msa **M Arch**

atelier qed

2015 - 2016

qed members

Atelier tutors

Colin Pugh
Siobhan Barry

M Arch 1

Shahrukh Ahmed Sheikh / Ben Blackwell / Justin Chong / Danson Wei Ee Choo / Jillian Clifford
Florence Cooke-Steed / Chris Doherty / Arron El-Ammar / Dominic Garret / Alex Glover
Harry Harrison / Aleks Hayward / Jessie Yang Hu / See Sern Khor / Nuoya Liu / Ashlin Milton
Panayiotis Paschalis / Panikos Pittakas / Oliver Pozegic / Hina Shah / Sherman Slavazzuoi
Debora Tarzia / Enran Zhang

M Arch 2

Mohammed Ezzad Abu Bakar / Irina Adam / Hakym Ahmad / Luke Carver / Gavin Chan / Cheryl Chin / Mark Eden / Rafat Jahandideh / Zatul-Hazirah Mohamad-Khoiril / Muhammed Akmal Waluddin Mohd Kamaludin / James Lawrence / Siew Yong Lim / Siti Syamimi Binti Sazali / Basil Wong

Contents

Introduction

atelier qed

qed is an initialism of the Latin phrase quod erat demonstrandum, meaning 'which had to be proven'. Traditionally placed at the end of a mathematical proof or philosophical argument, the abbreviation signals the completion of the proof. We aim to generative compelling visions and persuasive arguments for future development that engage the three pillars of sustainability equity, economy and environment.

Civilisation is intrinsically rooted in the built environment, the development of science and technology and related societal organisation. The contemporary epoch is characterised by the development of a more profound understanding of how the human species affects the global ecosystem of which it is an integral part. This emergent knowledge field is fuelled by the increasing capacity and sophistication of computational processing that enables complex models to be developed that simulate our existence and cultural operation. We are poised on a threshold where systematic and holistic ecological models will promote a paradigm shift in the concept of development as it is applied to the contexts of air, land and water.

The atelier is concerned with the operation of buildings over time and as a result promotes simulation as a point of departure for conceptual thinking and a methodology for presenting the flow of design construction, use and adaptation. Rethinking the ecology of building and landscape use and the instrumental competence of materials, construction and environmental systems in an increasingly urban world is a critical aspect of the unit agenda.

Understanding the concept of ecology promotes the development of strategic attitudes to sustainability and ecologically viable approaches to building design, use and adaptation that meet the challenges or exceed the expectation of aspirations for our relationship with the environment in a global ecology.

qed employs international competitions and live scenarios as an embedded part of our learning culture developing the acuity of student understanding in a global discourse on sustainability.

This approach also reinforces excellence in the communication of research led design consistent with the professional aspirations we promote in our students. The outward facing nature of our pedagogy is further developed through active collaboration with professional practices in architecture and related academic disciplines.

Students undertook study tours and research workshops in Havana (Cuba) , Florence (Italy), Cornwall (England) and Milan (Italy).

qed `global thesis` projects for graduating Masters students were thematically described as qed `air, qed `land` and qed `water` reflecting the contexts and programmes for specific proposals.

qed introductory projects for first year Masters students were thematically organised around `information work` environments resulting in two shortlisted entries to the RSA Design Awards 2016 following a joint project with the final year Bachelors students from atelier qed that produced two shortlisted entries to the 2015 LAKA competition (`architecture that reacts`).

Collaborators

qed staff : Colin Pugh and Siobhan Barry

qed wishes to thank our collaborators and contributors for their valuable support:

Digital Design and Fabrication Symposium (28.09.15 – 02.10.15) and LAKA

Pattern Architects – Alexandr Valakh

Imagination (Lancaster University) – Professor Nick Dunn, Dr. Daniel Richards

Hawkins Brown Architects – Patrick Drewello

Grimshaw Architects – Natasha Tariq

Milan Expo Study Tour (October 2015)

Migliore + Servetto – Mara Servetto, Lucia Carughi

Puiarch – Gianni Mollo, Alessia Mendichi, Susanna Bainconi

Milan Polytechnic - Professor Adalberto Del Bo

Prada Foundation – Cecilia Piubello

Biomimetics Workshop (03.12.15 – 04.12.15)

Exploration Architecture – Michael Pawlyn, Yaniv Peer

University of Nicosia - Markella Menikou, Adonis Kleanthus

iWe (information work environment) project / RSA Design Awards (Spring 2016)

Sheila Bird Group – Atul Banshal

Bruntwood - Lee Treanor

5 plus architects – Phil Doyle

SAPA group – Mark Hargreaves, Tim Adams, Aaron Dehara, Chris Heaton

Exploration Architecture (Biomimetic Office) – Michael Pawlyn

Caribbean Winterschool (Spring 2016)

CUJAE (Havana) - Professor Dr. Reuben Bancroft, Professor Dr. Jorge Pena-Diaz

Munster School of Architecture - Professor Herbert Buhler

qed `global thesis`

Foster and Partners - Colin Ward, Mark Atkinson

Grimshaw Architects – Andrew Thomas, Eduard Ross

MAG (Manchester Airports Group) – John Bottomley

CATE – (Centre for Aviation, Transport and the Environment, MMU) - Professor Callum Thomas

Urban Environments Research Group (MMU) – Dr. Kosta Tzoulas

University of Exeter (Environment and Sustainability Institute) - Dr. Chris Bryan

University of Exeter (Camborne School of Mines) – Neill Wood

Helford River Children`s Sailing Trust – Johnathan Thornton

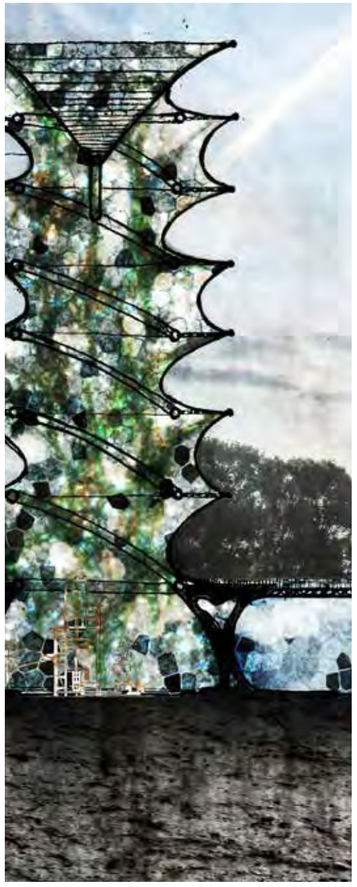
Wheal Jane Group – Bernard Ballard

University of Florence - Professor Maria Antoinetta Esposito, Paolina Ferruli, Filippo Bosi

blue sky architects – Reece Vigelskas

ADP architects - Will Allen

Delabole Slate Company Ltd. – Morgan Hamilton



qed

M Arch 1

Shahrukh Ahmed Sheikh / Ben Blackwell / Justin Chong / Danson Wei Ee Choo / Jillian Clifford
Florence Cooke-Steed / Chris Doherty / Arron El-Ammar / Dominic Garret / Alex Glover
Harry Harrison / Aleks Hayward / Jessie Yang Hu / See Sern Khor / Nuoya Liu / Ashlin Milton Panayiotis Paschalis /
Panikos Pittakas / Oliver Pozegic / Hina Shah / Sherman Slavazzuoi
Debora Tarzia / Enran Zhang

M Arch 1

LAKA reacts

(Brief Extract)

"Laka Competitions invites designers from around the world to submit their ideas of 'architecture that reacts'. That means architecture which is able to respond and adjust dynamically to the current needs and circumstances. These circumstances are often unpredictable, but their consequences can be crucial. The architecture that reacts - is the architecture that lives as a living organism, since it responds to the external stimuli and it develops because of it.— to react is to live.

The subject of the competition is a conceptual project of architecture that is socially engaged and is capable of reacting to unpredictable conditions and environmental, natural and social risks. Proposed solutions should constitute an ideological interpre-tation of modern technological solutions which take into consideration social and economic determinants."

(http://www.lakareacts.com)

Reflex

Reflex; *a spontaneous action in response to stimulus without conscious thought.It is instantaneous, making it the fastest reaction possible in any given situation.*

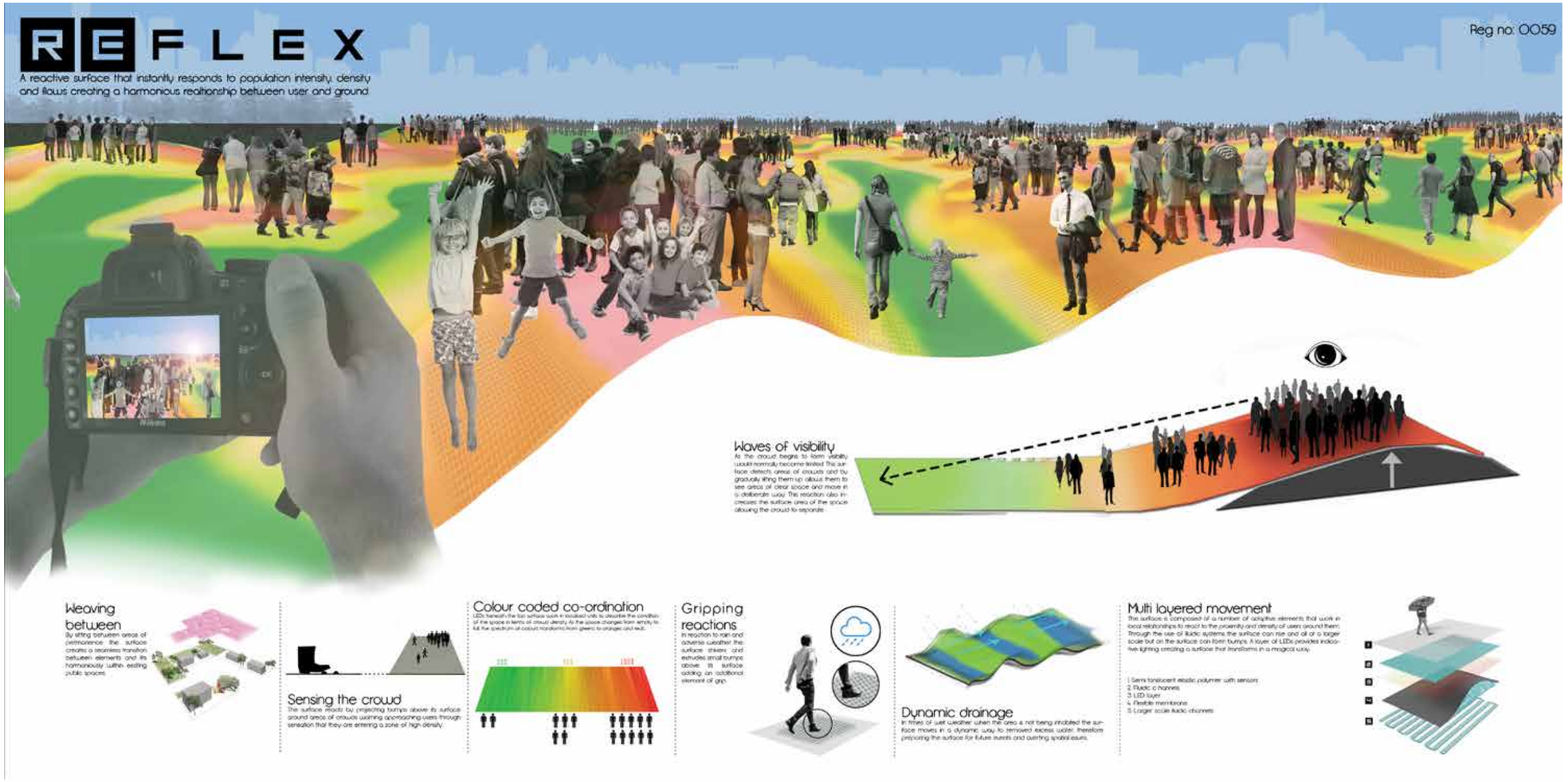
The unpredictable situations caused by the inertia of a crowd have historically resulted in disastrous consequences. The current acceleration of people moving to urban areas greatly amplifies the density, intensity and flows of the population gatherings.

Conceived as a reactive ground cover surface, reflex responds to users and environmental stimuli to create a harmonious relationship between crowds and the ground beneath them. The surface weaves itself between permanent elements of public space, seamlessly flowing and celebrating the space it inhabits.By reinterpreting the technology of micro-fluidics at larger scales and by implementing this into reactive layers, this project creates an environment of ever changing stimuli echoing the haptic elements of beaches and forests.

Concealed within the reflex is a large area sensor system that works in localised units to communicate to the reactive elements of the layers.

This direction could be applied to many aspects of architecture using surface as a responsive and reactive element, therefore composing a greater role and connection of these spaces within society.

Enran Zhang, Dominic Garrett, Debora Tarzia, Alex Glover



+PRMTV

In 1965, Reyner Banham published a journal in which he stated; *'A home is not a house'.* By identifying the fundamental objects and systems necessary for people to be happy and comfortable(see figure 1), Banham created an 'Enviro-Bubble' (figure 2).

Through the analysis of this ideology we have identified a paradigm for the modern day. Rather than mass produced electronics, society is now a mass connectivity hub with digital consumption far surpassing the physical, dominating the needs and desires of the modern man. In contemporary society, location has become increasingly meaningless. In this sense, we could omit the need for any bulky system and focus on a solution that allows the individual to feel at 'home' wherever they are, a modern day 'Enviro-Bubble'.

Our design concept is inspired by colonies of ants that thrive in most ecosystems due to their social organisation and ability to modify their environments using swarm intelligence methods. It is an adaptable, flexible environment in which the everyday activity of modern day individuals is promoted through an intelligent structure of super organisms. Through the division of labour and sophisticated communication the system has a fundamental ability to solve complex problems.

In order to create a tangible physical representation of our concept, we have applied smart materials to the components, providing flexibility and subtlety in their form.

This system is the new, primitive way of living.

Harry Harrison, Chris Doherty, See Sern Khor, Florence Steed

OXYbar

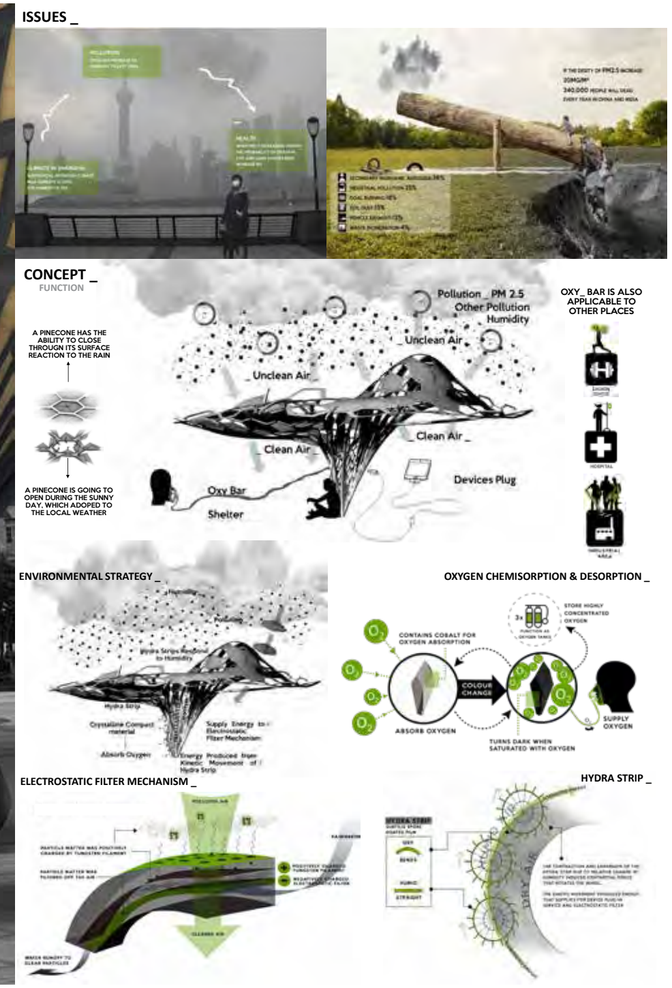
As industrialisation speeds up in many developing nations and while already industrialised nations continue to burn vast amounts of fossil fuels, pollution is fast becoming a global problem. Sulphur Oxides, Nitrogen Oxides, Particulates, PM2.5 as well as many other types have a variety of detrimental effects on the both the environment and society including Acid rain, reduced crop yields and even direct health effects ranging from cancer and pneumonia to cardiovascular and lung diseases.

The humid environment is utilised to generate energy using hydra strips, which respond to relative changes in humidity. The strips contract and expand creating torque, which produces motion that can be harnessed to create power. This energy is used to create an electrostatic difference that polluted air is then passed through, extracting the harmful pollutants. This air is then passed over a crystalline material located in the core of the canopy, which will absorb and store Oxygen. These crystals can then be removed to be used in an oxygen bar: a way the canopies purpose can be translated into public life providing an enjoyable and social element to the design, allowing people to relax, plug in their electronic devices and enjoy the clean environment.

The canopy itself incorporates a laminate, water reactive material used in by other designers , but with a new application, allowing us to collect and purify acid rain. Based on the mechanism found in pinecones, which opens in the absence of rain but will seal shut when it is present, the material will similarly close as soon as it begins to rain, and, due to the funnel shape of the canopy, rain will be directed to the centre where purification will take place.

Finally, we intend that many different iterations of this design can be applied in a variety of different contexts. These could range from markets to concerts or even as a shelter for refugees. As pollution, and so the problems associated with it, grow all over the world, cities will have to adapt, finding creative ways to combat the issue. The dialectic between the technological, environmental aspects of our design and the social functions it performs could be an exemplar of what could be achieved.

Ben Blackwell, Panikos Pittakas, Nuoya Liu

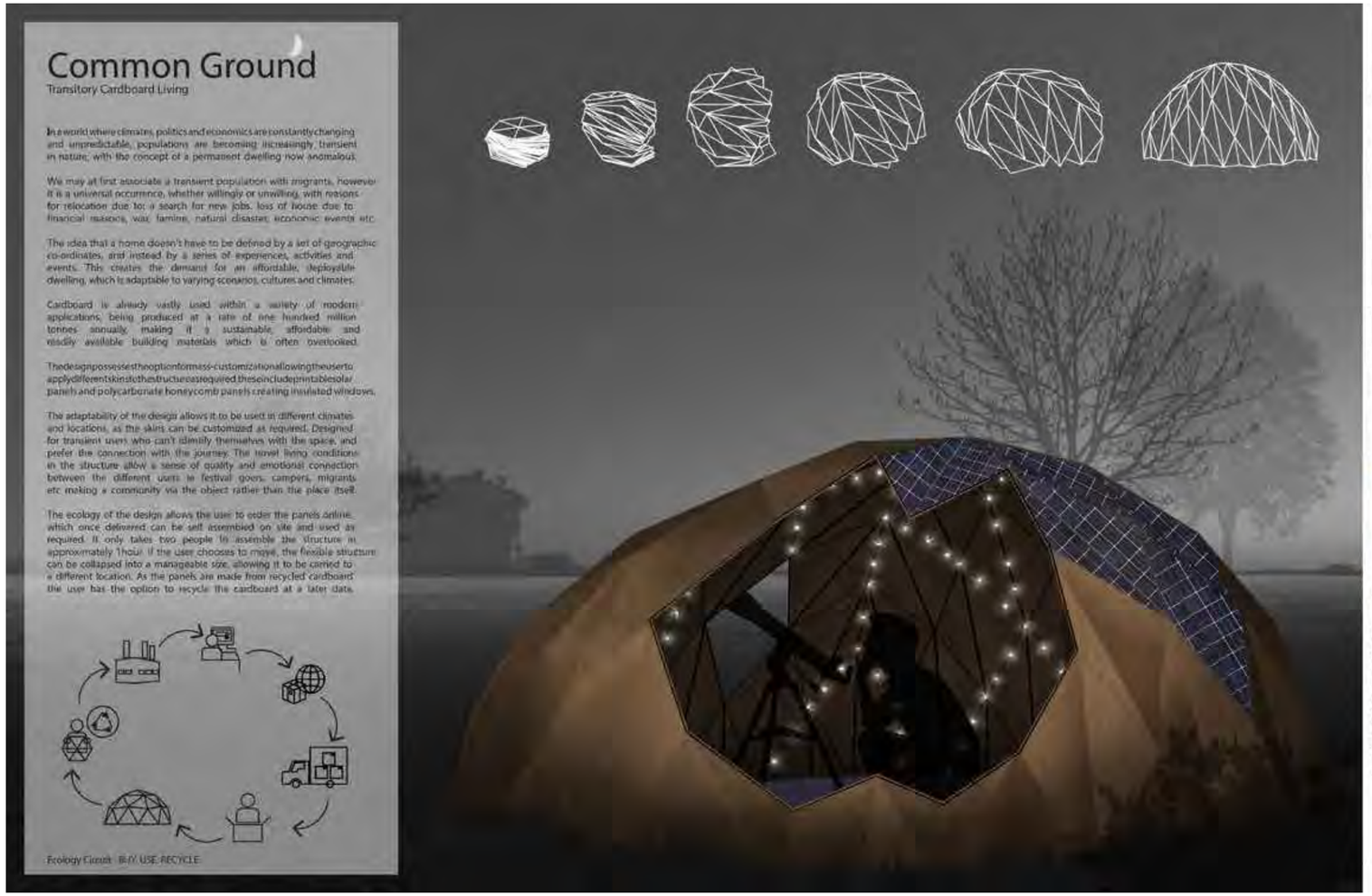


Common Ground
(Shortlisted)

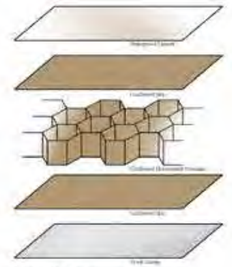
The mission for the design was to provide immediate transitional shelters from people who are homelwss, displaced around the world or in need of a temporary shelter. The design's skin has the capacity to adapt to a range of environments, providing instant privacy and weather protection, is a shelter that can be used by people in need of temporary or emergency refuge.

The mobile structure can be flat-packed easily and transported around to different locations making it flexible. The use of materials makes it durable and low cost as well as recyclable and can be set up by anyone who needs it. After the life of the shelter it can be easily recycled.

Panayiotis Paschalis, Hina Shah,
Jilly Clifford, Ashlin Nicole Milton



As a structural building element, honeycomb core cardboard composite has many advantages. In addition to being a relatively low cost material, it possesses very strong thermal and acoustical properties, is easily recyclable, and can be manufactured using renewable sources. A layer of waterproofing varnish on the external façade of the panel and Tyvek internally will allow the structure to be waterproof.



Material build-up

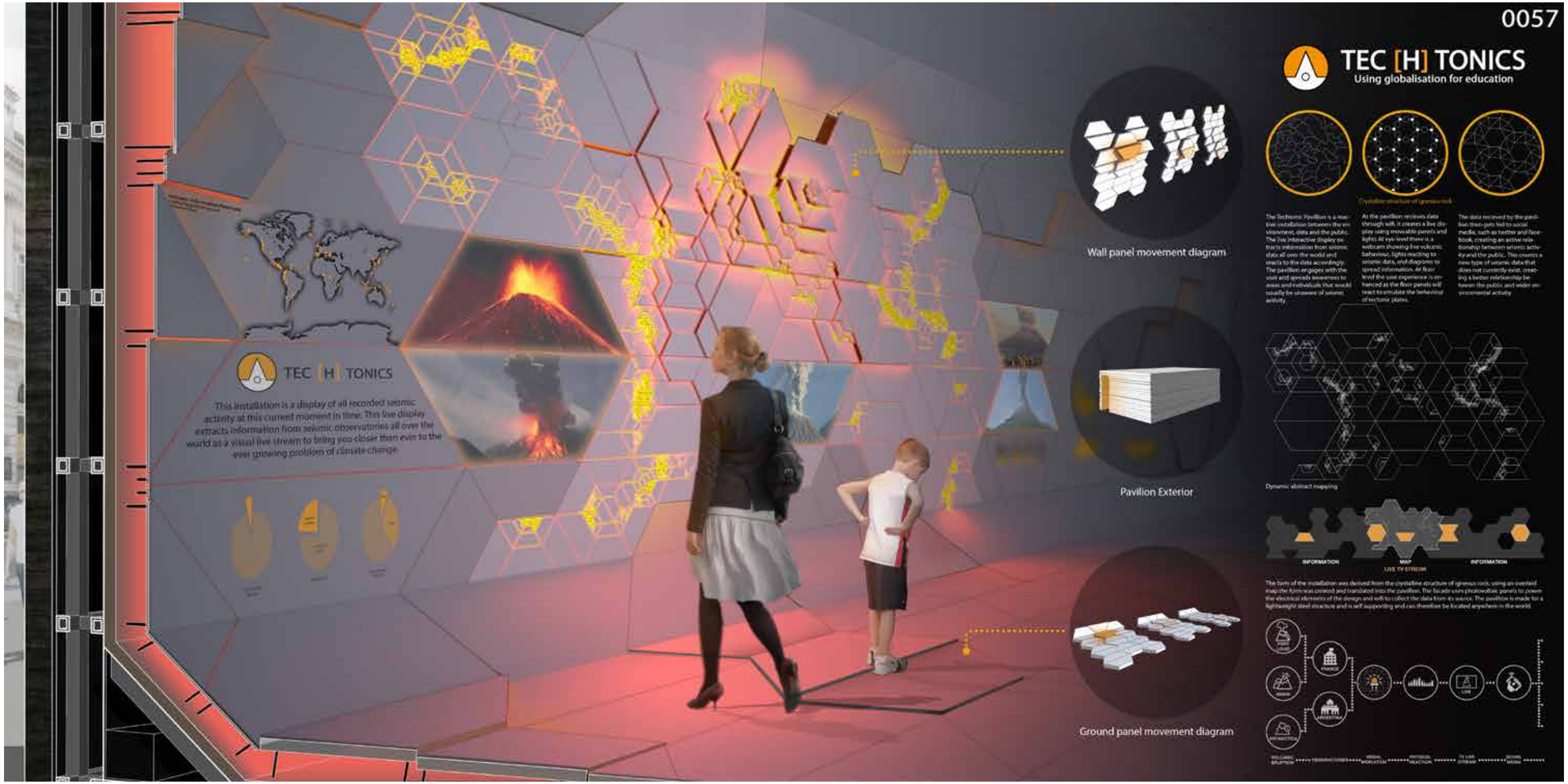
TEC[H}TONICS

Although society is becoming increasingly globalised, there is a discourse between being connected and disconnected with the wider environment, there is a detachment in regards to the world around us, and the way we interact and think about the way the Earth reacts with us. There is an ignorance in the way we as Human beings turn our backs on the wider global problem of climate change despite having such sophisticated and instant forms of sharing information. Volcanic activity is one of the elements of this. The majority of the world are unaware of seismic activity as most of us are not immediately affected by the issue, and with the lack of accessible information available on seismic activity, this became a premise to react to.

TEC[H]TONICS solves the issue of this lack of information by collecting the data received from international volcanic databases around the world, creating a live installation that actively reacts, moves and fluctuates depending on these databases study the volcanic activity from many observatories from different parts of the globe. As the hub receives data from its source, it will translate this into different reactions depending on the type of data received. There will be a continual webcam feed of active volcanoes, however the installation also reacts to this activity at eye level by pushing out appropriate panels, using a light display and displaying diagrams. It also reacts on floor level by moving under the users feet to reflect underground seismic activity.

The objective of the project is to better educate people and spread awareness of the ever changing Earth that many would otherwise take for granted by creating a physical representation of the volcanic activity in a way that communicates with the user and in turn spreads awareness and educates members of the public that would not usually consider these issues in a regular day, we envisage that the conceptual framework of the installation to extend to a broader idea of using globalisation and freedom of information in a positive way to create cultural awareness and understanding of situations foreign to us.

