spaces within the hatchery. The forms are intended to be used by younger visitors however they can be used by all ages.



Break-overly zones allow for visitors to escape work whilst still networking and socialising with other visitors, with the intent to collaborate and network.



The soft seated working area provides a space whereby small talks and demonstrations can take place as well as a space for social gatherings and meetings.



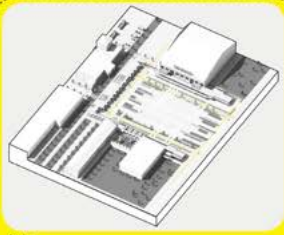
_iZO SQUARE

Considered as another central social space for Izolyatsia, IZO Square combines multiple disciplines to form a large, open space for public enjoyment.

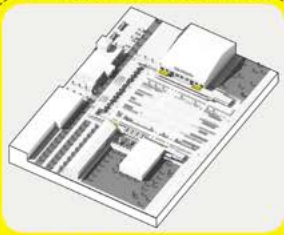
The IZO Square is a space suitable for performance, social interaction and the creation of art. The large central area left open is interspersed by a covered walkway with concrete panels that catalyze the use of the space.

Initial Design Concept by: Harvey Gibbs, Sarah Reid, Catherine Mahon, Ben Perry, Paul Lewis

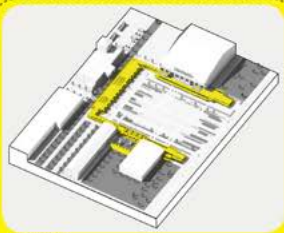
Design Interpretation and Visualisation by: Matthew Glaser, Taylor Gridley, Julia Ryan



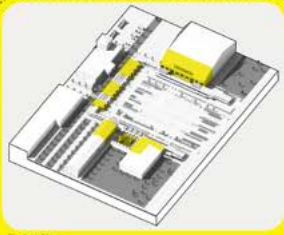
Key Axis
 The heart of the square is formulated around a number of key axes, which aim to provide clear routes through the space, creating predetermined lanes in order to give structure to the development.



Raised Terraces and Key Views
 IZO Square plays host to a number of strategically placed raised terraces, some around the proposed development. These terraces provide the opportunity to view the square from a new perspective, creating key views across the site.



Covered Walkway
 The covered walkway provides a secondary element of spatial experience to the IZO Square. The building also opens up to the exterior, providing a new seamless transition between the surrounding and internal spaces.



Site Amenities
 The square includes a number of communal amenities such as café spaces and retail spaces, alongside further performance amenities such as workshops and spaces for performance. The square is a space for activity and social engagement.

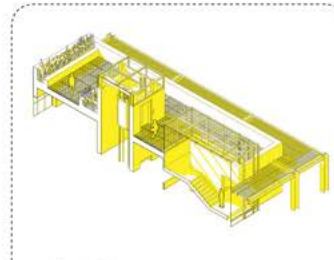
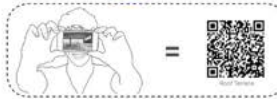




_ROOF TERRACE

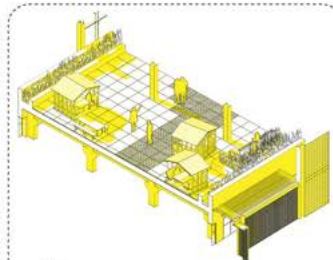
Set upon the highest point of the IZONE building, the roof terrace space creates a more intimate area for contemplation.

The roof terrace serves as an allocated space for art and performance, alongside the utilitarian of plant life. It is an area for calming relaxation. The terrace is accessed primarily from both side cores, as well as the lift that serves all floors. It is open to both residents and visitors and has an adaptability which allows for various functions.



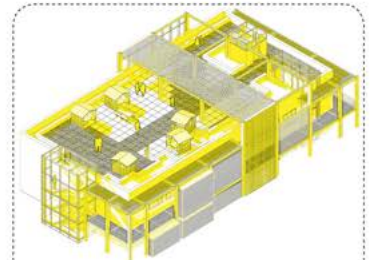
Stair Access and Lift

The existing site core to the north of the IZONE building is revised as Pericon for a visual connection and to be the new access to the building and the roof terrace. The existing lift shaft has also been modified to allow for lift access to the roof space.