Oliver Pozegic, Arron El-Ammar, Aleks Hayward, Shahrukh Ahmed Sheikh



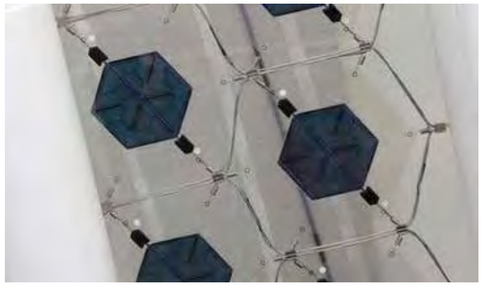
atelier qed

Milan

(Study trip)

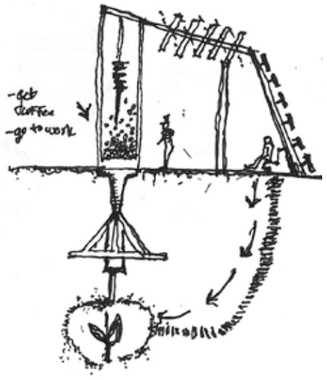
In October, we visited Milan for the 2015 Expo. The theme of the Expo was ‘Feeding the Planet, Energy for Life’ and therefore was closely tied to the environmentally positive ethos of the atelier qed. Each country designed a pavilion displaying their nation’s food production, and exhibited a number of interesting environmental strategies and innovative architectural design.
Following our visit to the expo, we visited a number of other sites of architectural interest such as the Duomo and OMA’s Fondazione Prada art centre

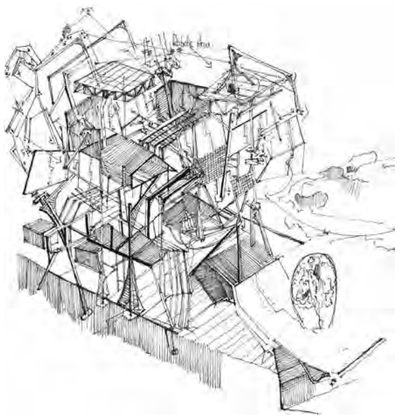

BENVENUTI
NELLA
GALLERY OF
ESTONIA
CHIEDI PER UN
TOUR GUIDATO
E FAI SHOPPING
AL PREZZO PIENO
CAPITAL CITY

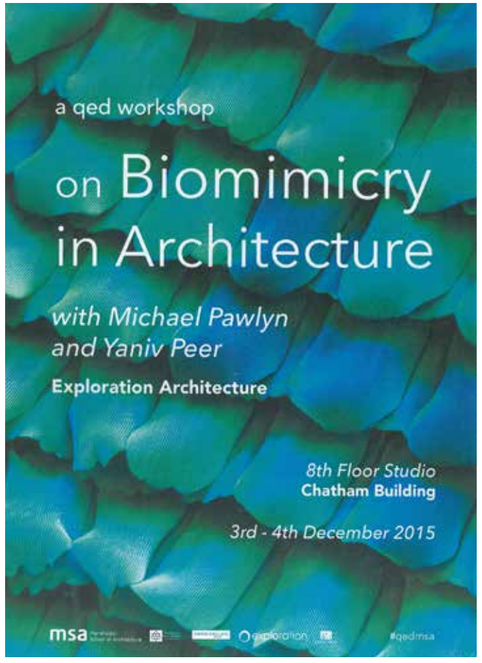


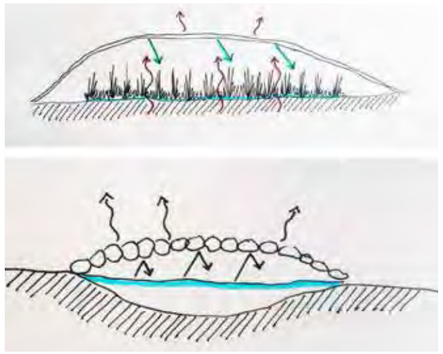
Biomimetics workshop

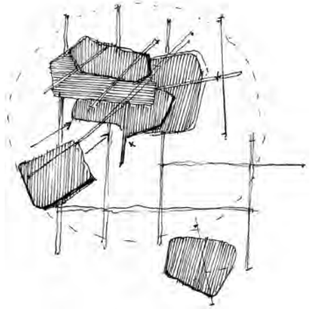
In December 2015 Michael Pawlyn and Yaniv Peer of Exploration Architecture visited atelier qed to undertake a number of lectures and workshops over a period of two days. Exploration Architecture are a practice that actively use Biomimicry as part of their design ethos and Pawlyn is an internationally regarded authority. The agenda during the two days consisted of a number of talks from Michael in which he discussed the potential benefits of approaching architectural design using biomimicry. Alongside this were a number of challenges for students where we were asked to look to nature for answers to a series of design opportunities.

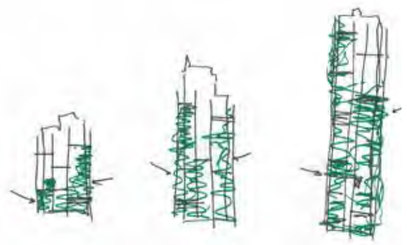





a qed workshop
on Biomimicry in Architecture
with Michael Pawlyn and Yaniv Peer
Exploration Architecture
8th Floor Studio
Chatham Building
3rd - 4th December 2015
msa
exploration
#qedmsa







M Arch 1

RSA Competition

Waste Not want Not

(Brief extract)

"Food waste is a growing issue. It is estimated that 50% of grown food goes to waste globally and 33% of all food produced is not eaten and goes to waste – accounting for 1.3bn tonnes or 750bn USD. 28% of food produced from arable land is never eaten – while we cut down forests to increase arable land (source UN).

Busy urban lifestyles have signalled major changes to the way we as a population live and consume; many of us live in small city flats, often in one-person households, where there is very little food storage space. In addition, we live in an 'all you can eat' culture perpetuated by the notion that having a lot of choice is a sign of prosperity, together with a sense of value for money – in this case, unlimited food for a relatively small amount of money.

This brief asks you to apply innovative design practice to draw attention to the environmental, social and ethical implications of food waste and to develop a solution that will change people's behaviour so they waste less. You should consider the psychology around 'waste' and how people react to rationing or food being out of stock. There is also a need to consider the systematic prevention or reduction of the over-production of food and its effect on natural resources."

Last Minute Kitchen

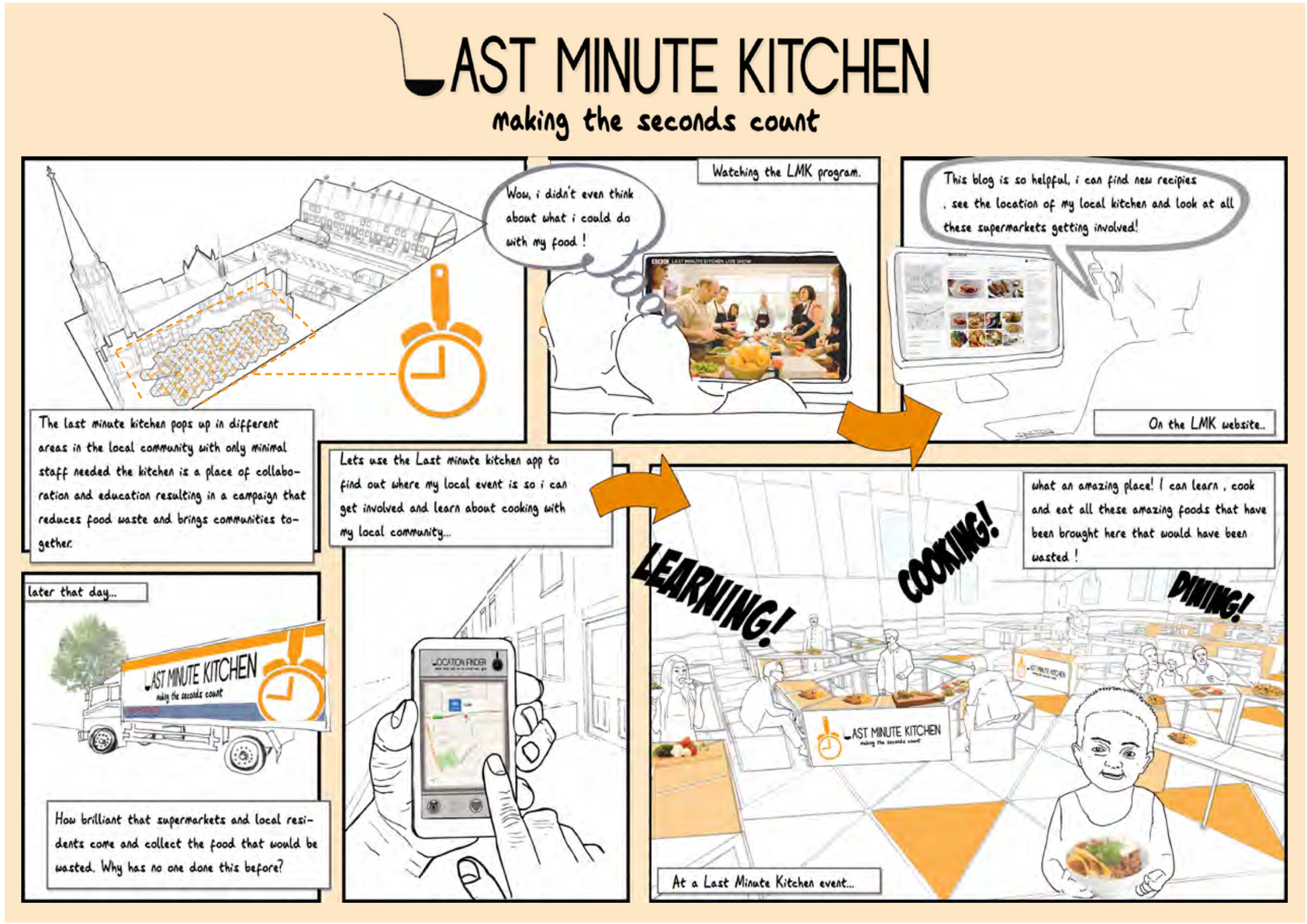
By harnessing the opportunity presented from food waste this project revitalises and educates the community through a community kitchen that works on a number of innovative systems. Recognising that as a result of poor household skills people have different attitudes and behaviors that impact their shopping and food waste habits, the Last Minute Kitchen creates a place where people can learn, cook and dine, as part of a wider movement to bring communities together, united against the concept of food waste.

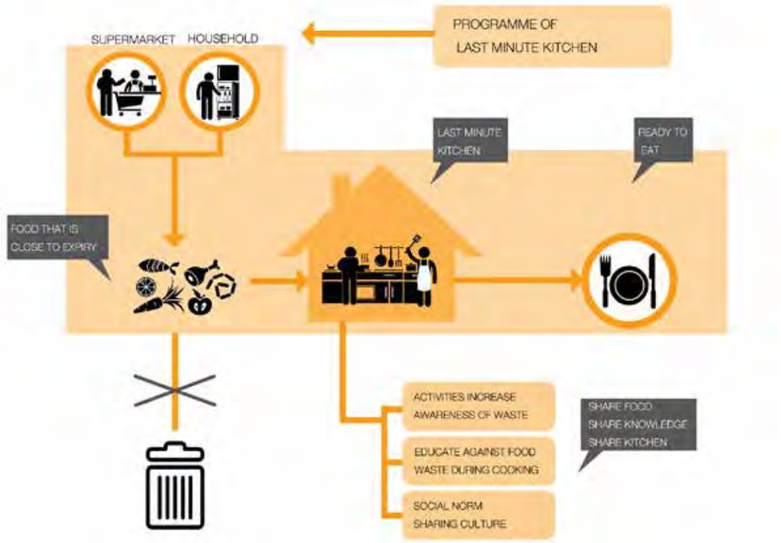
Awareness of this waste revolution is heightened through the presence in the media of the kitchen with television coverage of specific events and a website that feeds knowledge to visitors on their local Last Minute Kitchen and it's location.

The kitchen makes use of existing spaces within communities in the hours that they are not typically used by using deployable furniture meaning an event can take place in almost any space. As people use the phone app and website to make their local kitchen aware of the food they have available, local supermarkets and residents involved in the campaign through signing up collect this food and transport it to the kitchen. This use of existing transport networks alongside using existing spaces in the community means that this kitchen can exist anywhere and boosts community collaboration whilst providing benefits for those involved.

The Last Minute Kitchen presents a new dimension to food that translates the concept of food waste into an opportunity to improve and educate communities

See Sern Khor, Dominic Garrett, Hina Shah, Nuoya Liu





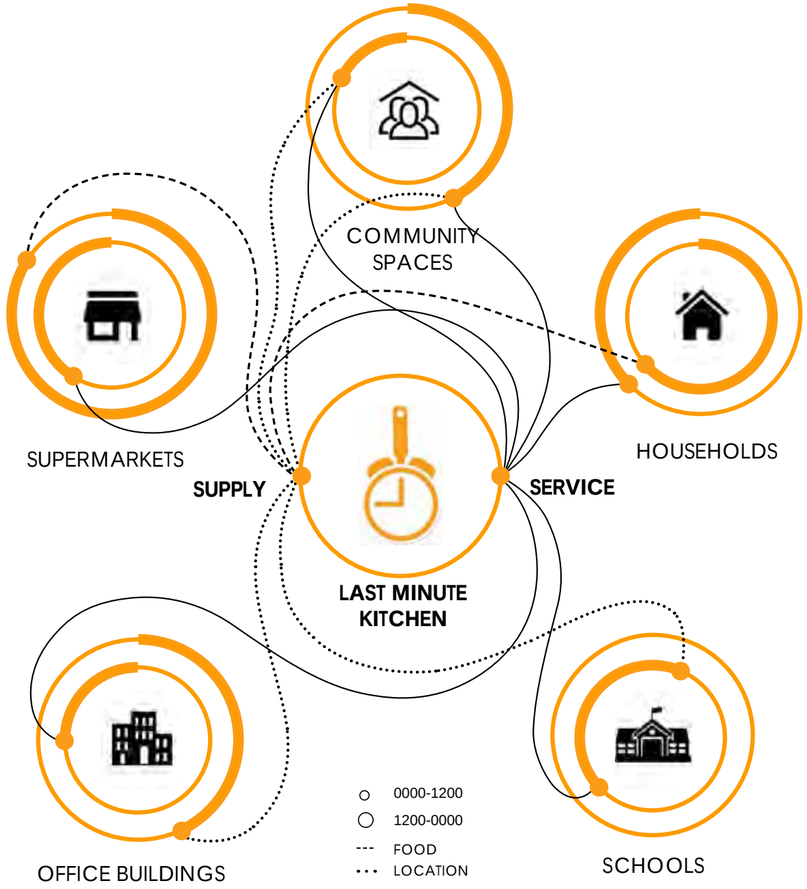
Homepage -
Live event updates, join competitions and Live Youtube channel streaming!

Location Finder -
Map showing locations of LMK Event near member

Recipes -
Flick through recipes posted by the LMK team and save the favourites for later!

Membership -
Check points and redeem rewards : LMK event, Celebrity Chef or a Private Lesson!

The LMK connects the serve the community by utilising the resource available.



Being the second most abundant biopolymer on the planet, chitin can be made into a paste like substance, having been recently tested by Dr Oxman at MIT, the material can be extruded into different shapes and moulds and even injected. The proposal is a new type of packaging design, the chitosan paste would be made into a translucent protective layer for food, and this packaging would increase the longevity of the product inside. Chitosan is an antimicrobial, it also stops oxygen getting to the food product, and as it biodegrades it can be used as fertiliser because of the phosphorus content that is stored in the material, thus looping back this cycle into the ground, eliminating any trace of waste material. The pea pod type design allows for the ability to store more food, the design taking from that of pea pods create a space saving, structurally sound product whilst also giving the user ability to separate/ partition each part of the packaging as and when needed.

An indicator which will utilise NFC technology, will record each stage of the journey the food product will take, rating each stage of the food packaging process, giving the consumer a morale choice whether to buy that product, this in turn influences organisations such as supermarkets which are driven by profit. The logo specifies food that can go into the bio waste bin, the logo also patinas over time to reflect the edibility of the contents inside, it does this by measuring the gas composition in the packet as it is very difficult with the current system to know if something is able to biodegrade. When the chitosan packaging is thrown away it can increase the yield of the crop. The whole idea is to create a complete closed loop system so the farmer benefits from the entire process.

Arron El-Ammar, Alex Glover, Panayiotis Paschalis, Alvise Moretti

Chitosan would be the choice of material. The use of this matierial allows the package to become fully biodrgradeable, and creates a full ecology by closing a currently linear system. This reduces the amount of waste packaging currently going into landfill. The packaging could supliment the soil, reducing our reliance on fertiliser, which has economic importance to the farmer, this is because of its high phosphorus content, allowing us to combat the phosphorus crisis with this product which in turn allows for better crop yields.

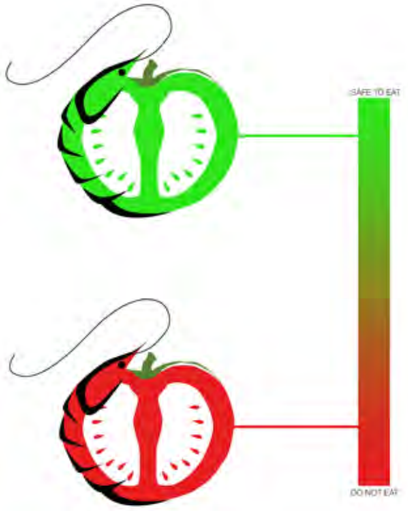
Seals that are breakable so that food that has not been used can be stored and still stay fresh, eliminating waste foods that soon expire when opened.

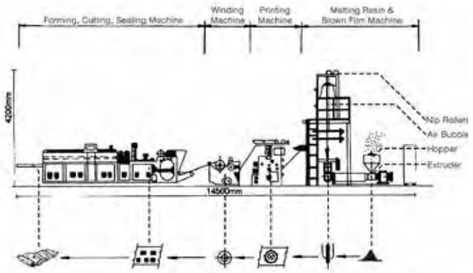
Packaging is to be sealed from this end, with a tracking device so that the product can be tracked from suppier to consumer. This gives the consumer the influence as to where they buy their consumerables, suppliers would be rated and consumers could use an app based system to check where their product has come from. This aspect of the design is all about giving the consumer the power to make a difference in the food industry.

Opening and resealable package. The package is designed to be as economical as possible, in terms of space saving, material usage and product life.

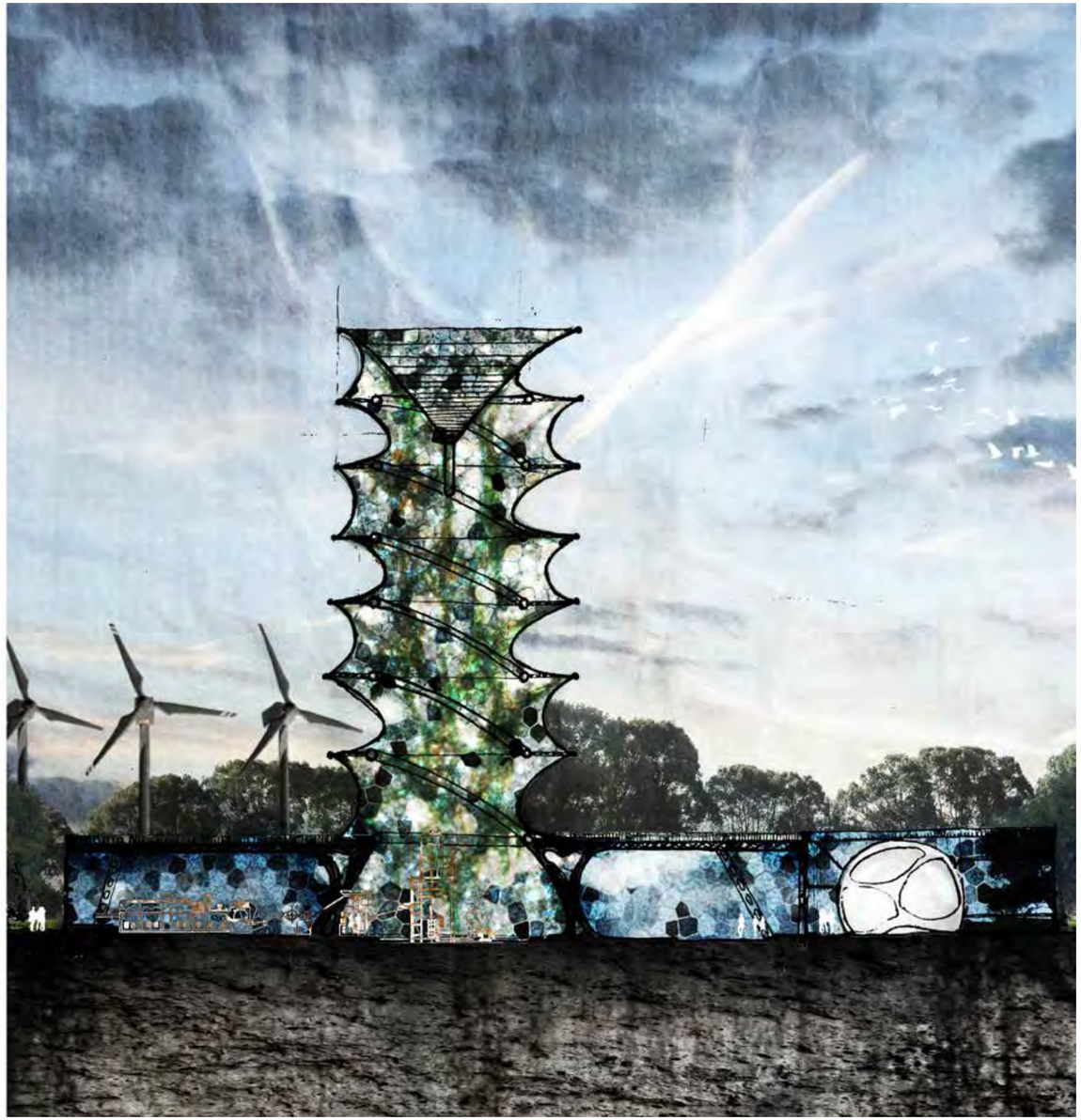
The pea pod like design allows the optimum amount of space and stability. Reinterpreting these principles from nature allows us to cut down on transportation costs, which in turn has economical and environmental benefits.

A reactive sticker that would inform the user when the product is starting to come to the end of its lifetime. The sticker confirms clearly that this product should be put in the bio bin, separate from traditional recycling waste.


SAFE TO EAT
DO NOT EAT


Forming, Cutting, Sealing Machine
Winding Machine
Printing Machine
Melting Resin & Blown Film Machine
4200mm
14560mm
Nip Rollers
Air Bubble
Hopper
Extruder


BioRock
Sustainable Elecricity
Chitosan Resin
Chitin
Melting Unit
Waste Shells
Blown Film Unit
Shrimps Farming
Printing Unit
Package Final Product
Forming Cuting & Sealing Unit
Agriculture
Waste Product
Compost Unit



Bitzer

Our 'Big Idea' is to set up a donation scheme to be implemented at supermarkets across the UK in which customers can bring their food waste and exchange it by weight for incentivised reward points. This will manifest itself as a machine that will be designed to collect food waste, process it and convert it into printable, biodegradable bioplastics to be used as packaging at the supermarket or off site.

The machine would be placed outside supermarkets and local retailers offering an intrigue element into the processes of breaking down food waste and converting it into bioplastics. With a high yearly footfall at supermarkets across the UK, the pavilion would act as an advertising campaign for the new technologies available. A lack of awareness of these types of systems means that people don't dispose of their food waste responsibly. A scheme in which customers were rewarded for their donations means that a large portion of the population would start thinking about why this is necessary. In doing this, customers are saving money as well as the supermarkets, as their outgoing costs for packaging would decrease.

The form of the pavilion aims to demonstrate the processes of the machine. The Heath Robinson style of creating 'useless machines' that perform relatively simple tasks has influenced the way we've treated this design. The mechanisms act as symbols of the metabolic nature of the process, an ode to the temporality of the machine, separating the elements and treating them as separate functions in order to express a digestible language for spectators.

Ashlin Milton, Ben Blackwell, Florrie Steed, Choo Wei Ee Danson

RSA _ WNWN _ HERO IMAGES

1 - Encouraging supermarket customers to donate food waste through awareness and rewards incentives

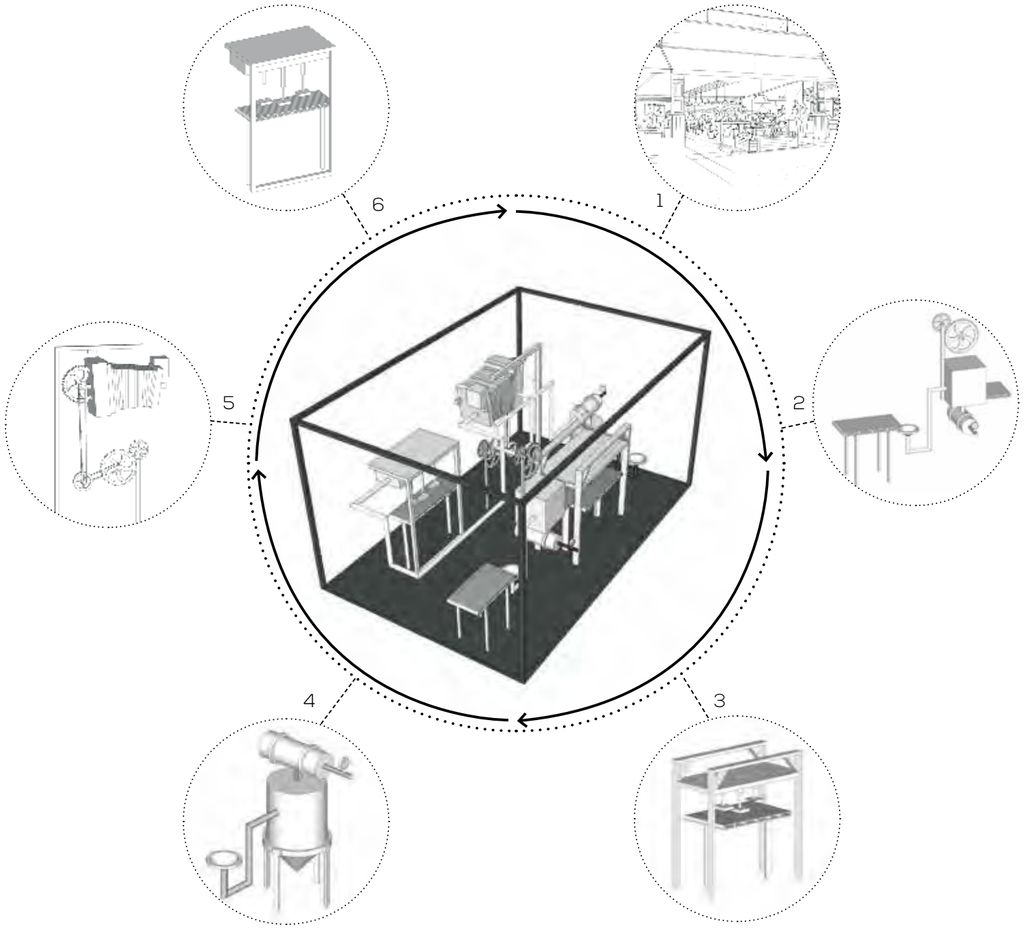
2 - Collection and drying of food waste

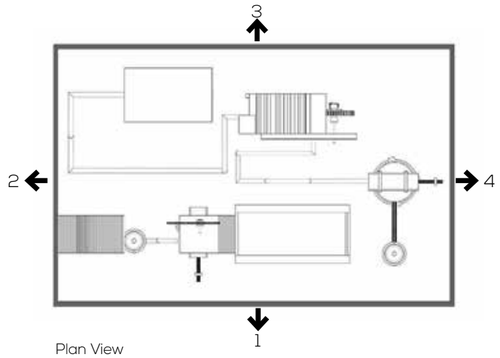
3 - Pulverisation of dried food waste

4 - Sugar break down and fermentation of succinic acid

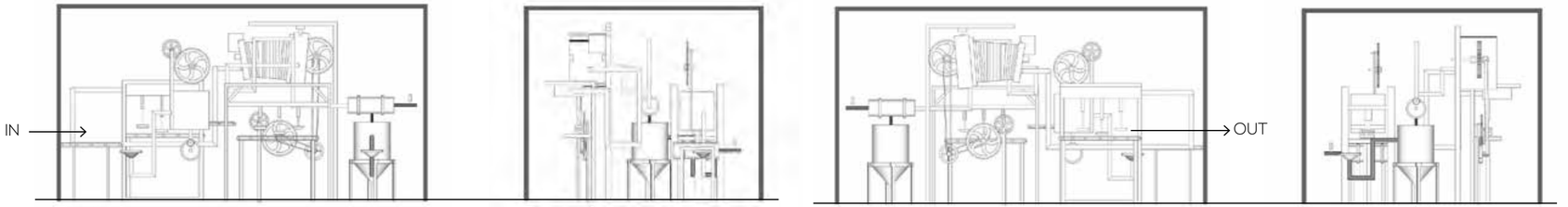
5 - Combination of product and starch based solution to create solid form

6 - Printing of bioplastic into usable consumer packaging





Plan View

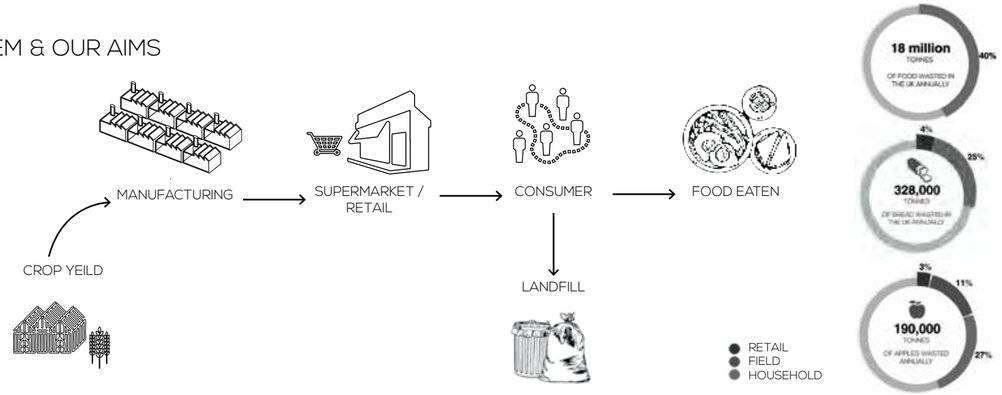


Elevation 1 Elevation 2 Elevation 3 Elevation 4

RSA _ WNWN _THE PROBLEM & OUR AIMS

EXISTING LINEAR WASTEFUL SYSTEM

This diagram represents the linear and wasteful system that, in the UK, produces approximately 18 million tonnes of food waste each year (1.3 billion tonnes globally). The value of this reaching a staggering £23 billion (and still rising due to inflation). With the majority of food waste occurring at the post-consumer end, it is essential that we tackle the food waste problem at a domestic scale.

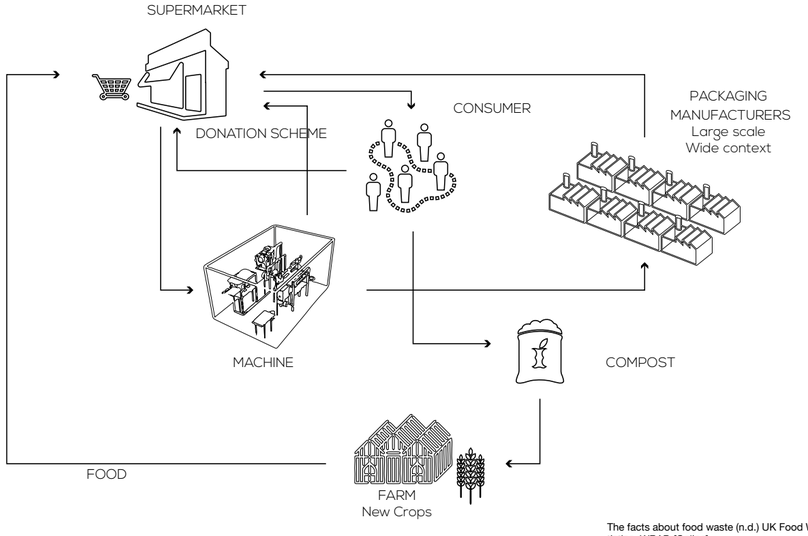


PROPOSED INTERLOCKING CLOSED LOOP SYSTEM

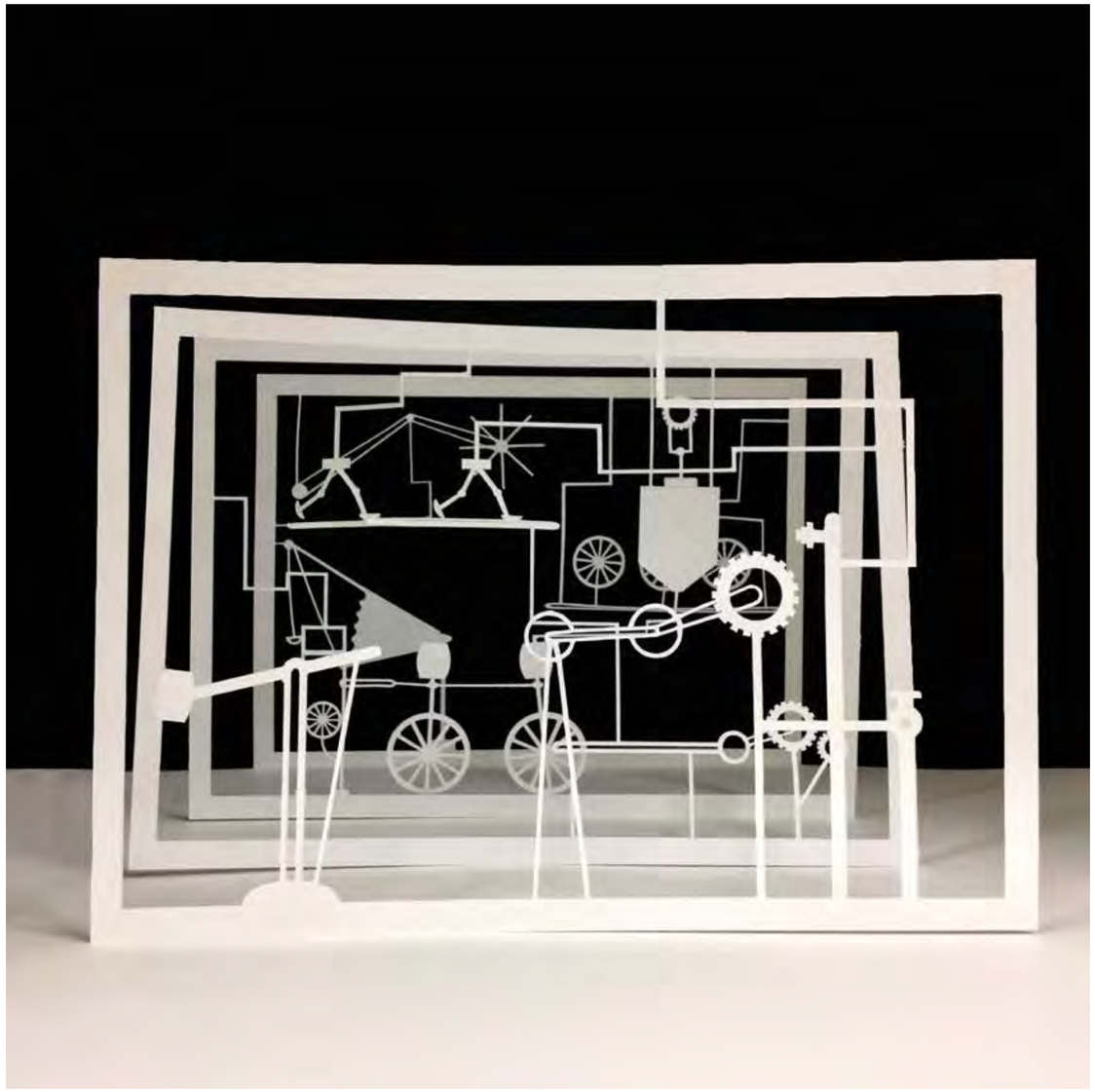
In order to create a closed loop system, food waste must be utilised as a resource. In creating a cyclical process, as opposed to the current linear nature of most food waste, energy, time, money and resources can be saved.

We propose a donation scheme to be implemented at supermarkets across the UK in which customers can bring their food waste and exchange it by weight for incentivised reward points. A machine that will be designed to collect the food waste will then process it and convert it into printable, biodegradable bioplastics to be used as packaging at the supermarket.

Remaining or overflow food waste can get easily transported off site to a larger scale implementation of this where manufacturers can incorporate the biodegradable, sustainable plastics into a wider range of packaged goods.



The facts about food waste (n.d.) UK Food Waste Facts & Statistics. WRAP. [Online]



PI[G]RID

Food wastage has become a huge problem in the UK and around the world. it is estimated that approximately 1/3 of all food in the UK ends up in landfill where it generates high amounts of methane emissions. Pigs were originally domesticated thousands of years ago to help us deal with our wasted food and generate useful manure and pork, but due to the foot and mouth scare the EU instated new regulations disallowing the feeding of waste to pigs in 2001 ending the age old tradition. Pi[g]Rid aims to circumvent these laws and turn pigs into a valuable vessel through which to recycle our abundant amounts of wasted food and turn it into energy.

With the collection of residential food waste, Pi[g]Rid facilitates the rearing of pigs in micro-farms in local parks and across the urban context. due to strict EU regulations on pork for pigs fed with waste, the pigs will primarily be used for their manure which will power biomass generators to provide electricity for the local residences; offsetting their bills and saving them money. Pi[g]Rid also has the capability to become a food generator if the regulations are loosened. Pi[g] Rid needs 7 residences to support each pig therefore subscribers are divided into local collectives to incentivize responsible recycling practise.

A fun and friendly interface through app form allows subscribers to track their neighbourhood's food wastage and also their own personal energy savings. This system will help to resolve the food waste crisis that we are currently facing as well as introducing agriculture to our urban fabric and creating ecologically positive energy. it can be scaled up with the introduction of more pig pens and biomass generators, and be introduced into any city across the world to aid in the creation of a more connected, socially aware and sustainable future.

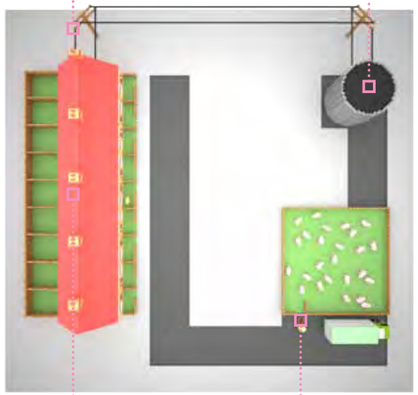
Shahrukh Ahmed Sheikh, Harry Harrison, Jessie Yang Hu

PROPOSAL DESCRIPTION

With the collection of residential food waste, PI[G]RID facilitates the rearing of pigs in micro-farms in local parks and across the urban context. Due to strict EU regulations on pork for pigs fed with waste, the pigs will primarily be used for their manure which will power biomass generators to provide electricity for the local residences; offsetting their bills and saving them money. PI[G]RID also has the capability to become a food generator if the regulations are loosened. PI[G]RID needs 7 residences to support each pig therefore subscribers are divided into local collectives to incentivize responsible recycling practise. A fun and friendly interface through app form allows subscribers to track their neighbourhood's food wastage and also their own personal energy savings.

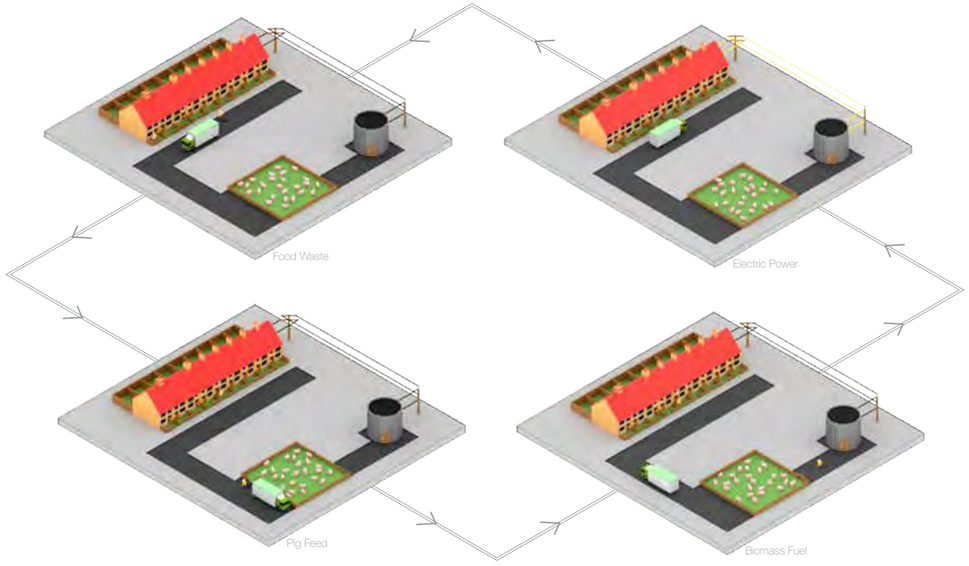
Rather than allow food waste to be thrown into landfill, PI[G]RID is an initiative that utilises the waste in a system that would provide electricity to offset the resident's power bills. The residents would be able to track their savings through a user friendly app and compare their ecologically friendly savings with others

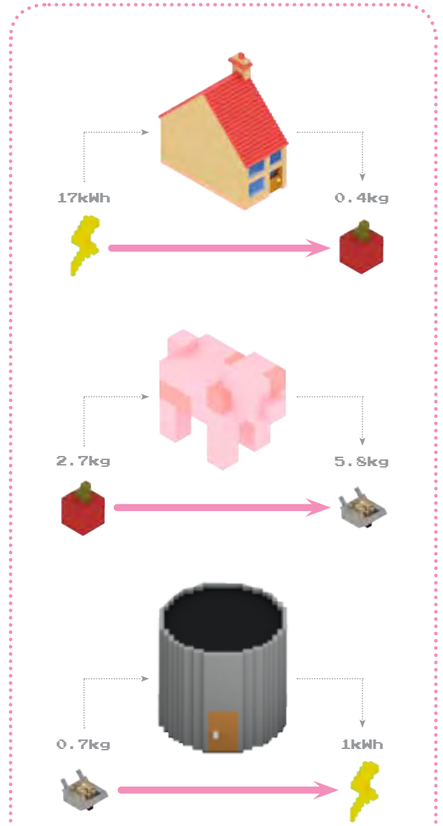
The pigs that are fed through the PI[G]RID initiative will not be eaten but they could be utilised in an environmentally positive way to produce electricity for the neighbourhoods that provide food for the pigs. Biomass generators can be used to convert the pig's manure into electricity.



For thousands of years humans have been using their food waste to feed pigs. Up until relevantly recent legislation was passed that wasted food was not to be fed to pigs to prevent the spread of foot & mouth disease. This legislation can be circumvented by feeding waste to pigs that are not to be eaten.

Almost two thirds of all food produced to be sold in the UK is wasted and the majority of that wasted food ends up in Landfill where aerobic digestion is not possible, resulting in excessive amounts methane emissions which are 21 times more potent than CO_2. 25% of this wastage is produced in households.





[FOOD]net

Targeting the residential sector as a significant contributor towards food wastage within the UK and abroad. FOOD[net] is a mobile phone application that promotes positive actions towards reducing the amount of food that unnecessary goes to waste.

Within the modern lifestyle, many households overstock food to avoid running out. This is one of the main contributors as to why perishable foods such as meats, fish, fruit and vegetables goes to waste. Trying to change the general publics buying habits can be seen as a unrealistic task, hence why FOOD[net] accepts the overstocking of perishable food as part of a normal lifestyle and is designed to work alongside that.

Synching up to the users smart fridge, FOOD[net] is capable of tracking produce within the users home including the use by date and plan meals depending on produce that is available for trading within their local community. From this the app can plan routes to ensure that all the correct ingredients for the meal are collected.

Initial studies on the app have found that it can help reduce the cost of a households food bill, can help increase community social interaction, can increase awareness towards food waste and significantly reduces the amount of food waste a household creates.

Celebrity chef Hugh Fearnley-Whittingstall endorses the mobile phone app and promotes it as a solution to his War on Waste. Featuring on Hugh's BBC documentary, the application gained significant popularity and is becoming implemented within cities and communities across the UK.

Enran Zhang, Oliver Pozegic, Justin Chong, Debora Tarzia

BBC Mobile | News | Sport | Weather | iPlayer | TV | Radio | More | Search BBC News

NEWS 16 December 2015 Last updated at 12:21 RSS

Home | World | UK | England | N. Ireland | Scotland | Wales | Business | Politics | Health | Education | Sci/Environment | Technology | Entertainment & Arts

Video & Audio | Magazine | Editors' Blog | In Pictures | Also in the News | Have Your Say | Special Reports

LATEST: "Revolutionary" facade system lauched in China that can visualise waste levels, China's president says

Hugh's new weapon against the War on Waste

#WasteNot

Hugh Fearnley-Whittingstall has increased his arsenal on his War on Waste with his backing of the recently released mobile phone application [FOOD]net. The smart application focuses on the reuse of perishable food produce that would often end up being thrown away.

Food waste globally is at an all time high with an estimated 33% of all food grown not being eaten and thrown away instead. Hugh believe that this application could be the starting point to help change people approach for when it comes to food waste.

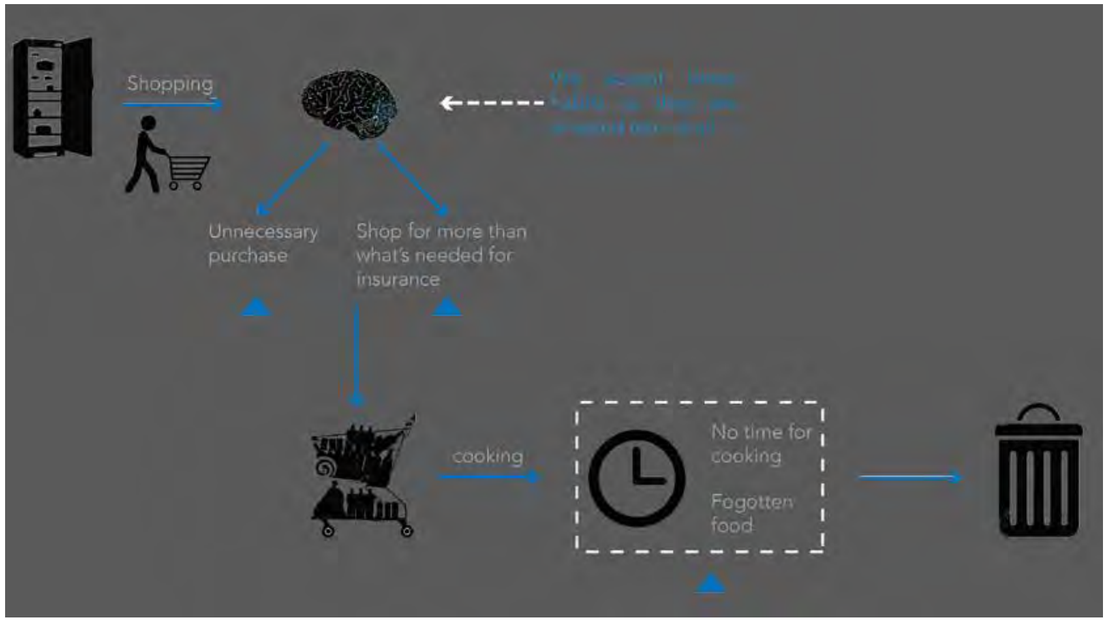
The application uses the location of the user to find produce within a small radius. Early reports have suggested that the application strengthens community spirits due to the social interaction that the application creates .

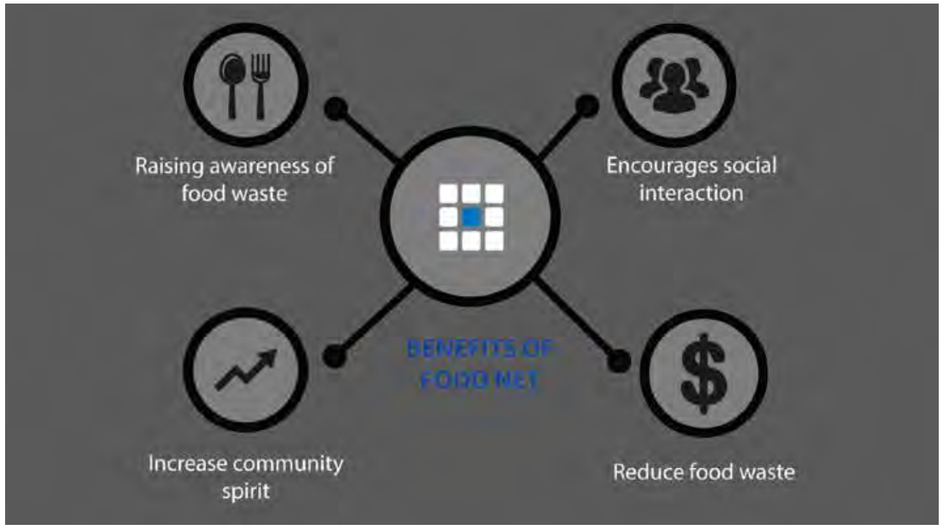
The application has several built in functions that allow users to make best of the food they have, either for themselves or for others.

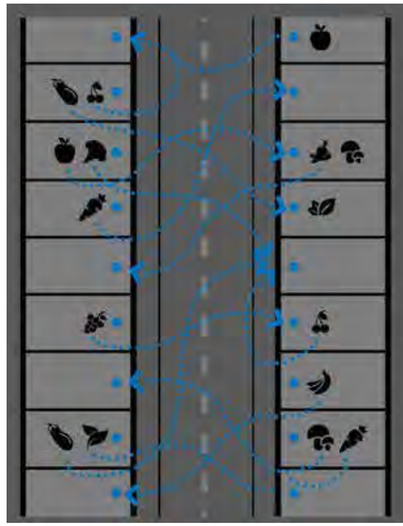
Positive reviews:

Initial reviews of the application being used around the world have been positive with reports of community driven social event being created because of the applications implementation.

When tested, fully utilising the application can result in food cost saving of up to 15%. The application is available on android and iPhone within the app store.







Street scale

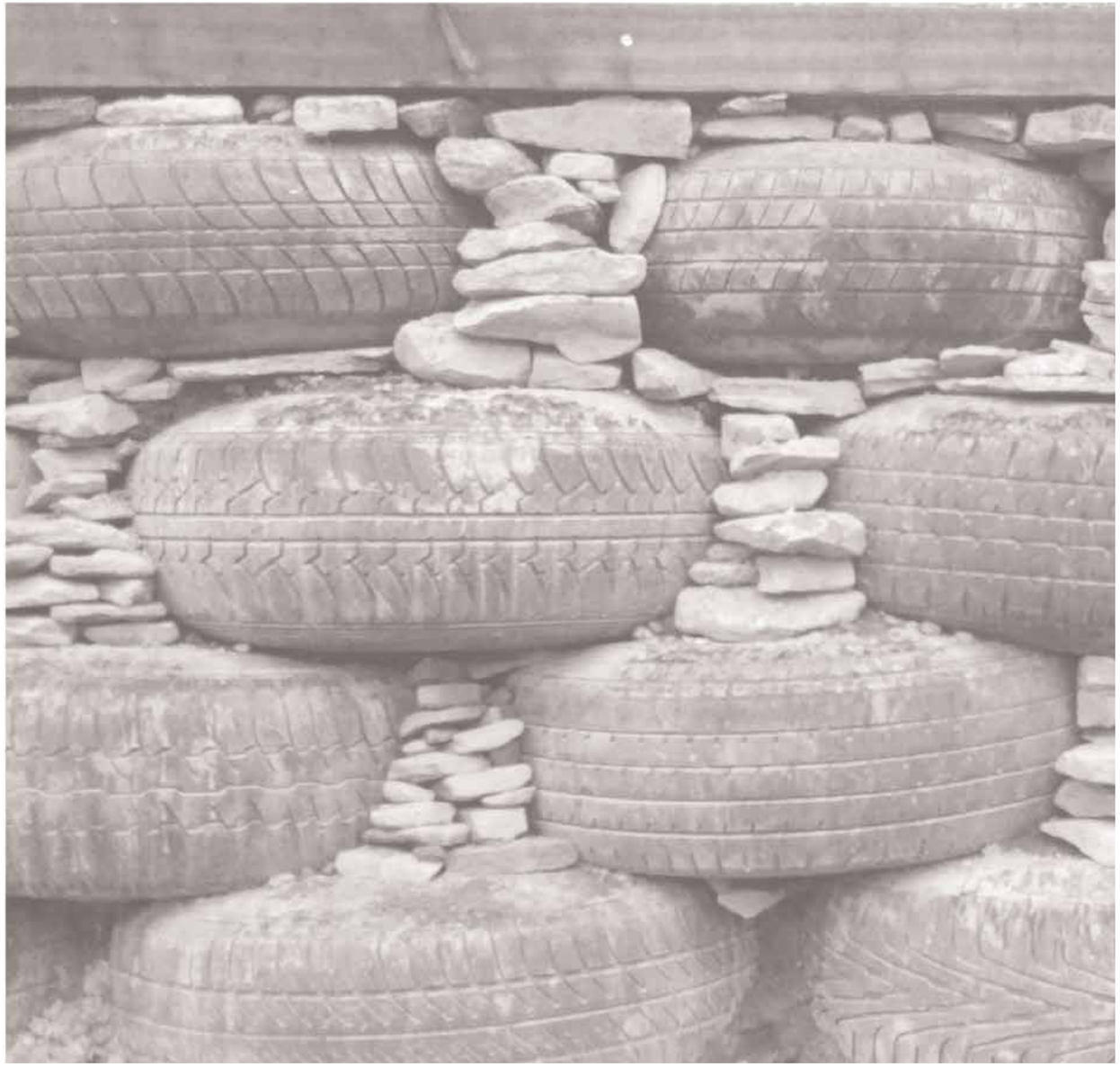
On a street scale, the perishable foods targeted will form the main body of produced transacted. This will reintroduce social interactions between household.

Community scale

On a community scale, the food exchange is controlled by the application, establishing links for sharing food between communities within walking distance.

City scale

On a city scale, the application can create social events related to food waste.



M Arch 1

RSA Competition

One Man's Waste

(Brief extract)

"In developed countries we enjoy a life of fantastic convenience and quality due to the abundance of material goods, tools and technologies available to us. In the production and consumption of these goods, enormous volumes of 'waste' are generated that we have no effective way of using, despite the expense and energy expended in their creation. Generally, in manufacturing, 90% of the raw materials which go into making durable products become waste even before the product leaves the factory, and approximately 80% of what is made gets thrown away within the first six months of its life.

This brief asks you to design a way of aiding the elimination of waste in developed societies by changing our perception of waste and how we address it. How can we reuse the existing materials that we have already mined from the earth, the materials that are currently in the products that we use and the buildings and environments that surround us, materials that will soon be thought of as 'waste', when they reach the end of their current life?"

This projects aims to re-establish the harmony within the existing vulnerable and imbalanced linear techno-environmental ecology that have been founded since the industrial revolution.

Crude oil has been transformative to our society. Its most used form is plastic, which it's adaptive characteristics makes it extensively used throughout the planet. Shrimp's vast meat consumption across the globe accumulated over 2.3 billion pound of shell waste every year.