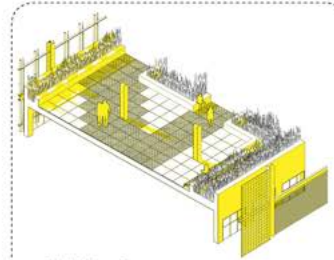


Seating

Modular, reversible seating found in the cafe spaces around the site have been brought up to the roof terrace of the IZONE, to provide a central space for social engagement and a sense of movement through the development.

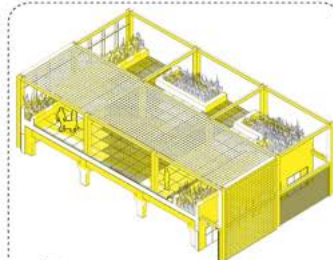


The Roof Terrace acts as a central hub with 360° views across the entire site. During the day the terrace can be used as a space for the IZONE staff to use as a space for social aspects as well as meetings, small social events and community participation.



Craft and Performance Spaces

Fitting in with the conceptual ideas spread across the site, there is also space allocated for art and theater production such as dance. Provision for these arts is key to the integration of all elements on site.



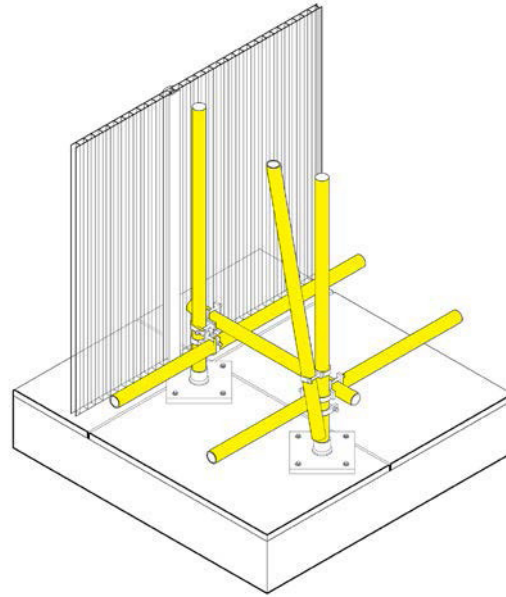
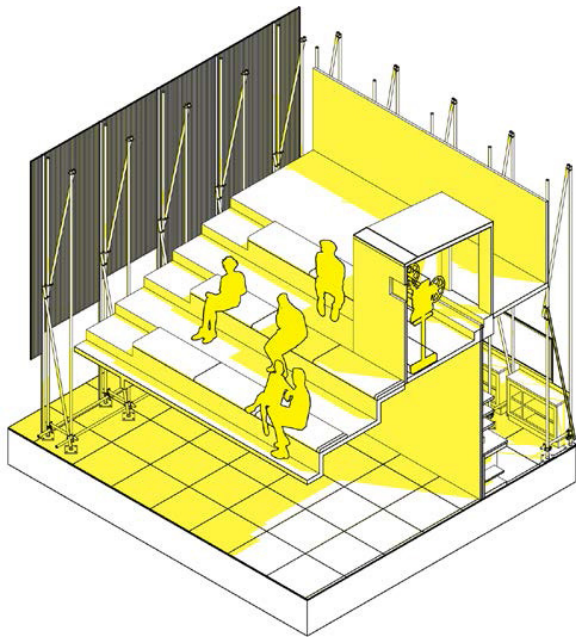
Planting

Not only is the roof terrace a space for social interaction, there is also the opportunity to grow and nurture plant life, essentially creating a roof garden within the terrace. There is also the potential to grow vegetables, or flowers to sell on site.



Across the Roof Terrace for a number of reversible seating hubs. These spaces provide an opportunity for the terrace to be transformable, serving a number of different users.