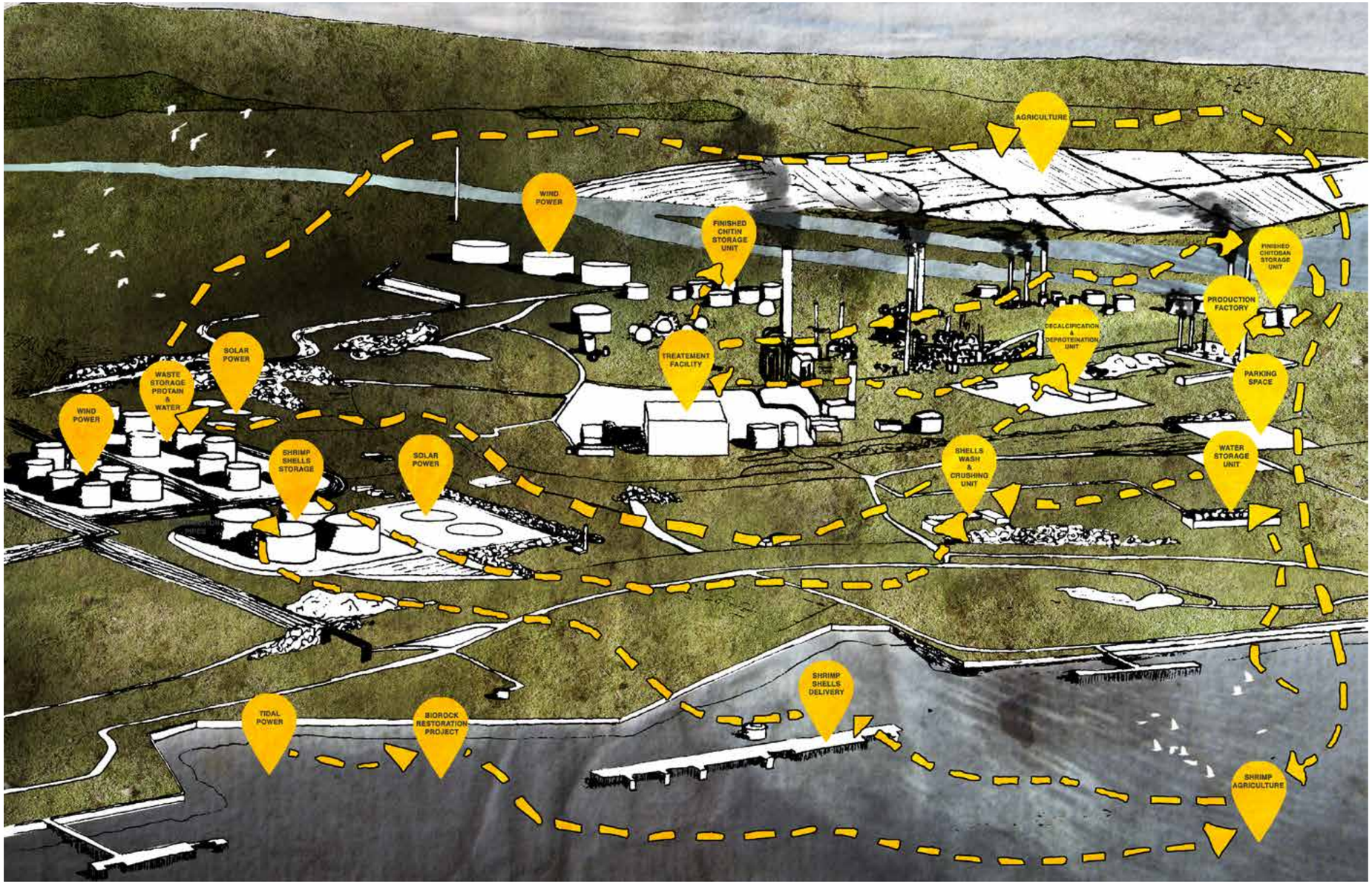
Shrimp shells litter the sea, however they are rich in the second most abundant biopolymer on the planet, 'Chitin', which the project invest in harvesting that waste in a feasible solution toward a sustainable planet.

'Chitosan' is a derivative of chitin that has a wide range of applications and can be used as biodegradable alternative to plastic. Chitosan has antimicrobial properties, making ideal as an edible films and food enrobing heavy metal complexation and pharmaceutical applications (Arvanitoyannis, 1999). Also the crustaceans shells can be transformed into biodegradable Chitosan film which can be used at the prawns package themselves as well as the food industry by improve the quality of fresh, frozen and fabricated foods (Kittur et al., 1998).

The feasibility of such projects is based on retrofitting oil refineries across the UK in order to facilitate the ecological production of Chitosan. The aim is to build a resilience close looped system which make use of the abundant and sustainable chitin resources to break away the linear petro-chemical polymers industrial process.

Thus, the projects aim toward a positively socioeconomic and feasible solution.

Arron El-Ammar, Alex Glover, Panayiotis Paschalis, Alvise Moretti



C6H11NO4

CHITOSAN'S ORIGIN

CHITOSAN WAS FIRST DISCOVERED BY ROUGET IN 1859 WHEN HE HEATED CHITIN TO BOILING POINT IN A CONCENTRATED KOH SOLUTION (CHELLUN, 2009)

CHITOSAN CAN BE EXTRACTED DIRECTLY FROM CRUSTACEAN SHELLS USING SODIUM HYDROXIDE TO DEACETYLATION THE CHITIN. CHITOSAN'S PROPERTIES ARE SIMILAR TO CHITIN'S, AND IT HAS THE ADDED BONUS THAT IT IS MORE WATER SOLUBLE (STOYE, 2013)

BENEFITS

CHITOSAN IS READILY SOLUBLE IN VARIOUS ACIDIC SOLVENTS – E.G. FORMIC ACID, ACETIC ACID, ETC. – AND HENCE IS MORE AMENABLE TO INDUSTRIAL APPLICATIONS. STUDIES HAVE SHOWN THAT CHITOSAN CAN ACT AS A THICKENER, STABILIZER OR SUSPENDING AGENT, AND CAN FORM GELS AND FILMS (SAMUELS, 1981)

THUS, SINCE CHITOSAN IS ALSO EDIBLE, IT CAN BE APPLIED TO FABRICATED FOODS, ENCAPSULATING AGENTS, OR PACKAGING MATERIALS (SAMUELS, 1981)

APPLICATIONS

CHITOSAN, IN PARTICULAR, IS ENDOWED WITH SATISFACTORY MECHANICAL AND GAS PERMEABILITY PROPERTIES (UNDER DRY CONDITIONS) AND THIS, IN CONJUNCTION WITH ITS ANTIMICROBIAL PROPERTIES, HAS MEANT THAT IT HAS PROVED TO BE ONE OF THE MOST EFFECTIVE AND WIDELY STUDIED MATERIALS BOTH FOR EDIBLE FILMS AND FOOD ENROBING HEAVY METAL COMPLEXATION AND PHARMACEUTICAL APPLICATIONS (ARVANITOYANNIS, 1999)

IT IS USED AS AN ANTIBACTERIAL LINING FOR BANDAGES AND WOUND DRESSINGS, AS A COATING FOR SEEDS TO BOOST DISEASE RESISTANCE AND EVEN AS AN AGENT TO PREVENT SPOILAGE IN WINEMAKING (STOYE, 2013)

C8H13NO5+ NAOH -> CH3COONA+ C6H11NO4

CHITIN + SODIUM HYDROXIDE -> SODIUM ACETATE + CHITOSAN

SODIUM ACETATE USES

INDUSTRIAL: USED IN THE TEXTILE INDUSTRY AND AS A PHOTORESIST. IT IS ALSO A PICKLING AGENT IN CHROME TANNING. IN PROCESSING COTTON FOR DISPOSABLE COTTON PADS. CONCRETE LONGEVITY: USED TO MITIGATE WATER DAMAGE TO CONCRETE.
FOOD: SEASONING ON FOOD ALSO USED TO GIVE POTATO CHIPS A SALT AND VINEGAR FLA-

diagram Illustrating potential site in the UK to be retrofitted

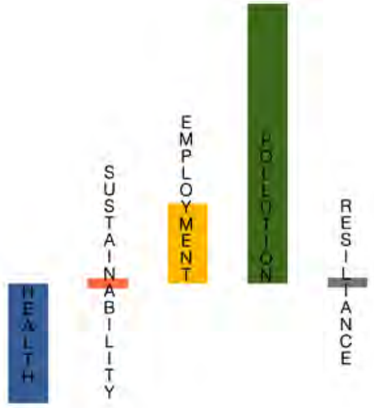
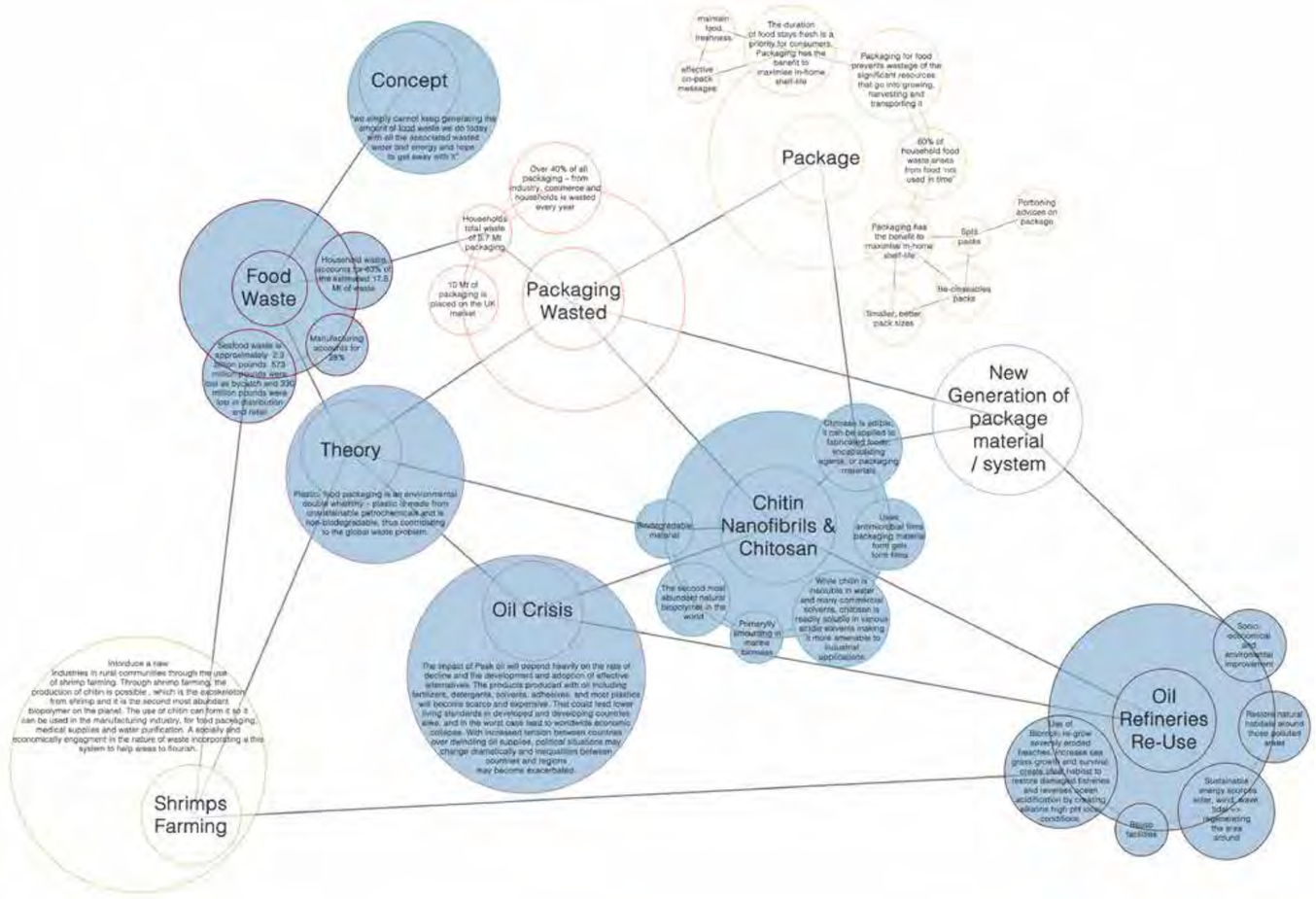


diagram showing main aspect influenced by the use of oil refineries



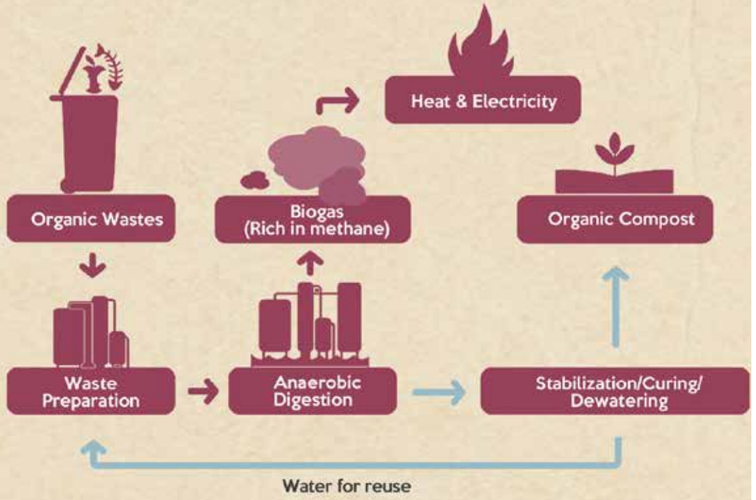
Through seizing the opportunity from landfill waste we have proposed an innovative system that retranslates the waste into a valuable product and creates a biophilic environment. The design takes inspiration from the processes in nature, such as parasitism, using the intelligent design in an innovative way. This system feeds off the waste from schools and residential areas, translating it into an opportunity of regeneration. Through integration of smart technologies we can enhance the process:

- Methane converter to heat and electricity
- Aquaponic: a food production process which combines traditional aquaculture with hydroponics
- 3D printing which uses waste products to produce valuable objects

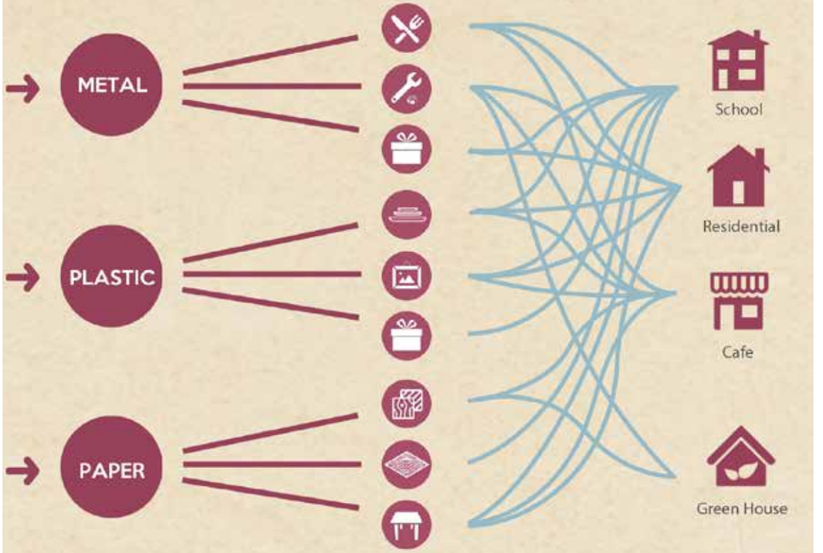
These technologies help the parasitic building function, and allow users to benefit from education on smart sustainable methods and experiential learning through using the technologies. Methane provides heat for the green house creating a micro-environment for the neighborhood, resulting in psychological benefits from a biophilic relationship.
Awareness of the value of waste is portrayed from micro to macro scale.
Children bring their household waste to school that feeds the system, these processes aid in growing their minds and providing them with a motive to recycle. Neighbourhoods get involved in after school hours, where this educational building turns into a social hub. As a result the adults see a positive outcome of thinking intelligently about waste products. Waste in landfills is mainly due to individual habits; we aim to change people's perception of waste, and make them see how waste can be transformed from worthless into useful, potentially valuable products.

Hina shah, Nuoya Liu

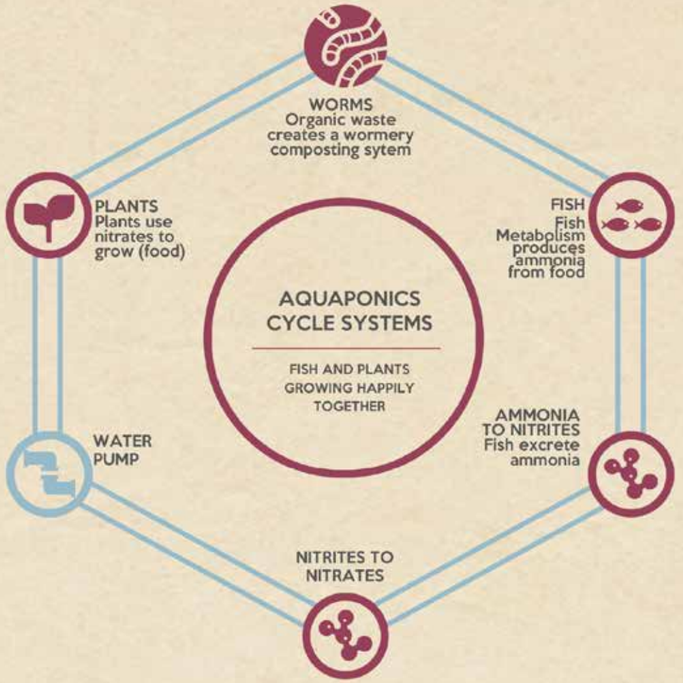
METHANE - FOOD TRANSFER TO ENERGY



3D PRINT WITH RECYCLE MATERIALS



AQUAPONICS - A MECHANISM THAT COMBINES PLANTS, FISH AND WATER



Eco-Grid

Our proposal, the Eco-Grid aims to change the perception of waste within developed societies. There are many definition of waste and Buckminister Fuller described it as "Pollution is nothing but the resources we are not harvesting. We allow them to disperse because we are ignorant of their value." Fuller suggested that waste happens because it is ingrained to our behaviour, we do not see the bigger picture and the value waste holds, or the consequences it brings just because it is not immediate.

This leads us to ask the question of what if unnecessary waste is eliminated completely or kept to the bare minimum due to the change in behaviour of people, organisations, or community?
The Eco-Grid aims to do just that, challenging our current perception of waste by directly linking waste to the branding of an organisation. The Eco-Grid works as a facade system which detects the building's six categories of waste levels and displays it in real time by the inflation or deflation of the facade. Information collected are linked into the "world wastage web" where it displays the waste level of each organisation.

By having the Eco-Grid, it promotes awareness of the general public and urges the organisation to be sustainable in dealing with wastages in order for their brand to look good as branding is one of the major aspects that consumer pays attention to within developed society. Everyone in a developed society wants to own branded products, and it is a clever idea to link branding with waste management to have an effective outcome in reducing waste.

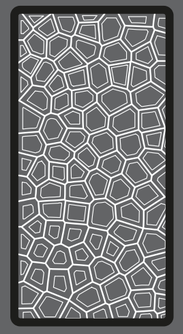
Oliver Pozegic, Justin Chong

ECO- GRID
DESIGN PROPOSAL

VORONOI - Territory expansion

As a general rule of thumb, dominant animals expands their territory and have bigger territorial areas.

We used this principle from nature within our design combining it with a 'voronoi' grid to create a visual representation. Within our system the longer a waste category remains an issue the more of the facade it begins to dominate.



NO INPUT

Initial stage of assessment where every category is in its "neutral" state with no input on wastage.

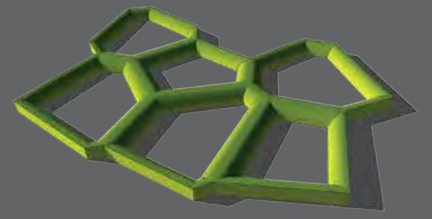
HIGH INPUT

When there is high wastage, the voronoi facade will grow to become more dominant and take over the building, signifying the need to change and acting as a visual reminder.

LOW INPUT

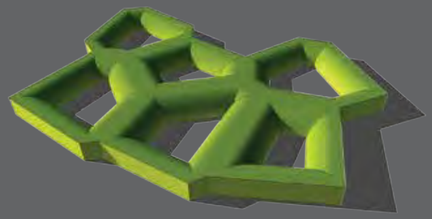
Voronoi facade starts reacting based on the input on wastages of different categories. The attraction points start growing and becoming more prominent as wastage increases.

ECO- GRID
MATERIALITY & COLOUR



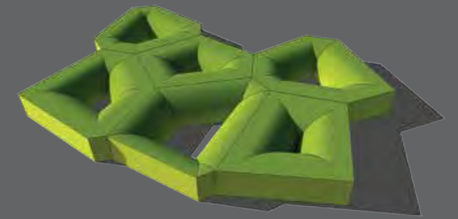
LOW OUTPUT

The facade system will be made from heavy duty recycled ETFE that is inflated depending of the business waste levels. The facade system is retrofitted to existing buildings using a light-weight recycled steel frame structure and is inflated using water from the business. The water is not wasted but is returned to the system.



MEDIUM OUTPUT

As the waste levels within the business decreases the facade system inflates. The inflation increases the offset of the voronoi grid, this publicly displays the positive actions the business is taking.



HIGH OUTPUT

At its highest point, the inflation will cover a large proportion of the building. This will make it clear to customer and competitors that this business is environmentally considerate.

M Arch 1

RSA Competition

Project Rural

(Brief extract)

"Urbanisation – the increase in people living in dense towns and cities compared to rural areas – is one of the major trends reshaping the world we live in. 50% of the world's population now live in urban areas, 'mega cities' are on the rise, and every week 1.5 million people around the world move to a city.

In this age of metropolitan expansion, resources are being poured into cities. They are increasingly important in the global economy, and design is largely seen as an urban endeavour. But what about the millions of people living and working in rural locations?

There is powerful potential in ensuring that design innovation extends to remote rural contexts. In the UK, rural areas are home to more than half a million businesses which contribute more than £200bn to the economy, and there are more small businesses registered in rural regions than there are in urban areas. The countryside also has a crucial role to play in terms of food production, ecosystem services, and an amenity for leisure and recreation (also enjoyed by city dwellers).

This brief asks you to design something that is specifically useful in a rural context.

You can focus on a rural region, community or sub-set of people anywhere in the developed or developing world, but you should consider the social, economic and environmental value in remote rural areas and the opportunities they present."

Routes to Roots

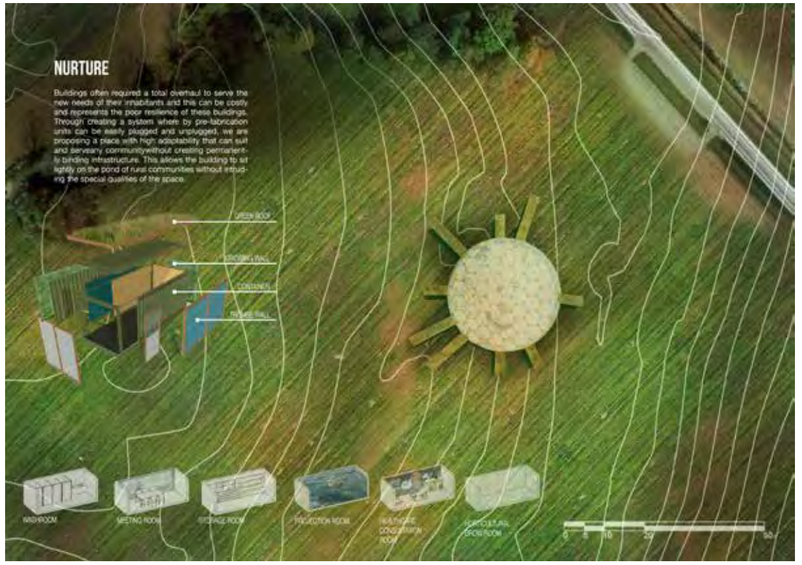
Sitting lightly on the rural pond providing opportunity and innovation the digital connection centre unfolds gently into the community. The importance of the sense of place is recognised and retained through this project whilst providing means of connection to other rural and urban developments.

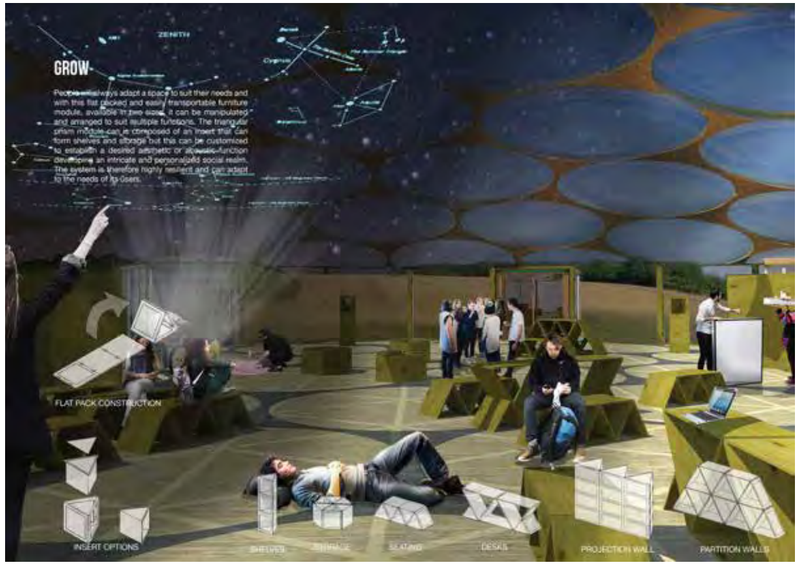
There is power in this connection by not only providing services for the needs of the community and allowing them to flourish and prosper in the regions of the hills, but also through converging smaller communities, creating conversation, trading tips and exchanging favours.

Easily transported and assembled the modular components inspired by structures in nature create a building type that is strong and resilient to change over time. A smart dome houses the main courtyard of the building regulating the interior environment with modular furniture allowing users to adapt and co-ordinate the space to suit their needs. An Internet hub with open access in the open main space encourages face-to-face interactions by providing a place where the digital and rural can be connected improving business productivity by initialising that outer connection.

The building can change and adapt over time as pre fabricated elements plug in and out of the buildings perimeter creating a resilient architecture that improves the lives of rural families and businesses. Acting as a catalyst for sustained communities this project will bring rural inhabitants together in a reimagined harmonious space that values both the place of inhabitants and their vital connection to a wider environment

See Sern Khor, Dominic Garrett





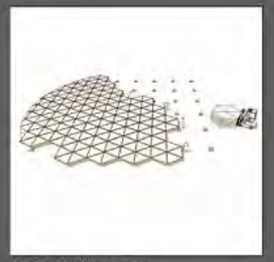
PLANT

Rural areas can be difficult to deliver materials to so all the building materials are modular and prefabricated offsite. Each container houses the required ammenities for each particular rural community. The pad foundation system that capable to cope with any uneven ground is first laid out before fixing the floor panels. Columns and wall panels are erected alongside with roof components. Roof is lifted and fixed onto columns followed by attaching and filling the EtFE pillows. The containers is plugged in to complete the construction process. This modular system means the design is resilent and can adapt to different rural communities needs.


1. TRANSPORTATION

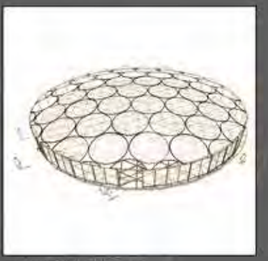

2. UNLOAD


3. FOUNDATION


4. FLOOR PANELS

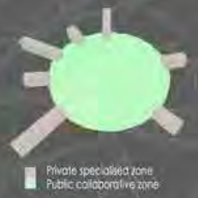

5. WALL PANELS


6. ROOF COMPONENTS


7. ETFE CUSHIONS

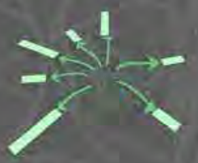

8. CONTAINERS

PRIVATE/PUBLIC

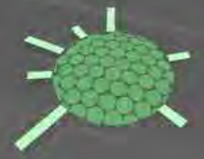


UNOBSTRUCTED VIEW

RAINWATER COLLECTION



GREEN DESIGN



Knowledge_Nexus

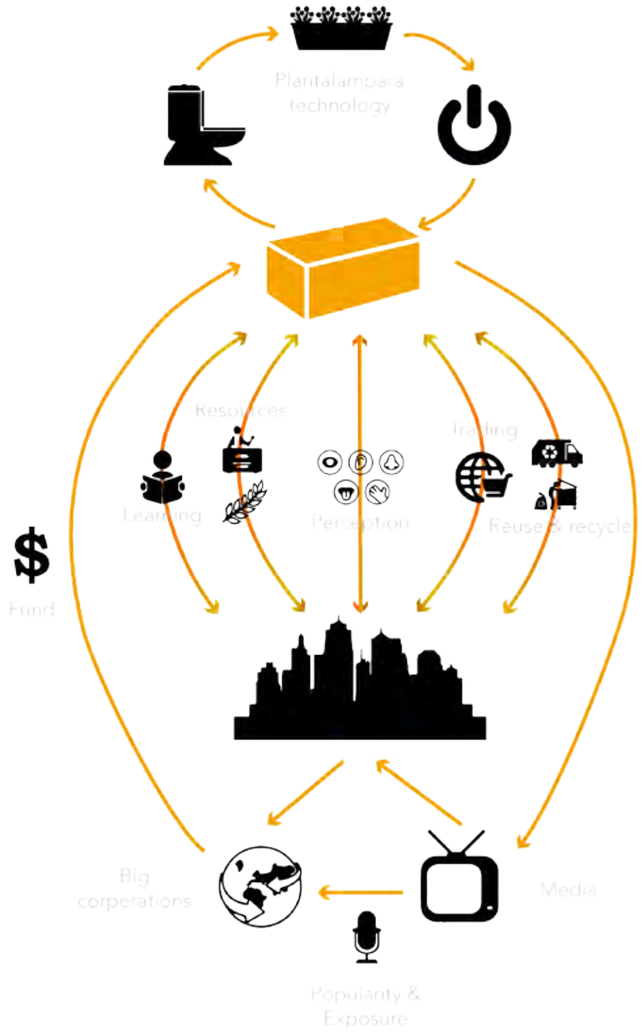
"Knowledge is power."–––– Francis Bacon

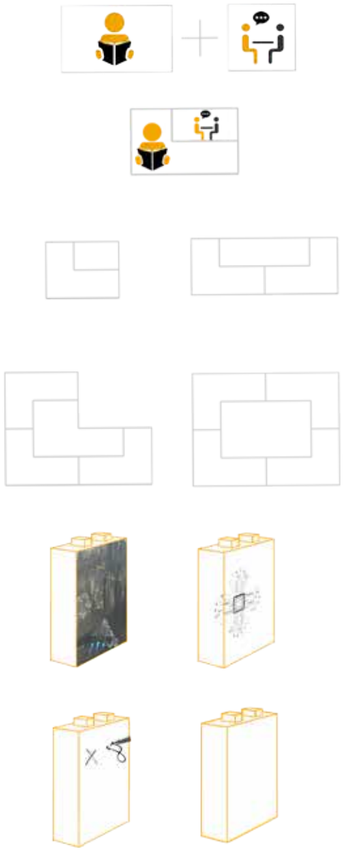
Cities are always perceived as superior to the rural area. However, cities also have problems. Solutions to these problems are likely to be found in the rural area. But because of the problematic perception of rural, people rarely see it the other way around. For instance, inadequate urban food education at school in developed countries and low rural education quality in developing countries are both pressing problems that are not properly solved. What if the two sides are linked so that students can learn from each other? A simple exchange of knowledge can make all the differences. This is what Knowledge_ Nexus aims to do.

Discovering strengths in both urban and rural area, and then establishing networks between them to share knowledge is at the core of Knowledge_Nexus. Knowledge is not only what is taught in schools, but an awareness and experience. This project starts with creating an immersed and engaging learning environment for rural students to have a digital presence in urban classrooms. With multiple advanced technologies employed, this project makes the digital education interactive, and more importantly, tangible.

The project is an architectural space redefined by technology with global application, a transaction of experience, and a hub of a much bigger global culture that connects rural and urban on multiple levels. With Knowledge_Nexus, "everyplace is a destination and any destination can be anyplace" (Crank 2015). It creates an environment where the rural area can discover its own values and use them to flourish.

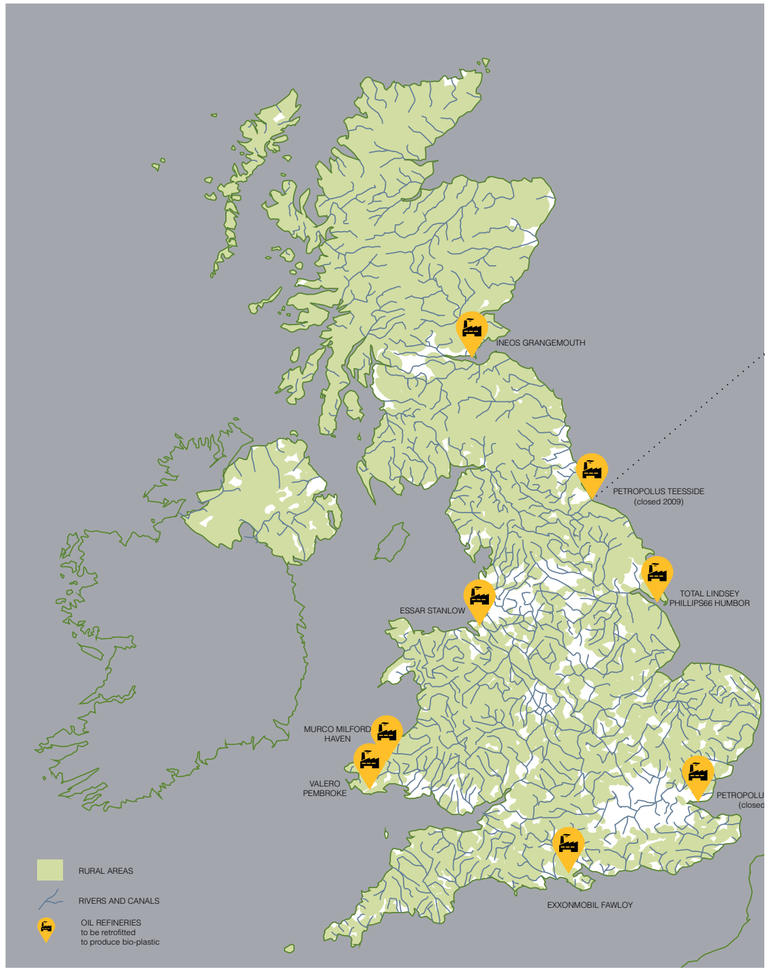
Enran Zhang, Debora Tarzia

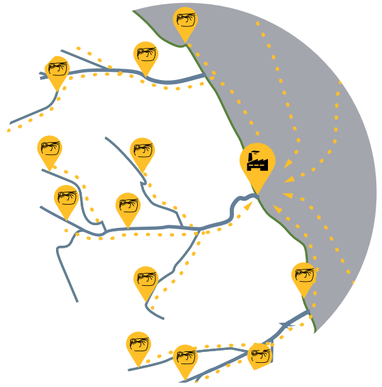

Plantalampara
technology
Resources
Trading
Learning
Perception
Reuse & recycle
Fund
Big
corperations
Media
Popularity &
Exposure

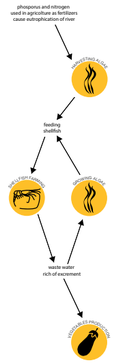


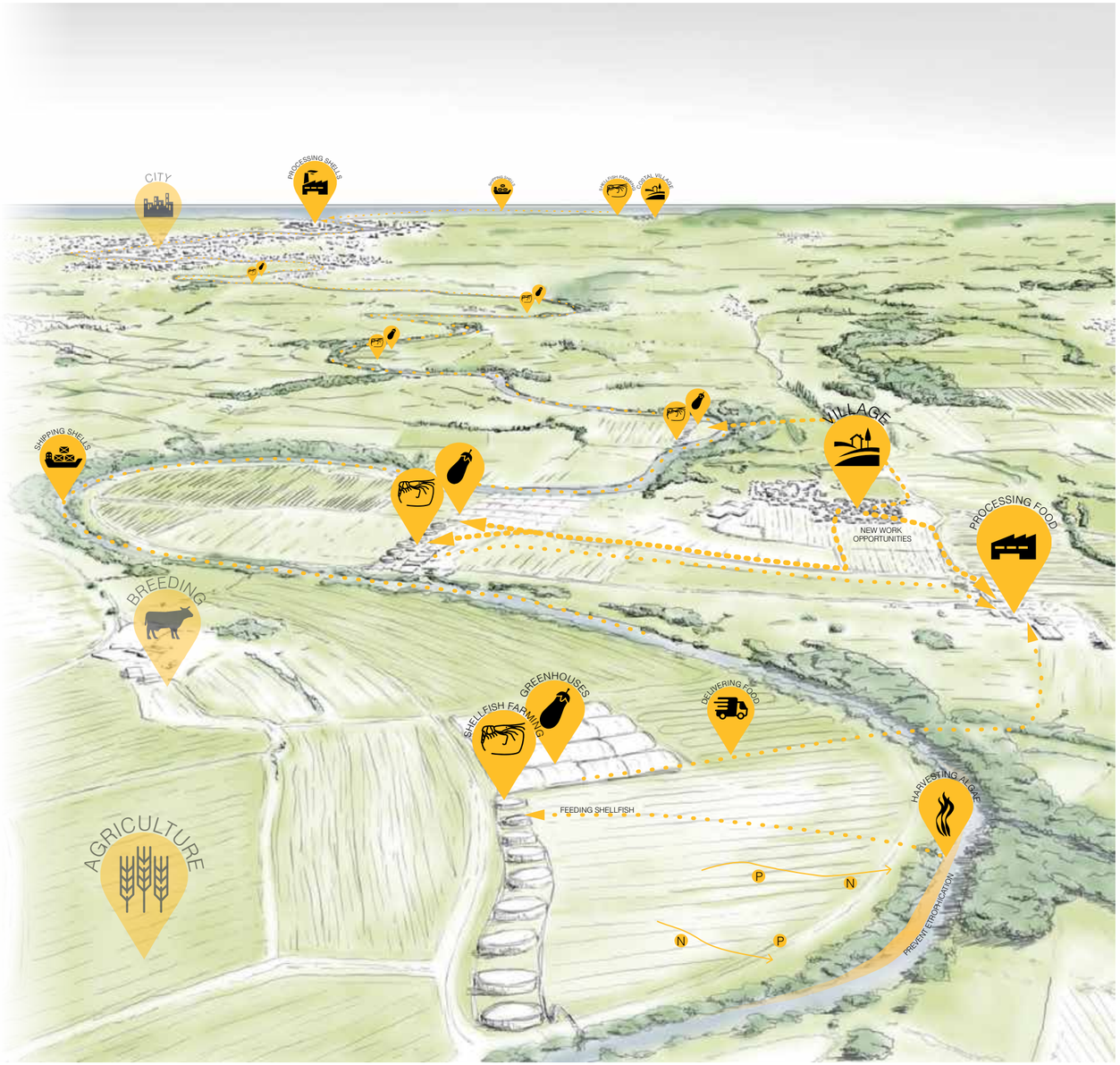
Over the past decade we have come to see that more and more people are moving to urban areas in the search of better quality of life and opportunities from rural areas. There are many problems this can cause such as the lack of available labour and less and less investment, means fewer opportunities in rural communities and sends them into decline, forcing people to move into the city. Our proposal is to create new industries in rural communities through the use of shrimp farming, we propose to change the material processes of farming to something much more sustainable to give power back to rural communities. Through shrimp farming, we can farm chitin, which is the exoskeleton from shrimp and it is the second most abundant biopolymer on the planet. By using chitin we can farm it so it can be used in the manufacturing industry, for food packaging, medical supplies and water purification. This system would create a closed loop cycle, where there is not one bit of waste product in the system. The innovative system will help rural areas to create a new industry, which in turn would create better opportunities to help rural areas thrive. It is through this system that rural areas can take back power and improve rural infrastructure and by helping communities to engage in these design strategies. Socially and economically engaging in the nature of waste it is vital that rural areas can incorporate this system to help rural areas flourish.

Arron El-Ammar, Alex Glover, Panayiotis Paschalis, Alvise Moretti


INEOS GRANGEMOUTH
PETROPOLUS TEESSIDE
(closed 2009)
TOTAL LINDSEY
PHILLIPS66 HUMBOR
ESSAR STANLOW
MURCO MILFORD
HAVEN
VALERO
PEMBROKE
PETROPOLU
(closed
EXXONMOBIL FAWLOY
RURAL AREAS
RIVERS AND CANALS
OIL REFINERIES
to be retrofitted
to produce bio-plastic




phosporous and nitrogen
used in agriculture as fertilizers
cause eutrophication of river
feeding
shellfish
waste water
rich of excrement


CITY
PROCESSING SHELLS
SHIPPING SHELLS
VILLAGE
NEW WORK
OPPORTUNITIES
PROCESSING FOOD
BREEDING
GREENHOUSES
SHELLFISH FARMING
DELIVERING FOOD
FEEDING SHELLFISH
HARVESTING ALGAE
AGRICULTURE
P
N
N
P
PREVENT ETROPHICATION

M Arch 1

RSA Competition

Creative Conditions

(Brief extract)

"This brief is about great ideas. Your challenge is to design and develop an innovative proposal about how to draw out people's creativityand generate great ideas. You are asked to develop, design and communicate a compelling vision that will inspire and delight, whilst also paying attention to the commercial realities of implementation.

We want to see innovative ideas that anticipate how and where people of all ages, interest and industries are most creative, imaginative and productive – this could be in a classroom, at work, at home, in the public realm (virtualor physical), or somewhere else entirely that unleashes individual and/or collective creativity.

Your response should be built on strong human- centred research and insights, but the powerof intuition should not be underestimated. Solutions from all disciplines are encouraged and welcomed, but proposals should be holistic in nature and entrants should bear in mindthe offline and online incentives for people to inhabit, populate, acquire, or use them."

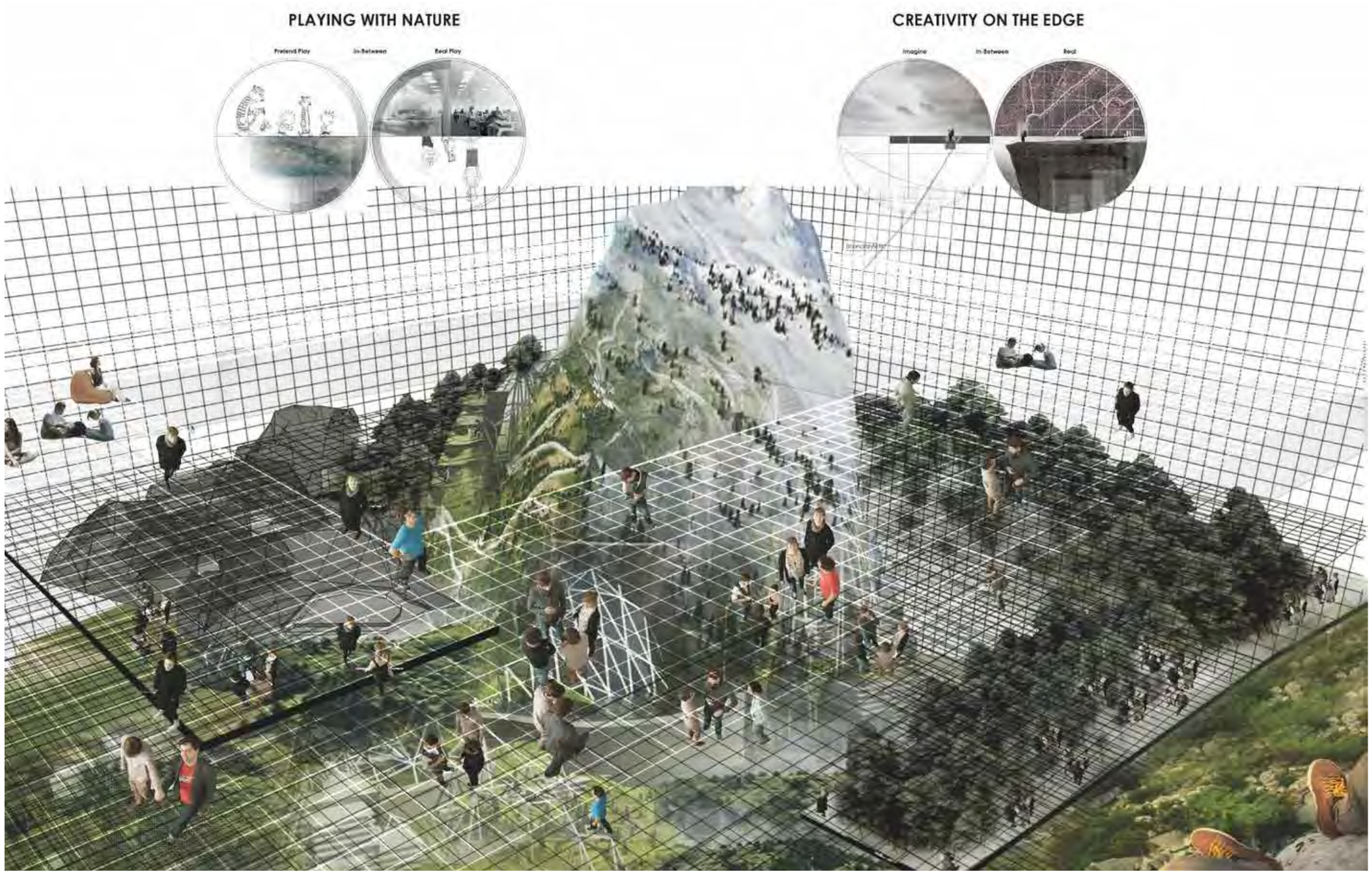
E_SCAPE!

The main aim of E_scape! Is to foster creative ideas under a multi-layered internal environment. Our thread of research has led us to pursue an idea of introducing different ecologies into those less marketable in-between spaces of any information work place. Our target audience ranges from anyone who works with numbers to those that are working with children because essentially everyone needs to be in a creative and stimulating environment to produce new methods of generating outputs. According to many researchers, children under the age of 7 are most creative because they are not bounded by their accumulation of knowledge nor are they afraid of failure. In other words, children take a chance through different experimentations of working, which is ultimately adding value to the overall outcome, whether it be positively or negatively.

Therefore our proposal focuses on 3 stimulants of encouraging; difference, supra-sensual and bioclimatic conditions to changing those in-between spaces of working environments. We want to blur the boundaries that define inside and outside, design and populate spaces that inspire people to have an on-the-edge experience, which we believe is very important to being creative. The best of both worlds, the real and imaginative. This inspires users within the internal environment to think laterally and most importantly drives them to take a chance through engaging with various degrees of extremities that trigger moments of creative thinking.

The main environments that we propose within the in-between spaces will work simultaneously to prompt a reaction by integrating networks of extreme dark and light, free and closed. All these conditions are working in parallel to create a condition that will change perspectives of the normal working environment and raise levels of creativity.

Khor See Sern, Yang Hu, Nuoya Liu, Choo Wei Ee Danson

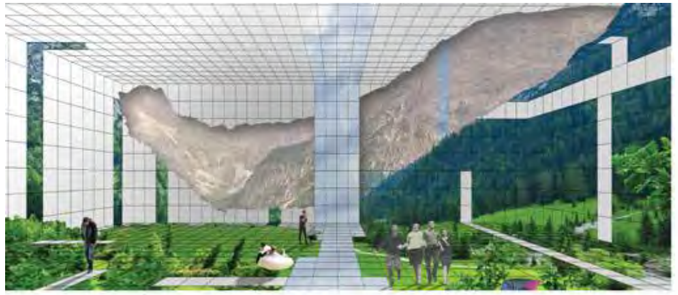


SKY AS STIMULANT

Not bounded by any borders, the open, free flexible spaces accommodate any type of activities, creating possibilities for unexpected events and meetings.

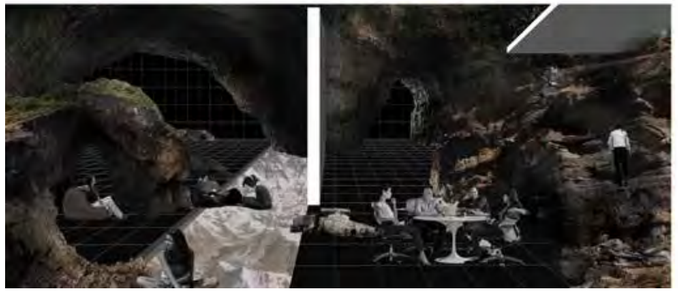
FOREST AS STIMULANT

Staying close within the green spaces and surrounded by nature, users can appreciate an unpolluted working condition.



TERRAIN AS STIMULANT

Being on a contoured landscape, users open up a different perspective, which trigger new insight, understanding and experiences.



CAVE AS STIMULANT

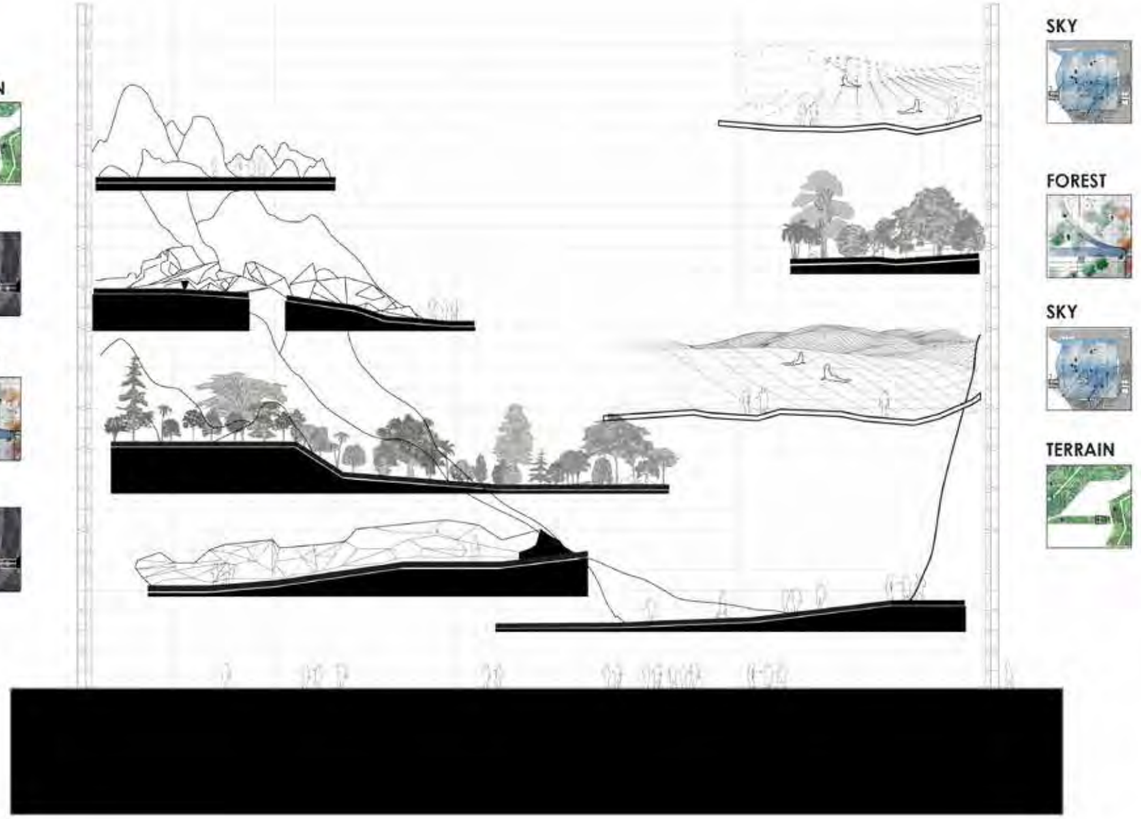
Deep, dark, enclosed spaces force the individuals to be highly focused on thinking or meditating without exterior distraction.

TERRAIN

CAVE

FOREST

CAVE



SKY

FOREST

SKY

TERRAIN

C3O

We as humans interact in many more ways than we did previously. We spend more time in the office and yet our social interaction in these places is currently stifled due to the traditional office layout. To develop a strategy to create this new paradigm we have defined core goals based on our research that can help refocus the priorities of an office environment to a creative environment that recognises the value of the inhabitants and creates an effectively positive space. We have taken time to look at what creates a sat- satisfied worker and how people may perceive their environment and what impact on their work this may have. This allows us to propose solutions that can be measured against these goals. It is important that architecture should emphasize the intelligent use of space not just the economic and creative attractive hubs of social interaction.

The new creative paradigm is split into three aspects, community, collaboration and concentration rec- recognising the importance of social interaction, effective team and group work zones and focus areas. The strategies proposed can be transferred to any work environment; a few adopted into existing and define new innovative and exciting workplaces of the future. The new creative office paradigm not only offers a better sense of wellbeing for inhabitants, establishing a unrecognised value in spaces that offer so much more than static office space. The mobile worker needs choice and motion to become lost in the flow of work and embrace the collisions of creativity and this proposal embraces and celebrates the creativity of human kind.

EXISTING PARADIGM FOR OFFICES

Value floor space as a static entity with static elements and aim to maximise net to gross floor area. The modern worker is mobile and prefers a choice of where to work, this is not what the traditional office offers.

Minimizing and centralising the core and circulation space is a strategy often implemented, as it is not seen as having any other use. Although this allows direct access to each floor and allows daylight to penetrate into the space it reduces opportunity for collisions or collaboration between businesses.

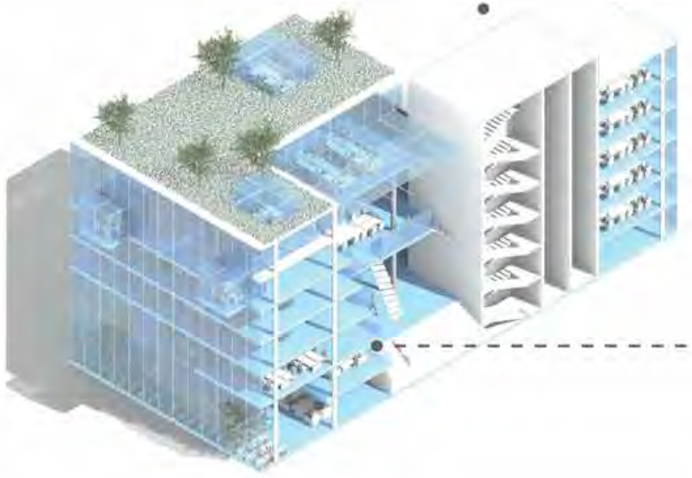
Typically every floor plate will span to the perimeter of the building. Therefore visual constraints are limited to a single floor isolating inhabitants in that space. This strategy prevents collaboration between floors and restricts the hierarchy of work to a single plane.

There is a focus on the efficiency of space and emphasis on creating as much business space as possible. This devalues other spaces that have a creative value and doesn't embrace the potential connections and collaboration that can happen in growing and social spaces.

NEW OFFICE PARADIGM
CHOICE OF WORKPLACE

Having a choice of where to work is an important aspect in the New Office paradigm. Workers report being more productive if they have a choice of where to work and overall more satisfied with their environment. The structure of the space is based on community at the lower levels, collaboration in the central and concentration zones on the outer levels linking the green skin and improving the well-being of workers.

Community | Collaborate | Concentrate



DAYLIGHT

The daylight strategy looks to introduce varying levels of light into the building to create areas of stimulation and areas of dim light that are linked to creativity. Variance in sensory conditions is key in stimulating creativity.

SOCIAL COLLISIONS

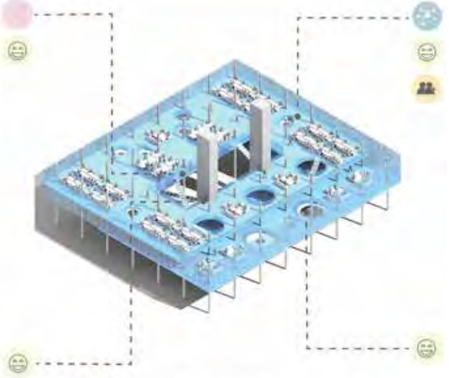
Social Collisions are key to reaching that eureka moment. Slow hunches lead up to this point and through encouraging and designing for enhanced interaction increases chance of collaborated creativity. The office should become a social place but provide and house focus.