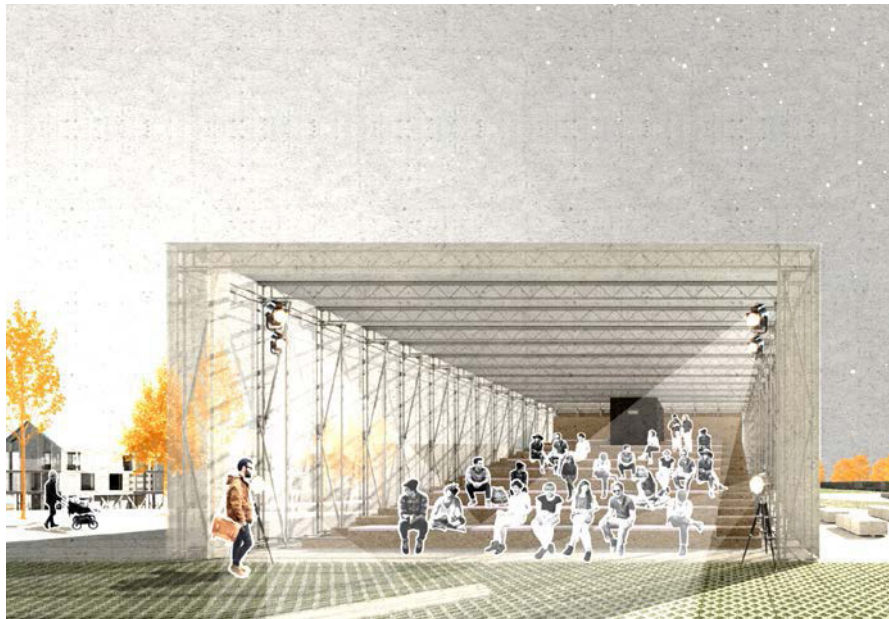




Izolyatsia requested an outdoor theatre using cheap and readily accessible materials. One of the design team, Glover, had experience of designing outdoor temporary structures using scaffolding tubes. The wall units used 48mm components with 60mm lexan 2440x1220 sheets, to be attached to the tubes with scaffolding anchors. The walls acted as shelter as well as bracing to the frame. Eight metre, 450mm scaffolding beams, supported the roof and the seats. The roof was also constructed of lexan with rubber gaskets to secure the sheets and for waterproofing. The seats would be cut from 20mm ply. This entire structure was designed to be assembled by semi-skilled and unskilled labour.

The following slides show the completed final scheme that was exhibited at the Izone Gallery in 2017. They were also used, along with the preliminary scheme as the basis for the Izolyatsia's five-year capital works plan.

Since this work was produced many of the recommendations for the fixed furniture components have been realised. ■



above left

Fig. 43_ Axonometric diagram of the outside theatre showing temporary seating

above right

Fig. 44_ Showing detail of scaffolding structure

left

Fig. 45_ Axonometric diagram of the outside theatre showing scaffolding structure

13. Bibliography

- Baka (2005) Understanding Valuing Devices in Tourism through “Place-making” *Valuation Studies* 3(2) 2015: 180
- Berleant (2003) The Aesthetic in Place, in *Constructing Place*, ed. Sarah Menin (New York: Routledge, 2003), Ch.1, pp.41-54.
- Bosman, C. and Dredge, D. (2011). Histories of placemaking in the Gold Coast City: the neoliberal norm, the State story and the community narrative. Urban Research Program, Research Paper 33 (April), Griffith University, Brisbane.
- Cilliers, E.J. and Timmermans, W. (2014). The importance of creative participatory planning in the public place-making process. *Environment and Planning B: Planning and Design* 41: 413 – 429.
- Coates, G.J. and Seamon, D. (1984). *Toward a Phenomenology of Place and Place-Making: Interpreting Landscape, Lifeworld and Aesthetics*. Oz, 6, 6-9.
- Hall-Lew, L.A. and Lew, A.A. (2014). Speaking Heritage: Language, Identity and Tourism. In A.A. Lew, C.M. Hall and A.M. Williams, eds., *The Wiley-Blackwell Companion to Tourism*, pp. 336-348. Oxford: Blackwell.
- Harney, N.D. (2006). The Politics of Urban Space: Modes of Place-making by Italians in Toronto’s Neighbourhoods. *Modern Italy* 11(1): 25–42.
- Hou, J. and Rios, M. (2003). Community-Driven Place Making: The social practice of participatory design in the making of Union Point Park. *Journal of Architectural Education* 57(1): 19-27.
- Kent, E. (2013). *Toward Place Governance: What If We Reinvented Civic Infrastructure Around Placemaking?* Project for Public Spaces website. Online at <http://www.pps.org/reference/toward-place-governance-civic-infrastructure-placemaking>.
- Lew, A.A. (2007a). Invited Commentary: Tourism Planning and Traditional Urban Planning Theory: Planners as Agents of Social Change. *Leisure/Loisir: Journal of the Canadian Association of Leisure Studies* 31(2):383-392.
- Lew, A.A. (2007b). Pedestrian Shopping Streets in the Restructuring of the Chinese City. In T. Coles and A. Church, eds., *Tourism, Power and Place*, pp. 150-170. London: Routledge.
- MacCannell, D. (1976). *The Tourist: A new theory of the leisure class*. New York: Schocken Books
- Markusen, A. and Gadwa, A. (2010). *Creative Placemaking*. Washington, DC: National Endowment for the Arts. White paper for The Mayor’s Institute on City Design, online at <http://arts.gov/pub/pubDesign.php>.
- Martin, D.G. (2003). “Place-Framing” as Place-Making: Constituting a Neighborhood for Organizing and Activism. *Annals of the Association of American Geographers* 93(3): 730–750.
- Massey, D. (2005) *For Space*. London: Sage.
- Winter, T. (2014). Material Culture and Contested Heritage in Tourism. In A.A. Lew, C.M. Hall and A.M. Williams, eds., *The Wiley-Blackwell Companion to Tourism*, pp. 368-377. Oxford: Blackwell
- Woronkowicz, J. (2015). Art-Making or Place-Making? The relationship between Open-Air Performance Venues and Neighborhood Change. *Journal of Planning Education & Research* 36(1):49-59.