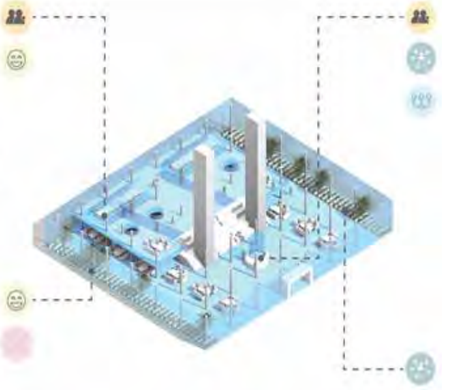
BEING PART OF A SYSTEM

The standard work hierarchy leaves employees feeling powerless. In the new office paradigm the layout is based on tasks and opportunities are open for all, forming new connections based on skills rather than roles in the office.

GOALS FOR CREATIVITY

Supporting focus | Enhancing mood | Providing choice | Enabling friendships | Imbuing meaning & purpose





Modular

Modular began by studying the shifts in the office environment and understanding how we can develop this further, particularly in response to office branding and personalisation. Modular has created a best of both worlds solution to the layout of workspaces, integrating the personalisation aspect of the traditional office with the flexibility, branding and hot-desking benefits of the contemporary office design, bringing together a sense of company identity without neglecting personal individuality, both of which are important for productivity. The modules respond to employees by digitally adapting the components based on preferences set on their mobile app/device, the exterior will emit an ambient light based on the colours of the company brand, whereas the inside will be personalised to that particular user, using photos of their choice to decorate their temporary desk space.

Modular creates a very flexible smart environment, the adaptable components give users the opportunity to interact in a collaborative space or have space to themselves whilst being surrounded by an environment that inspires them, if the user wants to work in a different space at any point, they can move their space or move to a different sized piece where their personal images and preferences will follow. The components can be rolled and repositioned to create spaces for lone workers or medium sized teams, whereas larger spaces will be static to give a sense of place and order.

Arrron El- Ammar, Aleks Hayward, Ben Blackwell

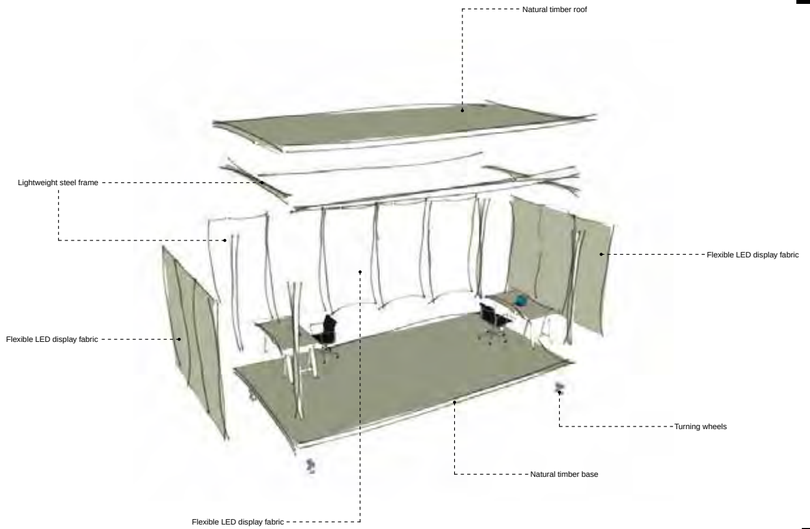
‘It’s even better if the whole office environment represents the ethos and culture of your brand. Employees who are engaged with your brand message will be motivated to do their best in representing the company’s objectives. This feeds a consistent and positive experience for the client, as well as brand loyalty’. (Evoke Project)

‘In summary, companies that integrate their brand into the workplace will win the war for talent and the quest to retain clients’. (Evoke Project)

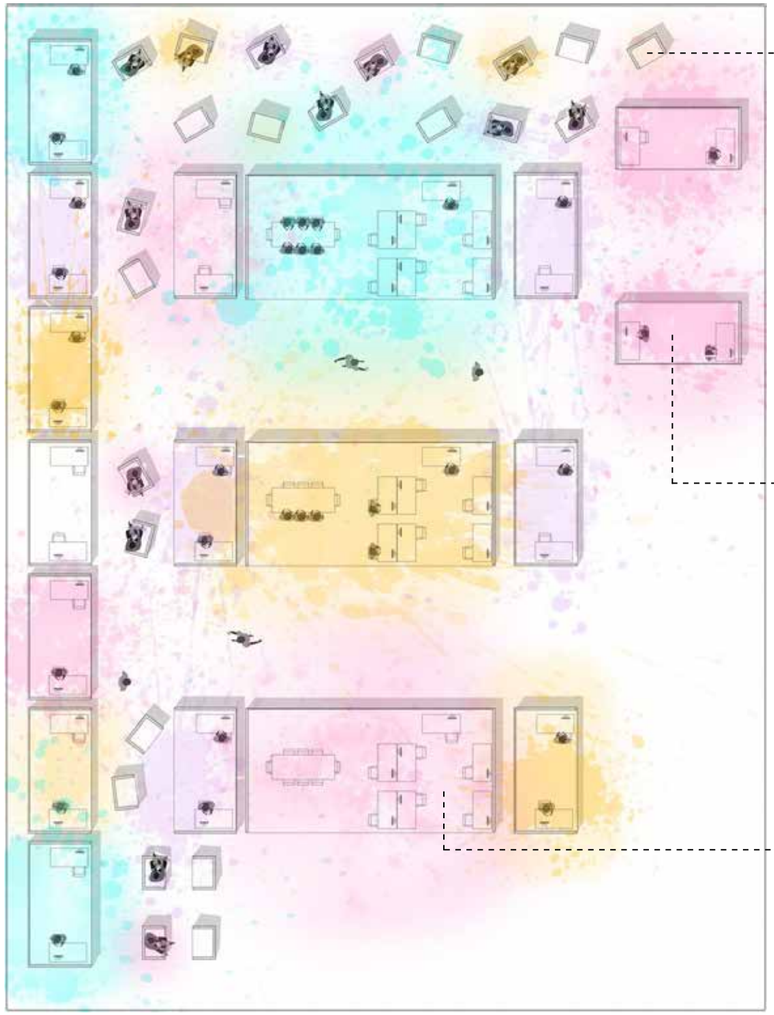
'Employees who have control over the layout of their workspace are not only happier and healthier — they're also up to 32% more productive'. (Dr. Craig Knight)

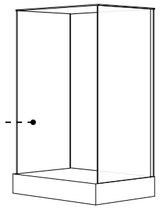
Full phone application control allows the user to programme and pick their desired settings for their module. When a person moves to a different module their preferences are automatically transferred to the next space as they move around the environment.

MODULE

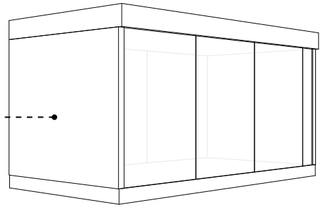


MODULE

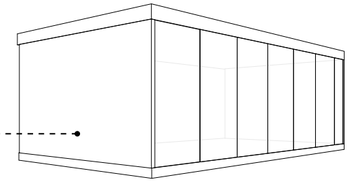




Module Type 1- Smallest module that can be used for lone working. Modules can be linked with each other to create more complex spaces when required, allowing for full control over the users environment. Ambient glow on the exterior can allow for company branding or individuals own colour. Modules are flat pack style structures that can be inserted into any environment to boost creativity in the work place. Scalability with this single module is unlimited.



Module Type 2- Medium sized module, typically can be used for team working activities that require more space and collaborative work. Features allow for the environment to be customised to suit team working. Social media and networks can be projected through the LED fabric to show creative ideas and thoughts. This module encourages creative team working, whilst having the opportunity to attach smaller modules if needed.



Module Type 3- Largest sized module available, mainly used for larger activities such as large meetings and multi team working. Interior can be customised through the LED fabric to allow for discussion and collaboration. The module is designed to be a static piece in the environment to give a sense of place. Other smaller modules can be attached to create a more fluid and creative environment when required.

'Results consistently showed that the more control people had over their office spaces, the happier and more motivated they were in their jobs. They felt physically more comfortable at work, identified more with their employers, and felt more positive about their jobs in general'. (Dr. Craig Knight)

MODULE

Opensource Workspace

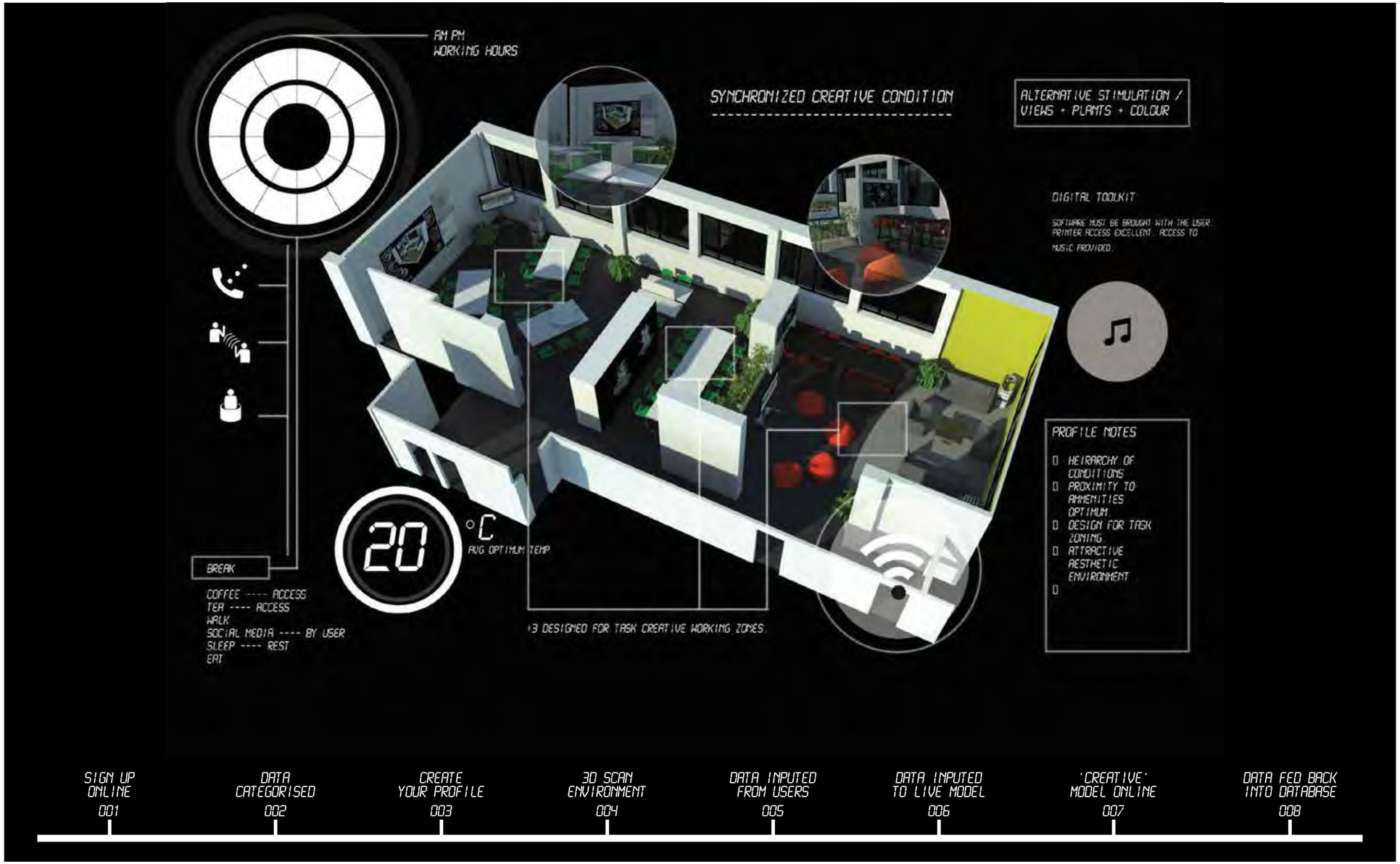
In contemporary society a paradigm shift is occurring in our values from mass produced products, which boomed in the post-war consumer culture, to a more personalised and custom made production era. The rise of social and mass media platforms have encouraged a plethora of new networks for personal interests to be shared and collectively explored, giv- ing way to an emerging principle in the design industry called 'collective creativity' [1]. A large amount of research focuses on the importance of collaboration within work environments to solve complex and interdisciplinary problems [2] [3].

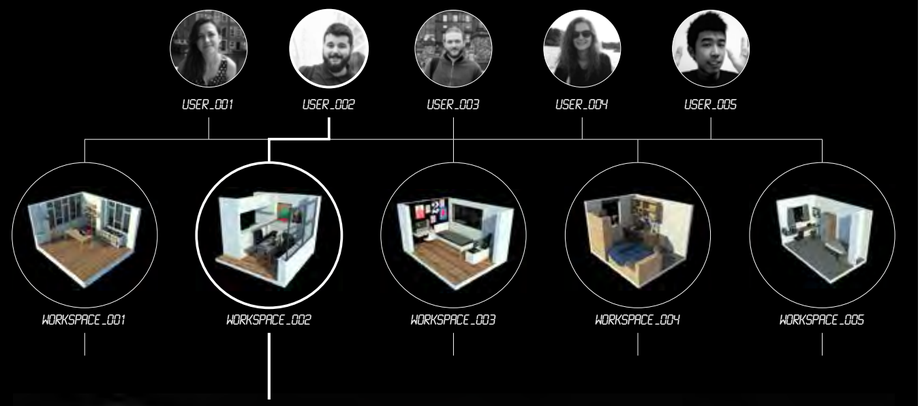
In order to utilise collective creativity to promote a more creative work environment, we have designed an online, collaborative database in which individual users as well as organisations can 'plug-in' to a service which provides key information on designing in creative spaces. This open forum will act as a feedback loop, compiling profiles of individuals within similar disciplines to produce an optimum working environment based on per- sonal, organisational and spatial data as per the user(s) needs. For example, users may be asked to offer data on preferred working temperature, working hours, eating habits, and break frequency. This information drives the software to produce av- erages, in line with general optimum work environments, that can then be used to customise a space.

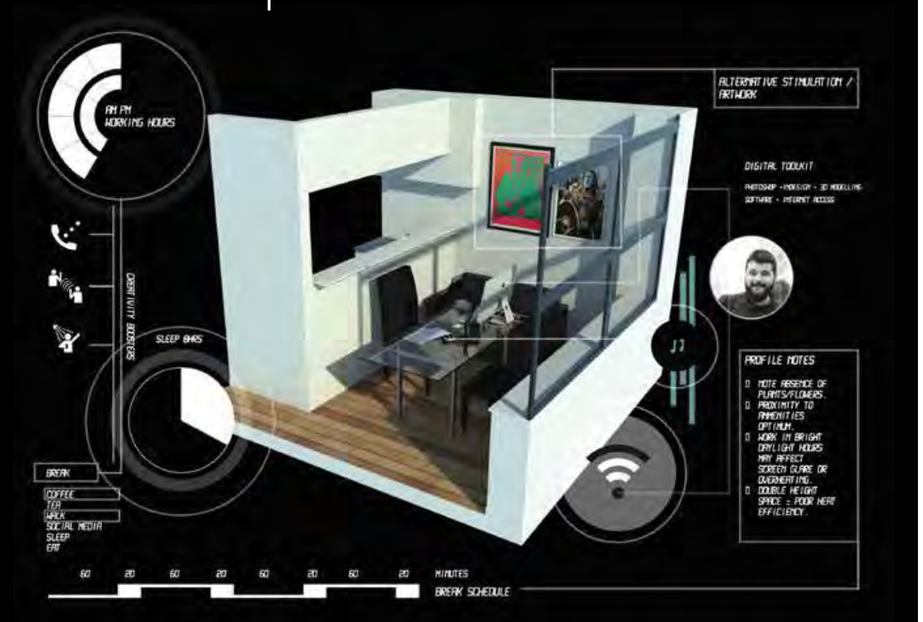
Through the use of this collaborative database, patterns can begin to emerge, indicating the most productive ways that people work. Implementing a pre-occupancy study allows a greater sense of ownership of a space and enables organisa- tions to create personalised work spaces that best suit their work force, increasing happiness, efficiency and creativity.

[1] Sanders, L..: "Collective Creativity," LOOP: AIGA Journal of Interaction Design Education, August Number 3, 2001
[2] Chaharbaghi, K. and Cripps, S.: "Collective Creativity: Wisdom or Oxymo- ron?" Critical Management Studies (CMS) Research Workshop, August, 2006 [3] O'Donnel,l, D., Meyer, J., Spender, J, and Voelpel, S.: "On Collective Creativ- ity: An Application of the Theory of Communicative Action in Situated Practice," Critical Management Studies (CMS) Research Workshop, August, 2006

Harry Harrison, Justin Chong, Chris Doherty, Florence Steed, Ashlin Milton







003 004 005 006 007

WORKSHOP_ZONE

Existing tables within the studio environment have been arranged to provide a 'workshop' space where drawings can be produced. Wall space has been utilised to provide test 'pin up' areas for casual reviews.

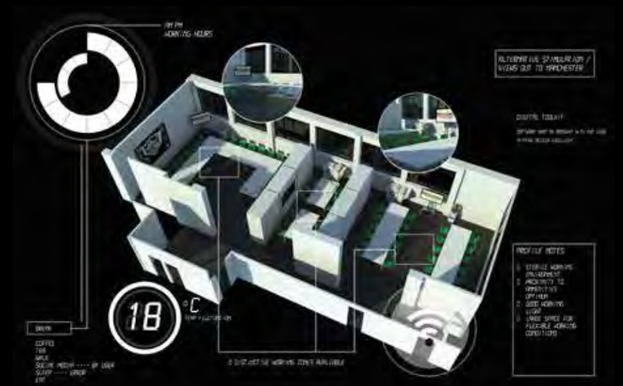
BREAKOUT_ZONE

An area with a range of comfier furniture has been provided to create a more relaxed zone with television and coffee machine. A feature wall gives the space some colour and green plants have been introduced.

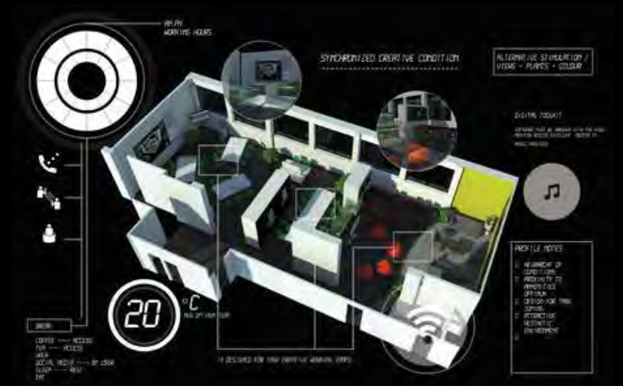
REVIEW_ZONE

The review zone has been organised using existing furniture and dividers to create an enclosed zone for one on one reviews. The exiting dividers have been transformed into blackboards for ideas to be sketch onto.

000.00



EXISTING



100.00

PROPOSED

005 006 007 008

M Arch 1

CUBA

Cuba WinterSchool

In Havanna an economic and sociological change is expected. In consequence, the population will increase in the metropolis. This means that the city needs a renewal of the old town and a higher density of suburbs to avoid urban sprawl. The unfinished suburbs need to be completed and condensed. Unused relics must be activated by an atractive use. With this project setting, the aim of the Winter School is to discuss new design strategies for district completions. The practicality of the strategies thus developed shall be tested by a design project in the quarter " Havanna del Este," a district which was built after the Revolution in the philosophy of the "Charter of Athens."

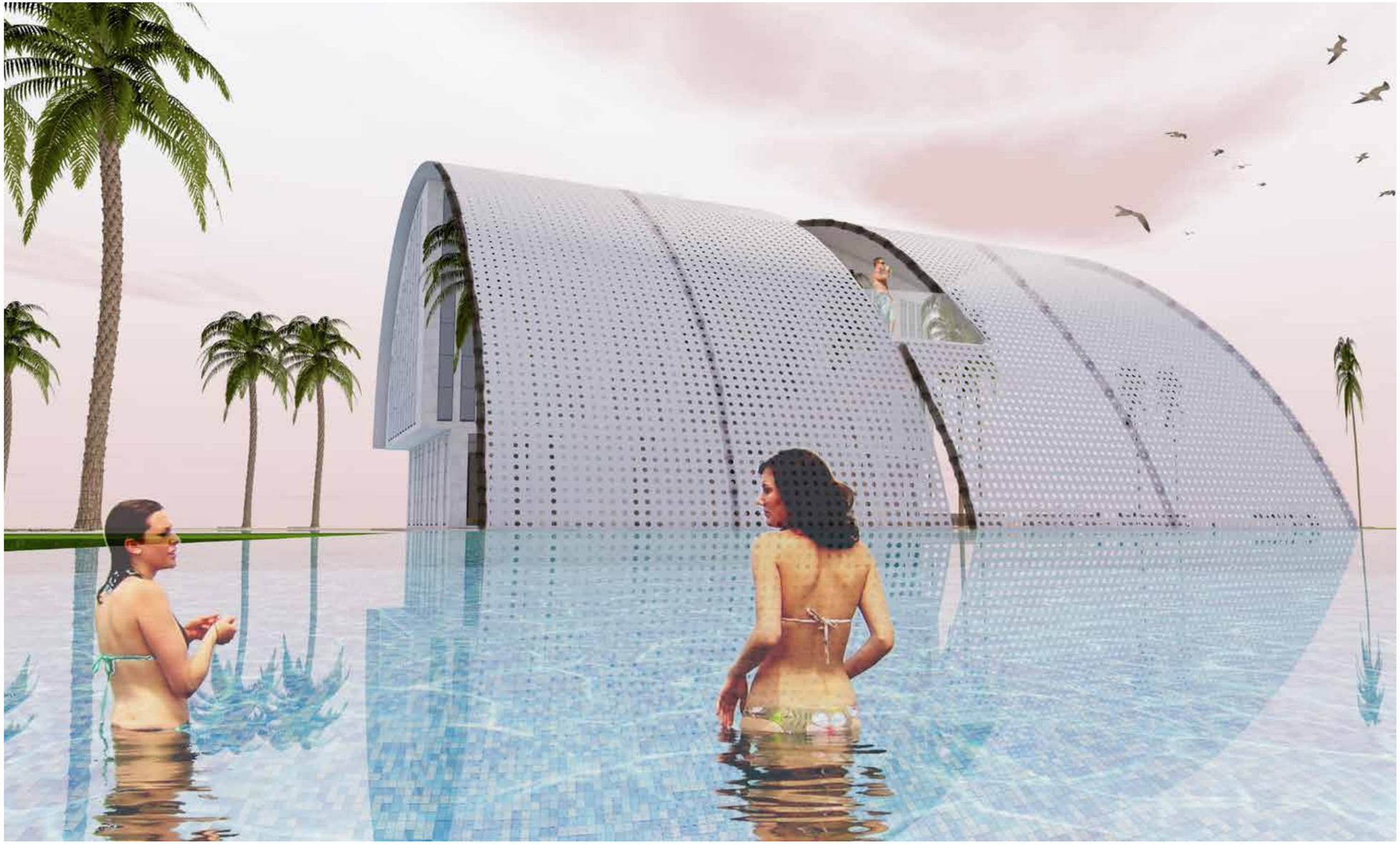
Throughout the workshop events, students were given the opportunity to explore the historic, political, cultural and social background of Havana. They were also challenged by the design constrains that come from these contexts. The three-week workshop has brought a district conceptual masterplan and a conceptual building design in an abandoned swimming pool area within the masterplan as an end result. The students benefited from engaging themselves in designing for a vastly different culture while working with people from different parts of the world as a team. qed participants Enran Zhang and Panicos Pittakas were asked to develop the conceptual building design further as their final project to meet the iWe project requirement after returning to Manchester in March.

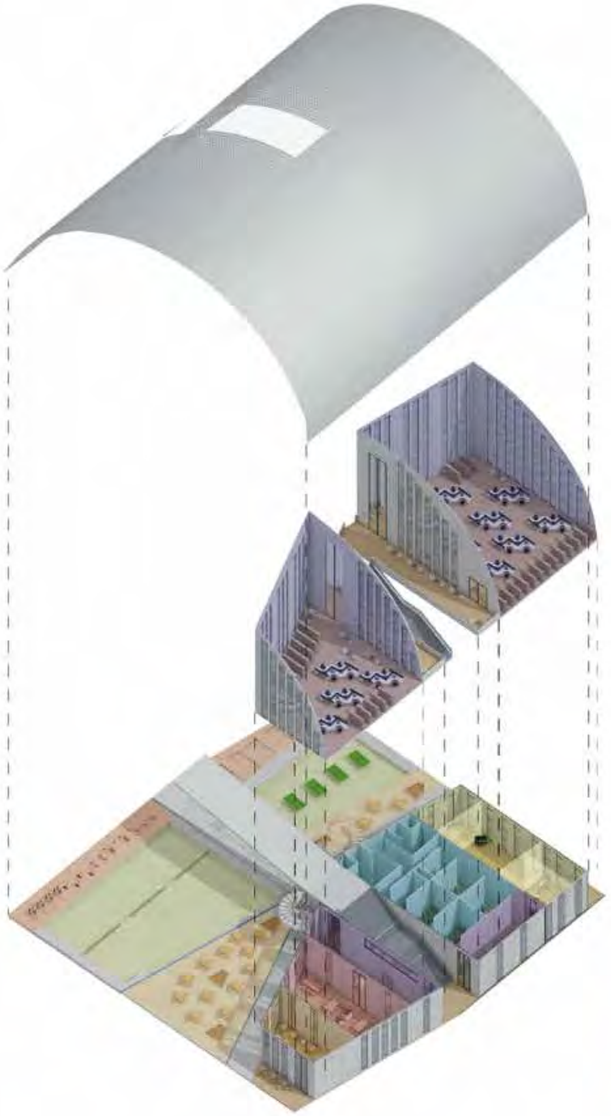
Alamar Community Centre

Alamar Community Centre is a landmark project within the Alamar Anchor masterplan. Alamar Anchor is a conceptual masterplan design in Alamar District in Havana, Cuba. The district is a less developed urban area that has a population of 12,000 in Havana. Because of the lack of planning and land use diversity, the area has long been a commute town. The masterplan aims to "wake up the sleeping beauty" and revitalize the area to become a secondary urban center in Havana. It intends to create a prototype of urban space for Alamar and for future urban development in Havana.

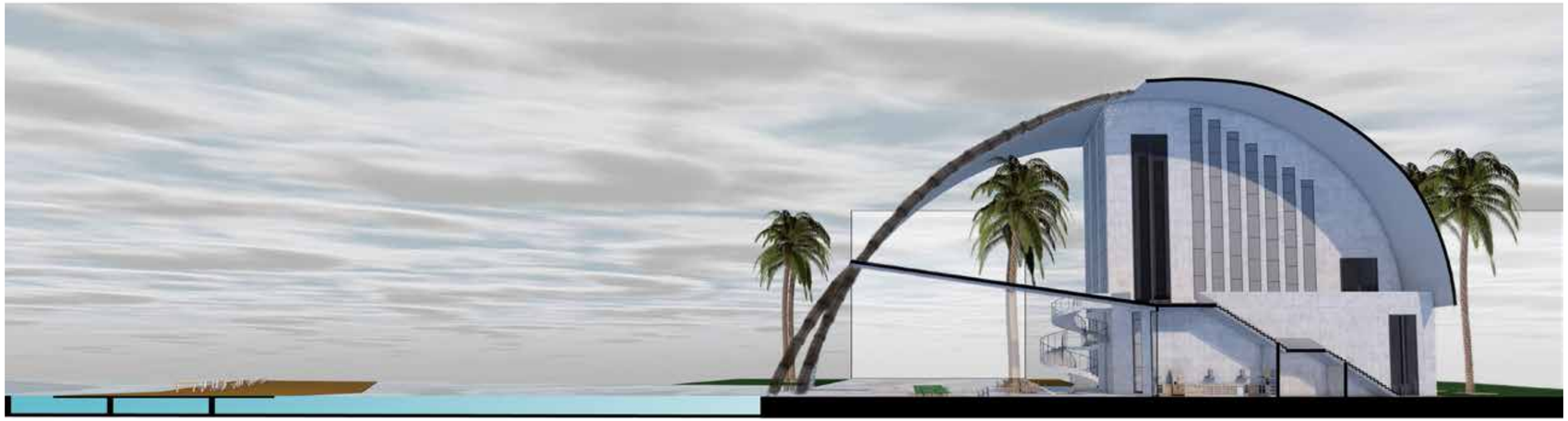
The community centre is one of the focuses of the masterplan. It is designed to be a flexible communal space that can be personalized for the residence in Alamar. Sitting on top of the old swimming pool, the project is also a reincarnation of the pool, which brings back the memory of the place. Because of the flexibility of the spatial program, the place can also hold exhibition and concerts and other public event, which make it possible to become a tourist attraction.

Enran Zhang





Gallery/reception
Toilet/shower
Dinning/Cafe
Outdoor Gym/yoga
Art studio
Multimedia library
Flexible space
Kitchen & storage (beneath the stairs



Alamar Community Centre

The Alamar Communal Center offers multiple and different dimensions of opportunities for the Alamar's community. First of all the building proposal is divided to solid and fragile. To be more specific regarding to the analysis of the housing system (the wood structure used as a facade of the houses). In terms of the housing idea the solid are the house component and the fragile is the structural wood Frame that self-organisation theory is adapted because people have to decide and be free to decide about their own lives. Especially in a country that the majority of people those years used to live in poverty and without any individual division of their future. The Alamar Communal Center get the same philosophy regarding the design process. The Solid Units have the services and the necessity parts that the people need to expand the future spaces. In the fragile area. The Building idea shows strategies that is related with sustainability for the community benefit. Pv Cells are adapted to all the roofs of the solid components.

Offers own electricity and potentially as a community to sell it back to the government if is harvest (electricity) and reinforce the economy of the community. Furthermore the sea water is undeveloped so good strategy to use sea water collector and transform it to grey and nutrient water for all the community needs. Further, another program that is adapted to the communal centre is the waste solid centre, that first offers more clean environment (in an area that the rubbish are everywhere). Simultaneously offers job opportunities for the community. Later on, the philosophy of the building is to use the talent and sell it. To be more specific the Cuban culture is related with arts / music / dance / and agriculture. So during the day people can learn and during the night can present their talent in a field to the audience, so young professional dancers and other artistic people can earn money and do not stay in poverty.

Panikos Pittakas


ALAMAR COMMUNAL CENTER
SECTION BB"
SECTION 1:100 / SCALE TO FIT
N
B
B"
+25.90
+20.60
+15.90
+10.60
+5.30
+0.00
Sea Water Collector
Structural Hydro System
Water Pump System
Toilet
Kitchen
Filter System
Nutrient Water
KEY
1. SOLID COMPONEND / LIFT AND STAIRCASE.
2. GALLERY STORAGE.
3. OUTDOOR URBAN GALLERY.
4. MEINTENANCE AREA/ ELECTICAIN.
5. LIBRARY.
6. LIBRARIAN OFFICE.
7. STAGE/ INDOOR PERFORMANCE AREA.
8. ROOF PV CELLS.
9. CAFÉ – RESTAURANT AREA
10. REST ROOMS.
11. CHANGING AREA.
12. REST ROOMS.
13. SPORTS AREA.
14. SOLID COMPONENT / Fare face Concrete materiality.
15. WOOD PLATFORM FOR DACNE STUDIOS.
16. PLANT ROOM // SEA WATER COLLECTOR.
17. MEINTENACE SHOP STORAGE.
18. CHANGING AREA.
19. KITCHEN.
20. WOOD PLATFORM / FRAGILE / RESTAURANT.
WOOD FRAME // FRAGILE
Could Transform to any Function that community need.
MATERIALITY
SOLID BLOCKS MATERIALITY
* Fare face Concrete
FRAME SYSTEM MATERIALITY
* LUMBER WOOD / RECYCLE MATERIAL
OUTDOOR GROUND FLOOR MATERIALITY // POOL SITE (7)
* Concrete blocks
FRAME SYSTEM / WOOD COLUMNS AND FIXINGS MATERIALITY
* LUMBER WOOD / RECYCLE MATERIAL / COLUMNS

M Arch 1

iWe

(information work environment)

(Brief extract)

"Information work – the process by which value is added to information is the dominant mode of working in the UK accounting for more than half the working population. Information work is also the primary mode of learning at all levels from primary school to doctoral degrees. Information work in a contemporary setting has both inspired and absorbed development in `digital media` that has redefined the function of `the office`. The `electronic paradigm` has generated a trans global communication culture that has changed the scope of information work at all scales in all locations.

Your objective is to explore information work and the way it will develop and critically identify how buildings for information work can be `environmentally positive` in the context of materials, systems and operation over time as well as being a `useful` and sensually engaging place for twenty first century information workers.

Your project will be `valid` for the immediate future as well as projection into the longer term where cultures may change. You will need to communicate `whole life` concepts in respect of programme, sustainability, associated technological change and the potential for reuse, recycling or disposal.

Your work will be `original` relying on clearly articulated research strategies that substantiate the final proposition. The answer is a building defined by asking the right questions."

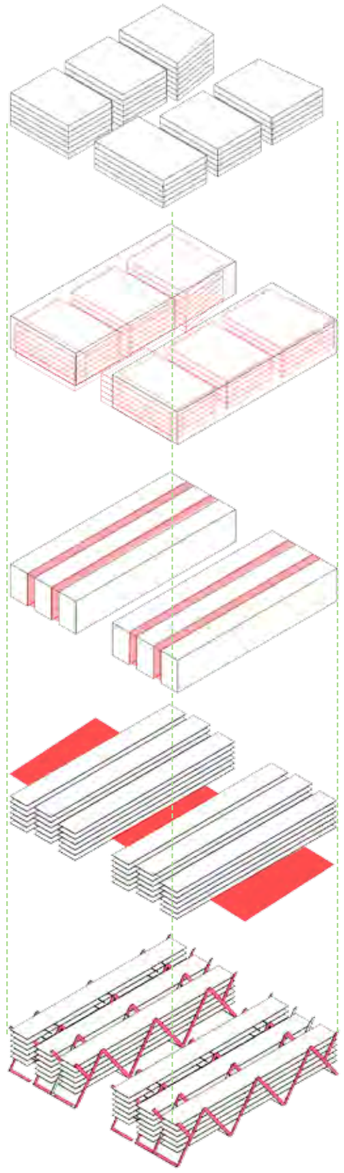
Metamorphoffice

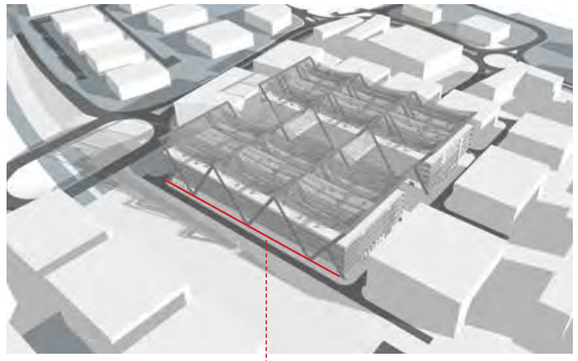
Sitting within the Airport City Masterplan for Manchester Airport this project brings together member of big businesses, local residents and international travelers, offering an exciting experience for all that discover the site. Inviting a work experience that takes advantage of the sites location

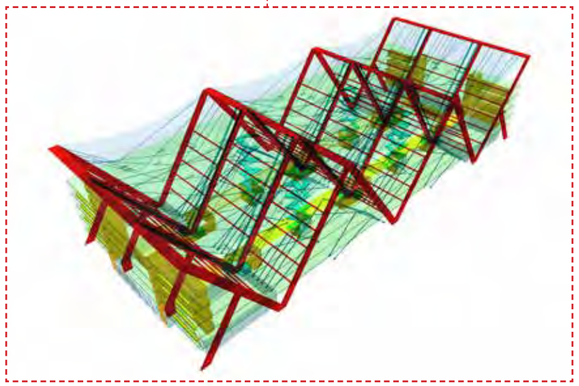
Through integration of research from the creative conditions project, knowledge of opportunities to create a creative and productive workplace were applied as a number of strategies to improve inhabitants wellbeing. Alongside this are a number of systems that consider the environmental relationship of the building with it's context by adapting, reacting and promoting an environment that recognises the importance of sustainability.

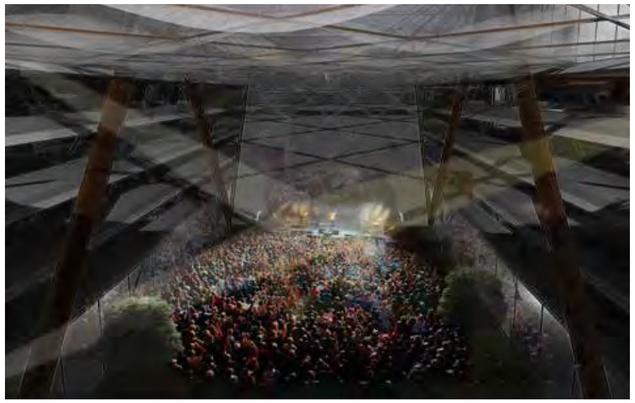
Metamorphoffice has been designed to allow development and change to take place over time and for companies to grow in an effective way. The bridging physically and visually within the design promotes collaboration between a full social spectrum and encourages play to help promote and induce a happy and creative atmosphere.

Dominic Garrett







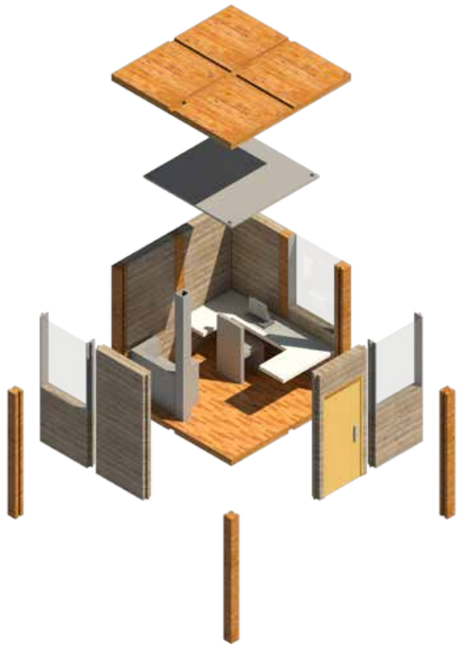


Information Station

The Information Station is my workplace proposal for the Airport City development in Manchester. The building is a deviation from the traditional office paradigm. Leading on from concepts developed in my creative conditions work such as interpersonal connectivity, vertical visibility and variable workplace environments. This building is an ideal place to visit when looking for somewhere to work after landing at the Manchester airport. The building has a direct pedestrian connection to terminal 2 so international visitors can arrive at the building within ten minutes of leaving the terminal. The building is also across from a large hotel development for users to stay overnight during their journeys.

The Information Station is a 24/7 operational building that works on a similar principle to the WeWork office dynamic. Users are able to subscribe to use of the buildings via their smart phones and rent an office space in the building according to their needs. The sizes of the offices available range from singular office cells, larger office dens, hive-like offices catering for 40 people or breakout garden spaces that can be worked in. The Building has a long life exterior shell which regulates the internal environment. The long panning exterior structure allows the interior space to be opened up and transformed into a city like internal office environment consisting of individual office modules built up around the building's 7 cores. The modules are made from sustainable sourced timber and are easily constructed and disassembled, allowing the interior spaces to be adapted and changed throughout the building's lifetime according to its needs.

Shahrukh Ahmed Sheikh




0m
50m

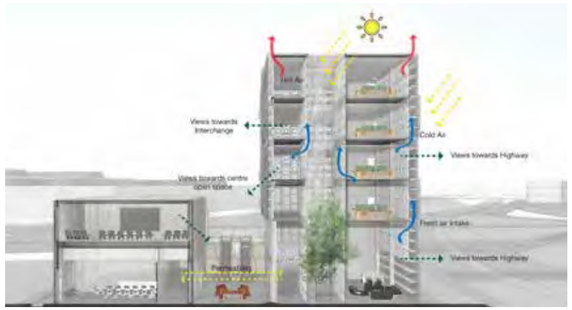
The Axis

The design concept behind "The Axis" is the concern of the growing domination of software over materialised form, the main idea is to promote the value of place in the midst of technology advancement, combining the best of both worlds: Physical settings and virtual venues will complement each other within transformed patterns of urban life rather than substitute within existing ones. Sometimes we will use networks to avoid going places. But sometimes, still, we will go places to network. The Axis, located at the Manchester Airport city serves as a creative agora, connecting a network of freelancers and international organisations who require constant traveling by providing an information work office environment, fostering interdisciplinary interaction and chance encounters while embracing the rise of technology.

The Axis is divided into two building massing with a central open garden, the two building massing acts as a symbolism of both traditional and technological, aiming to provide a contrasting office environment for the users: ' Tradition' provide stability and tangibility, represented by the sand -blasted architectural concrete and limestone finishing while ' Technology' provides mobility and intangibility, represented by the LED display integrated curtain wall façade which transforms into a massive LED screen facing the busy highway at night. The ground floor of the building acts as a public space for information work, with public work spaces at the north block for high tech nomads, with a terrace garden in the center which adds greeneries and views, while the high tech seminar rooms and an auditorium serves as a place for virtual meetings or events at the south block. In conclusion,

The Axis aims to have an integration of traditional and technological means in the information work environment, promoting physical and electronic linkages in a creative agora where social interaction, serendipity and the exchange of ideas are crucial to a fulfilling work style. Embracing technology while still remembering the basis in human interaction.

ShengXin Justin Chong


Views towards Interchange
Cold Air
Views towards Highway
Views towards centre open space
Fresh air intake
Views towards Highway
Perforated tile


TYPE A
SMALL OFFICE
TYPE B
FIT-OUT
OFFICE
LIGHT
COURT
PUBLIC
WORKSPACE
RECEPTION
CENTER
TERRACE
Office

poro[C]ity

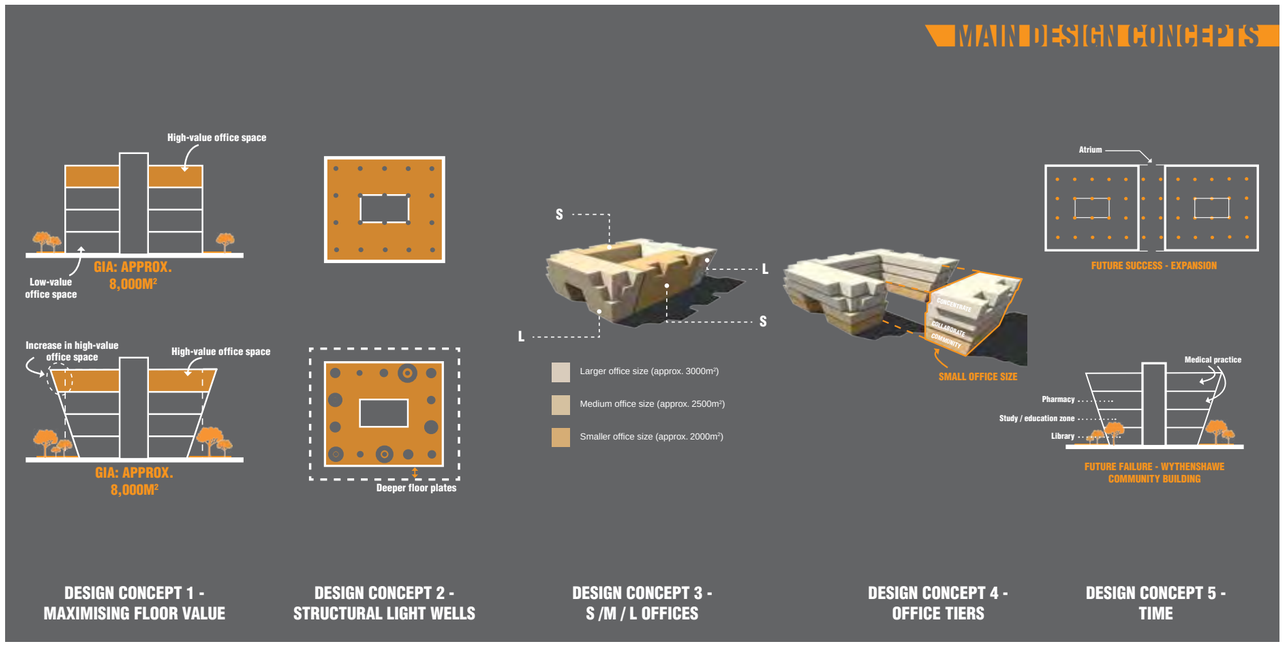
The building represents 5 key design principles that are explored within the project. These key design concepts are: -Maximising floor value

– The design studies existing office paradigms and expands the design concepts to allow for an increase in floor value while maintaining the original area.
-Structural light wells – Continuing from the RSA Creative Conditions submission, the design utilising light wells that allow for a deeper floor plate as well as a structural opportunity.
-S/M/L offices – Studying existing examples of programmatic division allows for an optimised scheme that incorporates the previous conceptual ideas.
-Office tier – Developing from the RSA Creative Conditions submission, the scheme willi ncorporate a tier structure within the office layout to allow for optimum working environments.
-Time – The scheme considers the future success or failure of Airport City by allowing expansion as well as a secondary programme.

Combining these design concepts represents a scheme that incorporates conceptual ideas explored within the Creative Conditions submission that ensure efficient worker environments within a design that represents an effective built environment for new arrivals to Manchester Airport.

Oliver Pozegic

MAIN DESIGN CONCEPTS



DESIGN CONCEPT 1 - MAXIMISING FLOOR VALUE

DESIGN CONCEPT 2 - STRUCTURAL LIGHT WELLS

DESIGN CONCEPT 3 - S /M / L OFFICES

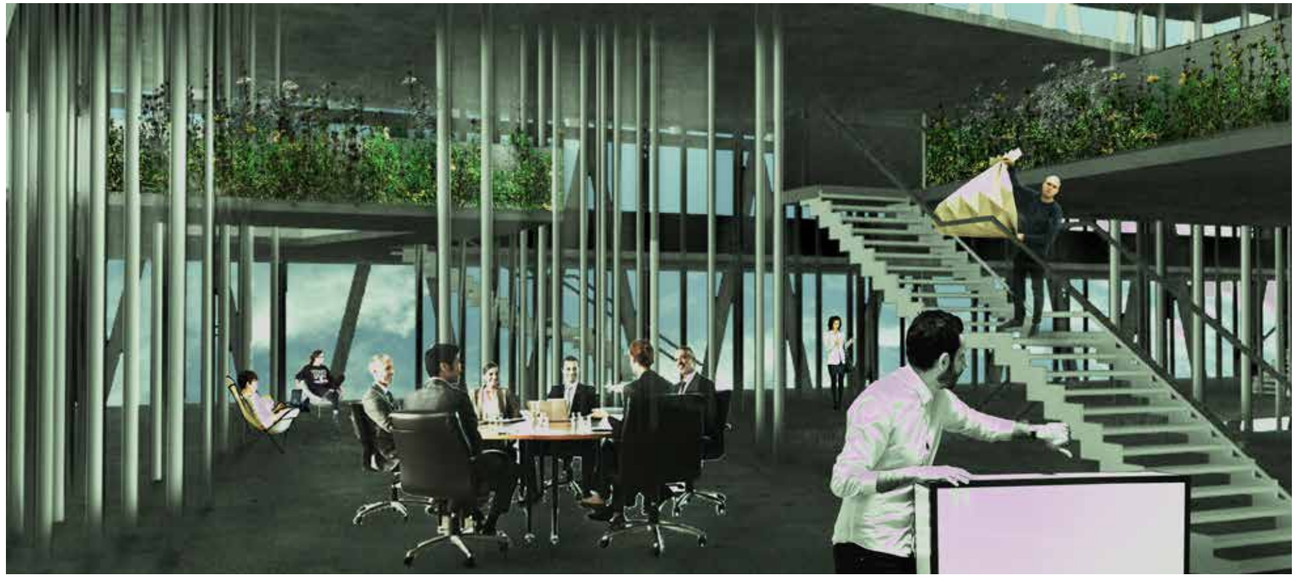
DESIGN CONCEPT 4 - OFFICE TIERS

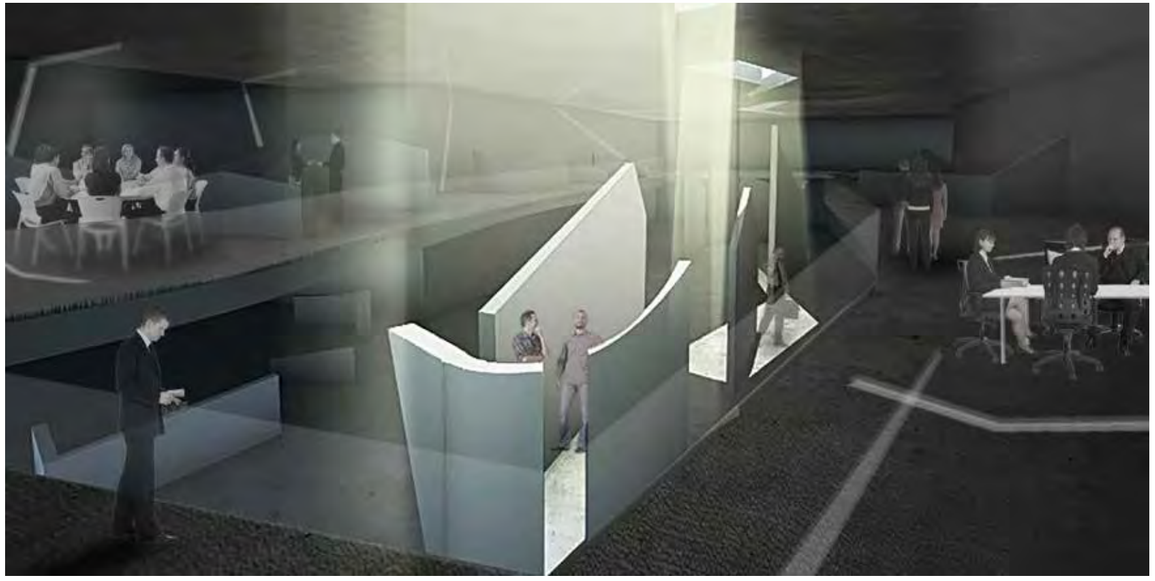
DESIGN CONCEPT 5 - TIME

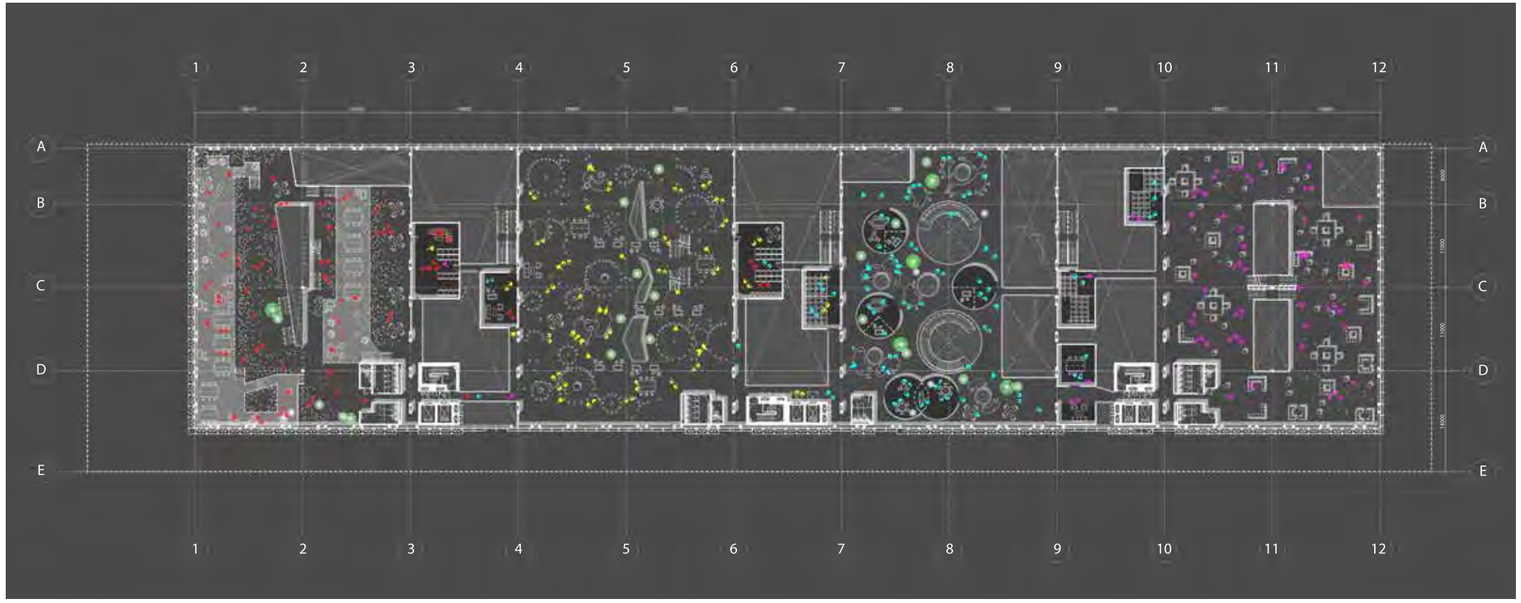
Collectivism, Collaborative, Share and Play

The holistic building relies on a continuous concept consisting of creative conditions, collaborative cores, open and semi-open structural spaces that promote the sharing of ideas and food cultures. The general approach which we have considered are the Collaborative space that encourage encounters of different professions and working environments, In-Between Spaces that utilise all areas of the working office and to boost the interaction levels between all four plots, considering them as a single entity. The strategy is to identify a collaborative core that highlights the main interaction spaces between the people working in the different parts of the office. This space will be based around socialising activities that aim to bring people together and help promote cross level interactions. Anotherimportant social aspects bought about by the Masterplan is to provide opportunity for Wythenshaw, the adjacent residential district bordering Manchester Airport. We took this opportunity to think about the wider positives that could be integrated into the Masterplan and the many different connections that will bridge between Wythenshaw and the Airport.

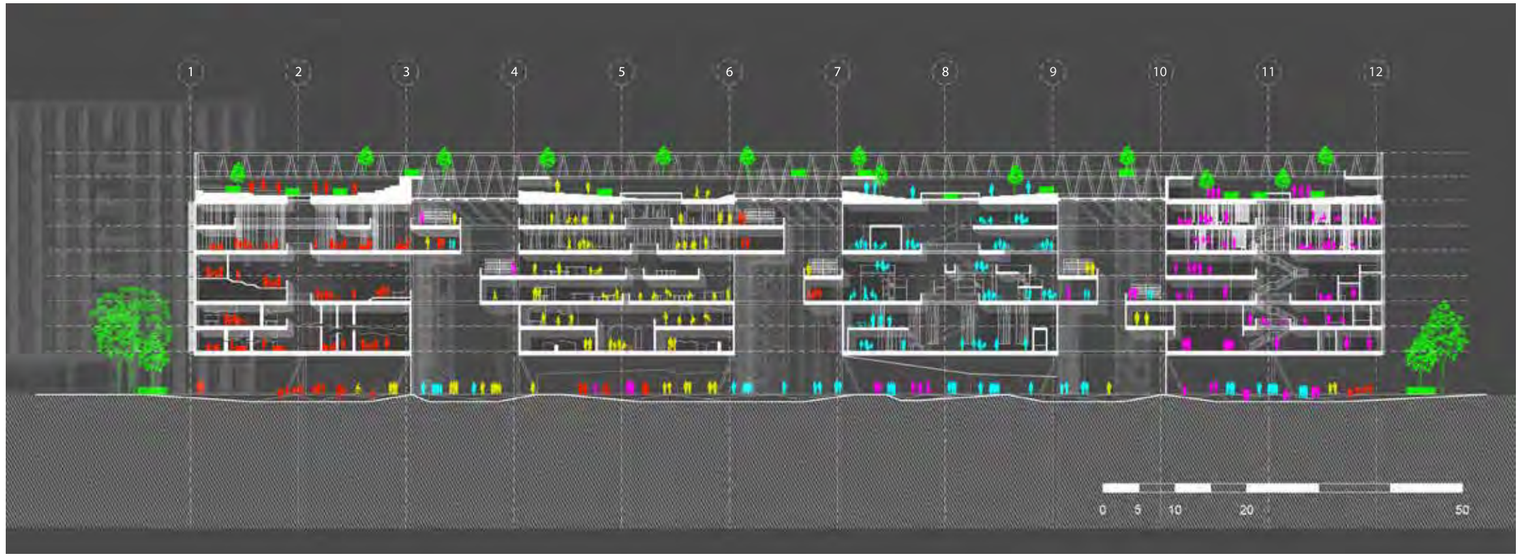
Khor See Sern, Yang Hu, Nuoya Liu, Choo Wei Ee Danson






1 2 3 4 5 6 7 8 9 10 11 12
A
B
C
D
E


HOW'S MY SHOPPING?