14. Illustrations

Fig. 01 Photos of sheds and warehouses from shipyards_

Fig. 02 View of ABK building_

Fig. 03 View of beautiful industrial relics within the shipyards_

Fig. 04 View of toffee factor Newcastle_

Fig. 05 _View of Baltic Art gallery Gateshead

Fig. 06 Flyer for one of the exhibitions

Fig. 07 Opening night of the exhibition._

Fig. 08 Feedback recorded from visitors on the design

Fig. 09 Innovation to give attendees immersive experience

Fig. 10 Exhibition 'Living by Industry' before opening night_

Fig. 11 Drawing by PI Jones of part of the site_

Fig. 12 Example of placemaking in Montreal_

Fig. 13 View of the Rybalskyi Shipyards from the East_

Fig. 14 Example of lowcost art installation adjacent to the ABK building_

Fig. 15 Codesign workshop with Foundation._

Fig. 16 Drawing produced by Anastasiia Danyliuk for Co-Design workshop_

Fig. 17 Diagram drawn as part of preliminary scheme for Foundation input_

Fig. 18 Generative sketches produced in the co-design workshops

Fig. 19 Example of Grade II* arts based industrial building in Ouseburn

Fig. 20 A recently complete restoration St Michael's church in Kiev_

Fig. 21 _Shipbuilding in Kiev planned for demolition

Fig. 22 Turn of the century River Tyne shipyards

Fig. 23 Creative Reuse of Mill buildings in Manchester with new extensions

Fig. 24 Dry Bar -example of Manchester Industrial Style

Fig. 25 high quality Art by the Northern Quarter community

Fig. 26 Cluny Art Centre within early 19th century warehouse

Fig. 27 Low Cost Art installations as part of cultural improvement_

Fig. 28 Seven Stories renovation of Warehouse in Ouseburn_

Fig. 29 Clear establishment of old and new

Fig. 30 Performance in Ouseburn-

Fig. 31 Toffee Factory as a focus of art of programme Ouseburn_

Fig. 32 Cost effective surface treatment main entrances built by community_

Fig. 33 CNC drawing produced for large cafe tables by research team

Fig. 34 Drawing showing hand made version of crittal window

Fig. 35 Crittal windows to offices built by local craftsman from shipyard

Fig. 36 Axo diagram of primary frame to office before fitting windows._

Fig. 37 Perspective for café used as influence in ABK cafe_

Fig. 38 Photo of completed ABK cafe_

Fig. 39 Axonometric of café and kitchen for ABK_

Fig. 40 _Photo of completed workshop

Fig. 41 Axonometric of the workshop_

Fig. 42 Drawing of workshop structure_