1 2 3 4 5 6 7 8 9 10 11 12
0 5 10 20 50

Connexion

Through the study of the master plan a narrative was formed framing a conceptual vision; a vision; in which all buildings across the site can be link at ground floor level through street like ways, intercommunicating and creating social collision, plazas and squares, green spaces and break out areas. Forming those avenues the conceptual vision aims to frame an ideal site for "information environments" and their imitate setting on which social collisions can be form and interaction between different business and sectors are promoted.

Additionally, the vision draws inspiration through street layouts and market places toward incorporating those aspect at ground floor levels where, stores, coffee shops, restaurants and min-market can be places. The vision aims to brake the stereotypical master-plan idea, making it to be a place that people can, work, entertain and socialise. A place that promotes diversity.

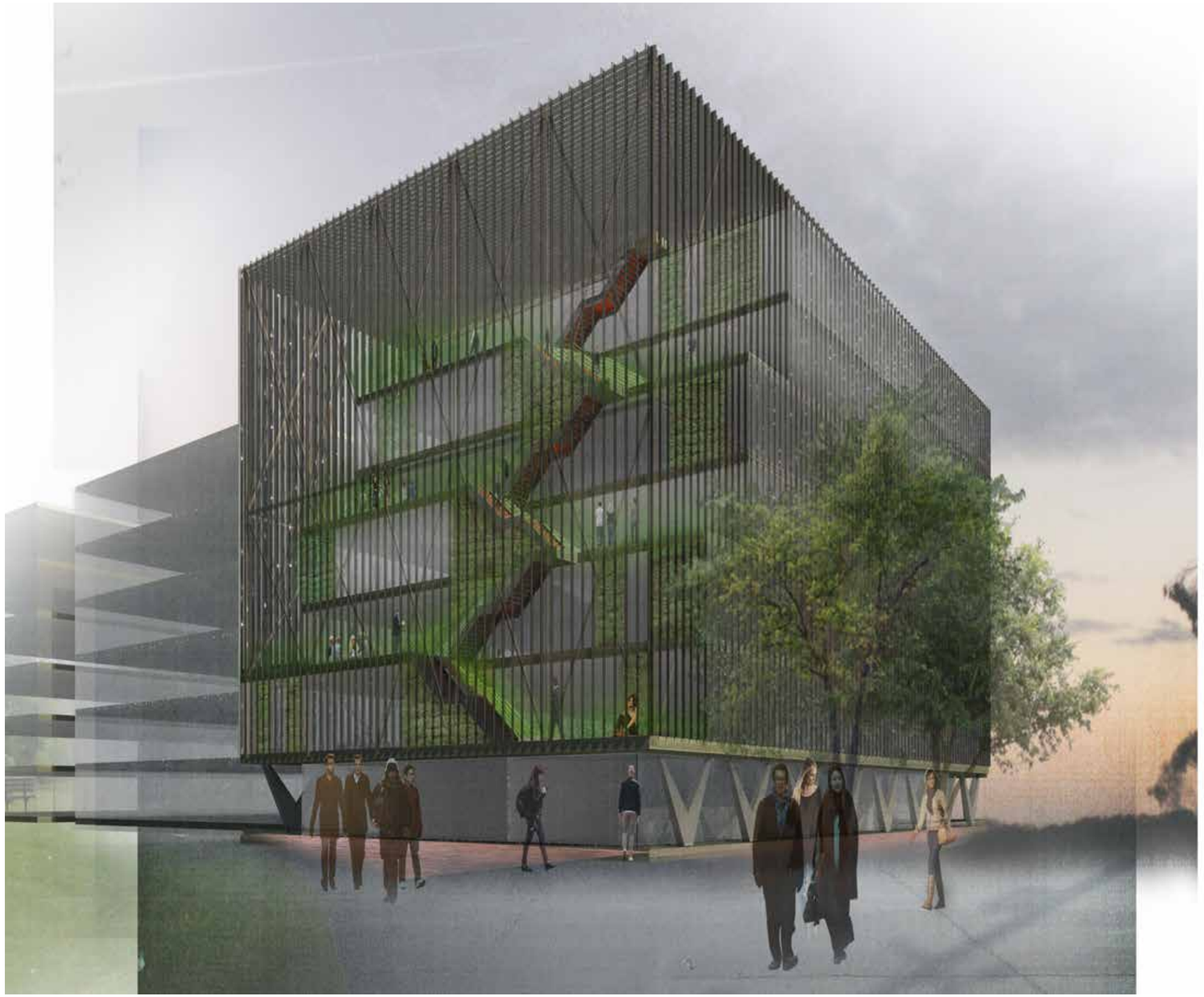
Panayiotis Paschalis

Hanging Gardens of Wythenshawe

The key themes of this project are adaptability and interaction. The skeleton is the only part of the building intended to remain unchanged, while each other aspect can adapt over time and to demand. With the likely changes of use, it is probable that there will be a variety of users. This creates the potential for a huge variety of different interactions and between a huge amount of different sectors.

The enclosed terraces are shared by all occupants of the building and act both as a spectacular circulation route and a place for the building's users to interact and relax. This encouragement of interactions, the breaking of the schism between floors, facilitates cooperation between the different companies, disciplines and individuals who will use the building. These terraces are enclosed by glazing and a shading system allowing the feeling of outdoor spaces while regulating temperatures and glare. These spaces will also face the airport, adding a visual spectacle to these social spaces as occupants are able to watch as planes come into land.

Ben Blackwell

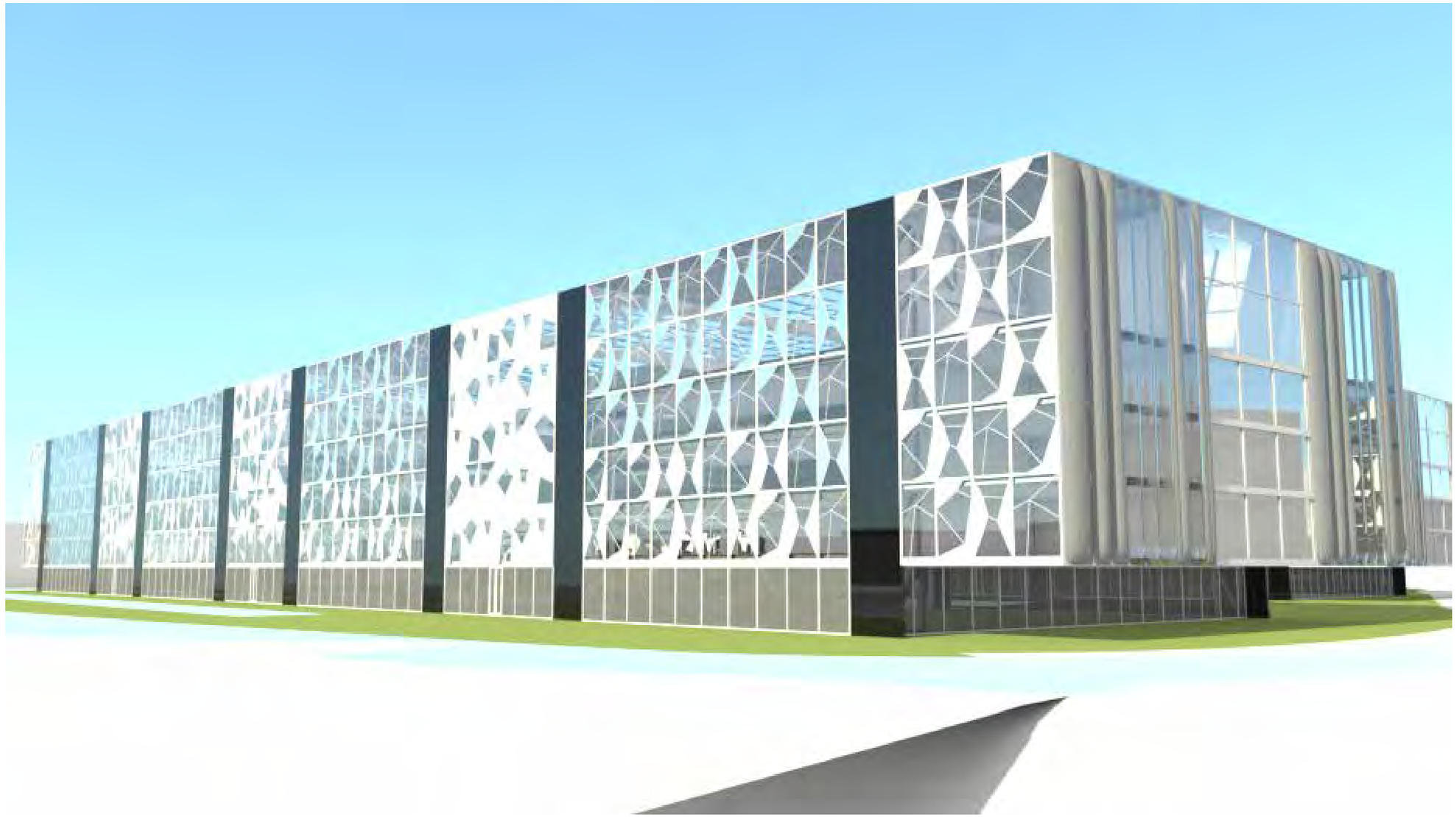


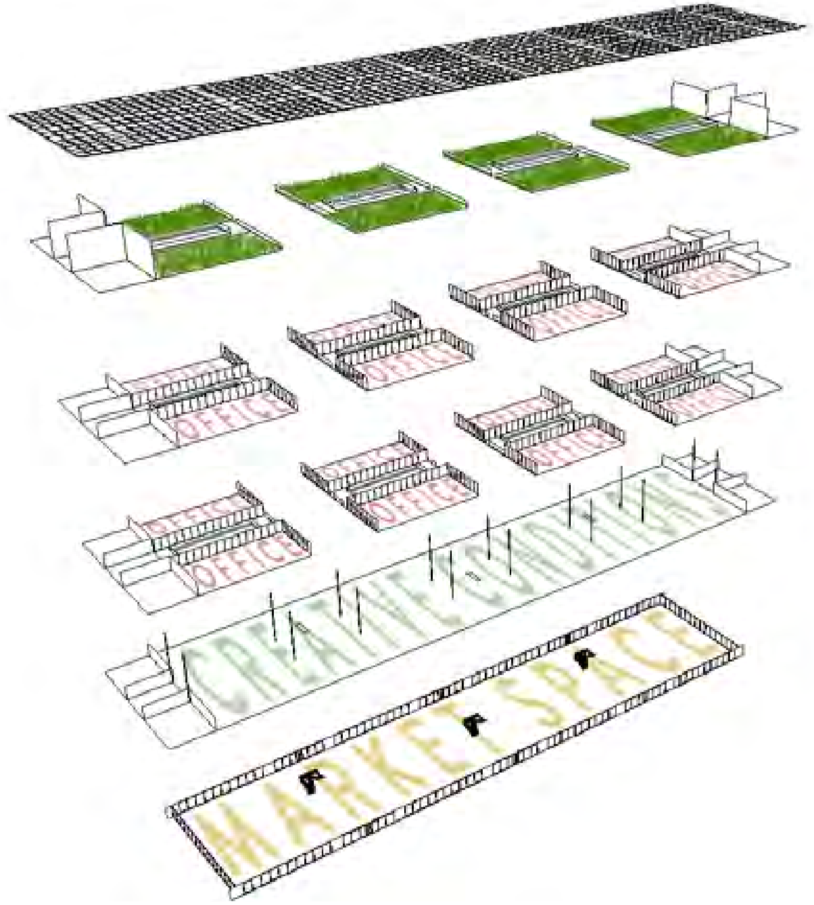
Undulation

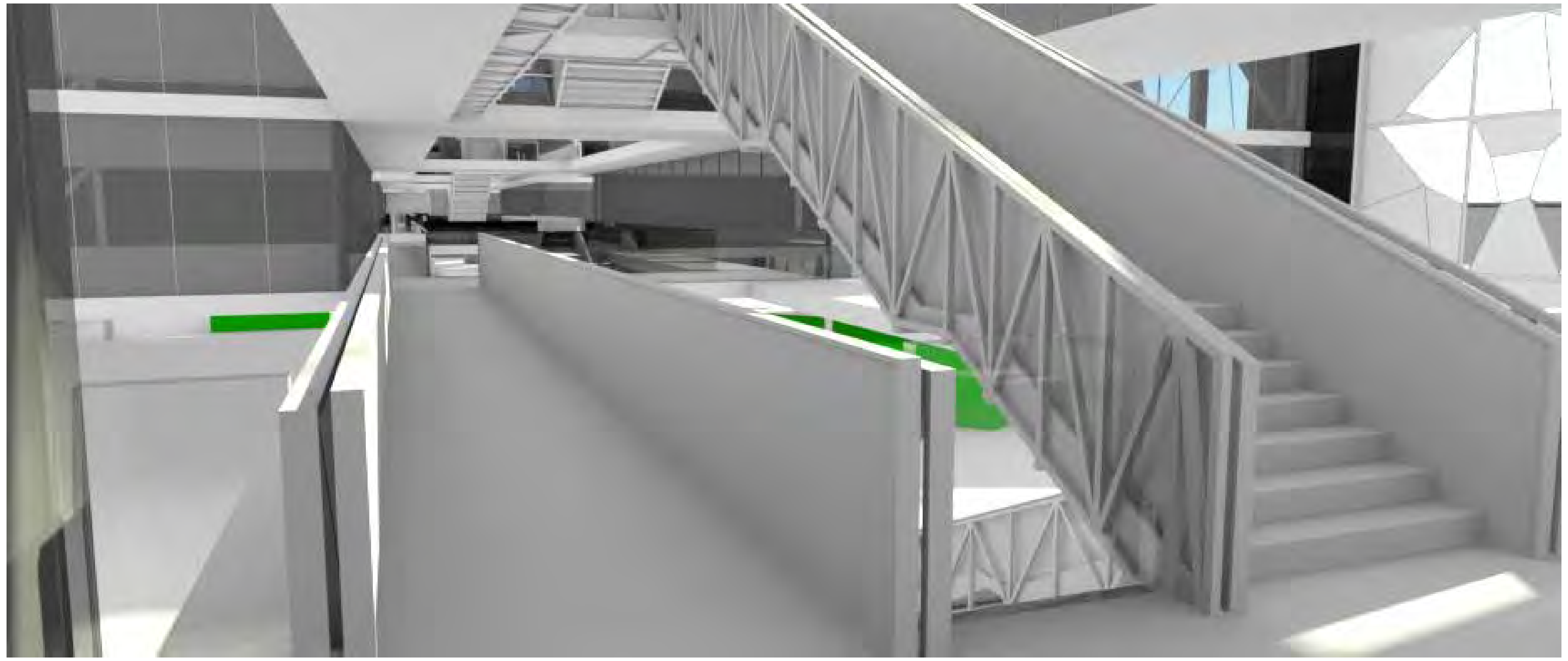
This was the proposal stemmed from the ideas that I had developed working on the creative conditions brief. The project situated in the Manchester Airport Masterplan, is a reaction to current conditions posed upon office work environments. Throughout the building the hierarchy of spaces changes and promotes interactions between different types of people and office work environments. The building consists of 3 circulation cores, these cores allow the user to make their way through the building, and promotes the use of the whole building with the maze like arrangement. The building is supposed to be a hub for movement and creativity, if users can see what each other is doing this will foster greater benefits. The interaction between levels is promoted. Façades on the North side are full controllable by a mobile device, this promotes the idea of personalisation to promote a creative working environment.

Creating a 24/7 working environment was key whilst promoting the interaction and connections to Whythenshawe, this was achieved through the integration of the market space. This space would feed the building with food resources and the vegetation in the building would provide for the market area. This idea is to create a closed loop ecology in the building. With aspects such as solar energy, rainwater collection and food production the building would become self-sufficient and off grid, this would promote a fascinating working environment for both users and passers-by.

Arron El-Ammar




OFFICE
MARKET SPACE



The Forum

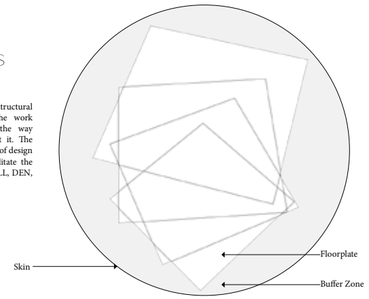
The iWe project will explore and identify a solution to environmental positivity in work environment buildings. The project will focus on TYPOLOGY, ANATOMY, PHYSIOLOGY, MORPHOLOGY, and HABITATION, which will be split into sub categories addressing materials, systems, operation, and time. The building output of this project will be a manifestation of a positive approach to the categories listed,a s well as suggesting a useful and sensually engaging place for twenty first century information workers.

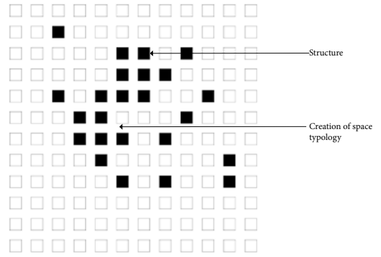
The Forum is an Information Work Environment that facilitates an ecology of happiness and well being, by providing a neighbourhood within newly constructed community of companies. By acting as a hub, The Forum can aid in the place-making of Airport City, and promote the airport as a viable meeting place for business tourists. The scheme contains multiple retail and restaurant units, open 'drop-in' workspaces, private rentable work spaces, and a 'camping facility'. The DEGW concept of NEIGHBOURHOOD, COURTYARD, and LANDSCAPE have been main drivers for this project, and although still at a preliminary stage The Forum illlustrates how these are used to create an information work environment.

Harry Harrison

BUFFER ZONES

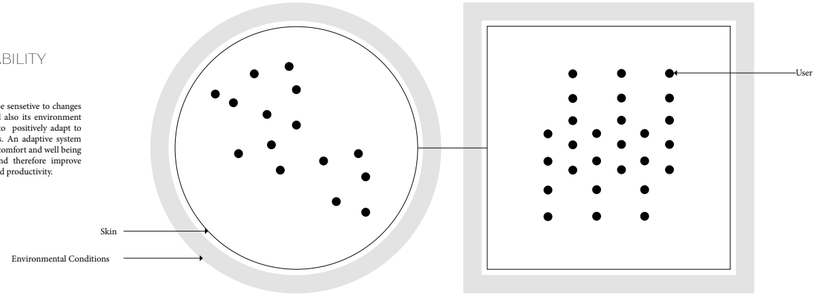
By implementing buffer and structural zoning the anatomy of the work environment will inform the way in which users can inhabit it. The structure allows the creation of design for task areas and can facilitate the DEGW theory of HIVE, CELL, DEN, and CLUB.





ADAPTABILITY

The iWe must be sensetive to changes in its users and also its environment in order for it to positively adapt to their conditions. An adaptive system will ensure the comfort and well being of the users and therefore improve performance and productivity.

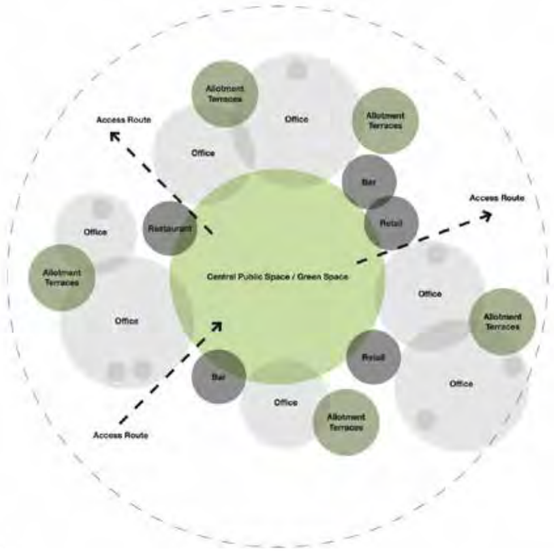


Pixel Workspace

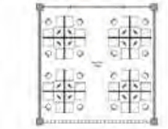
The Pixel Workspace is designed through the acknowledgement of change of use over time. With the rise of the distributed workplace, typical office building typologies will become ineffective and unsustainable for most organisations

The building uses modular construction methods to provide flexible and interchangeable units that can be reorganised and designed to suit the changing requirements of 'office' building users over time. Formed around a public allotment courtyard, featuring the British Airways Concorde, the scheme aims to become a 'destination', providing a sustainable environment for both work and play.

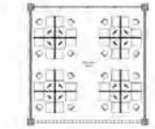
Chris Doherty



Open Plan Office Component

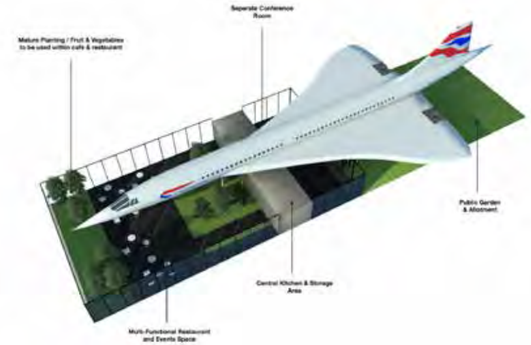


Split Level Office Component



Private Office Component

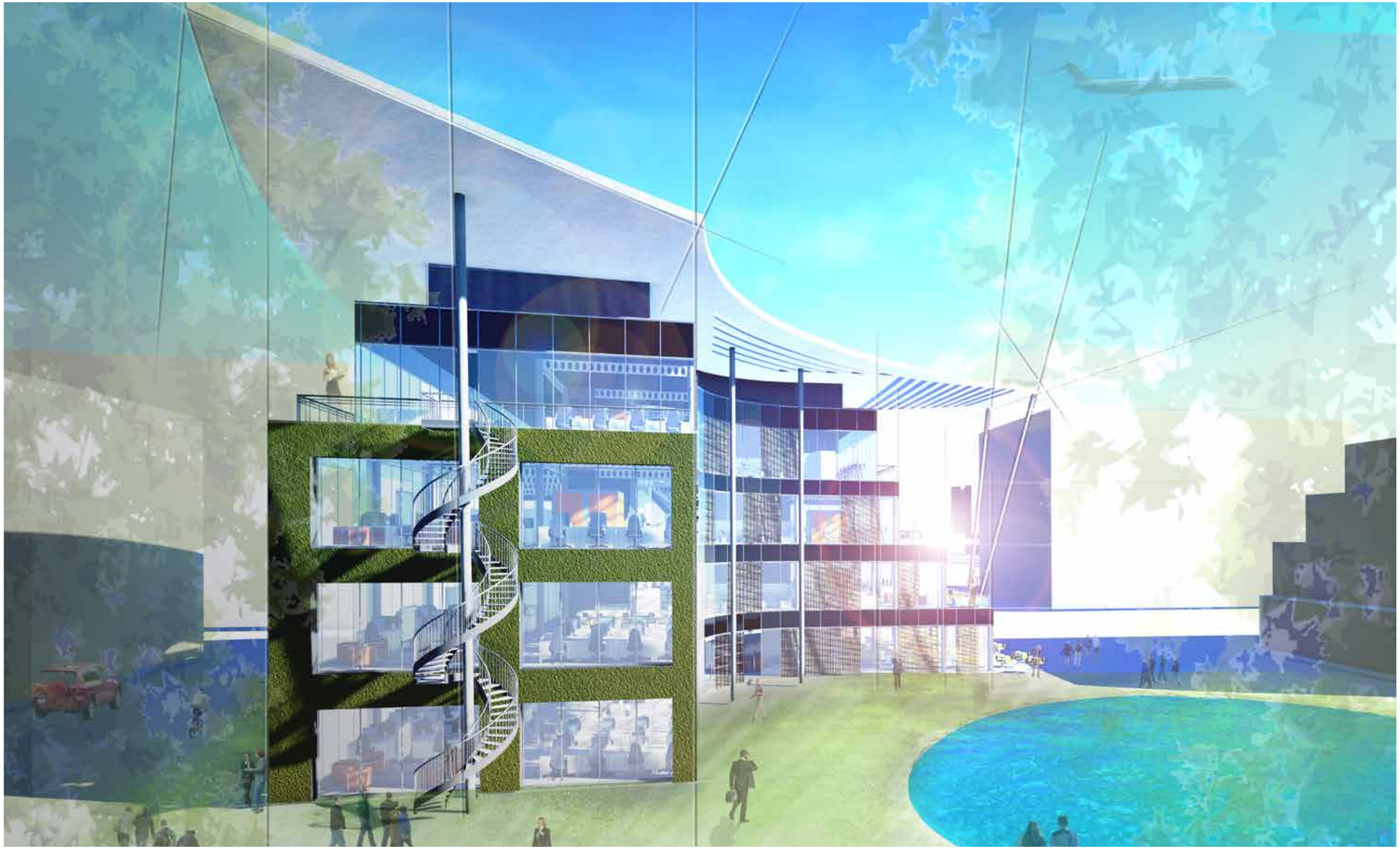
Residential Component

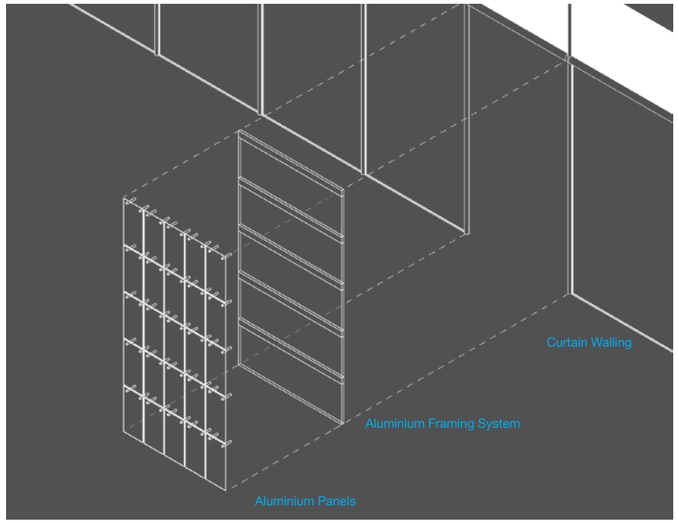


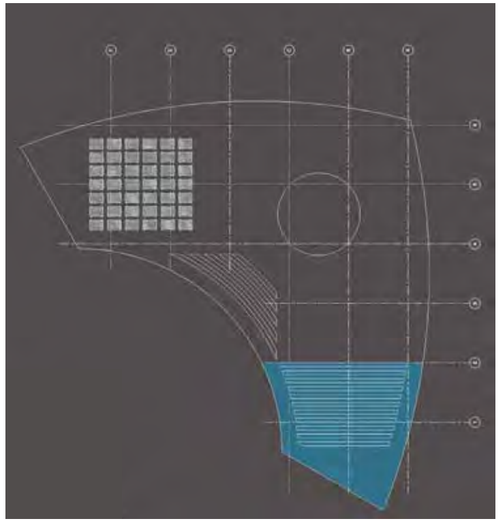
Project Vivacious

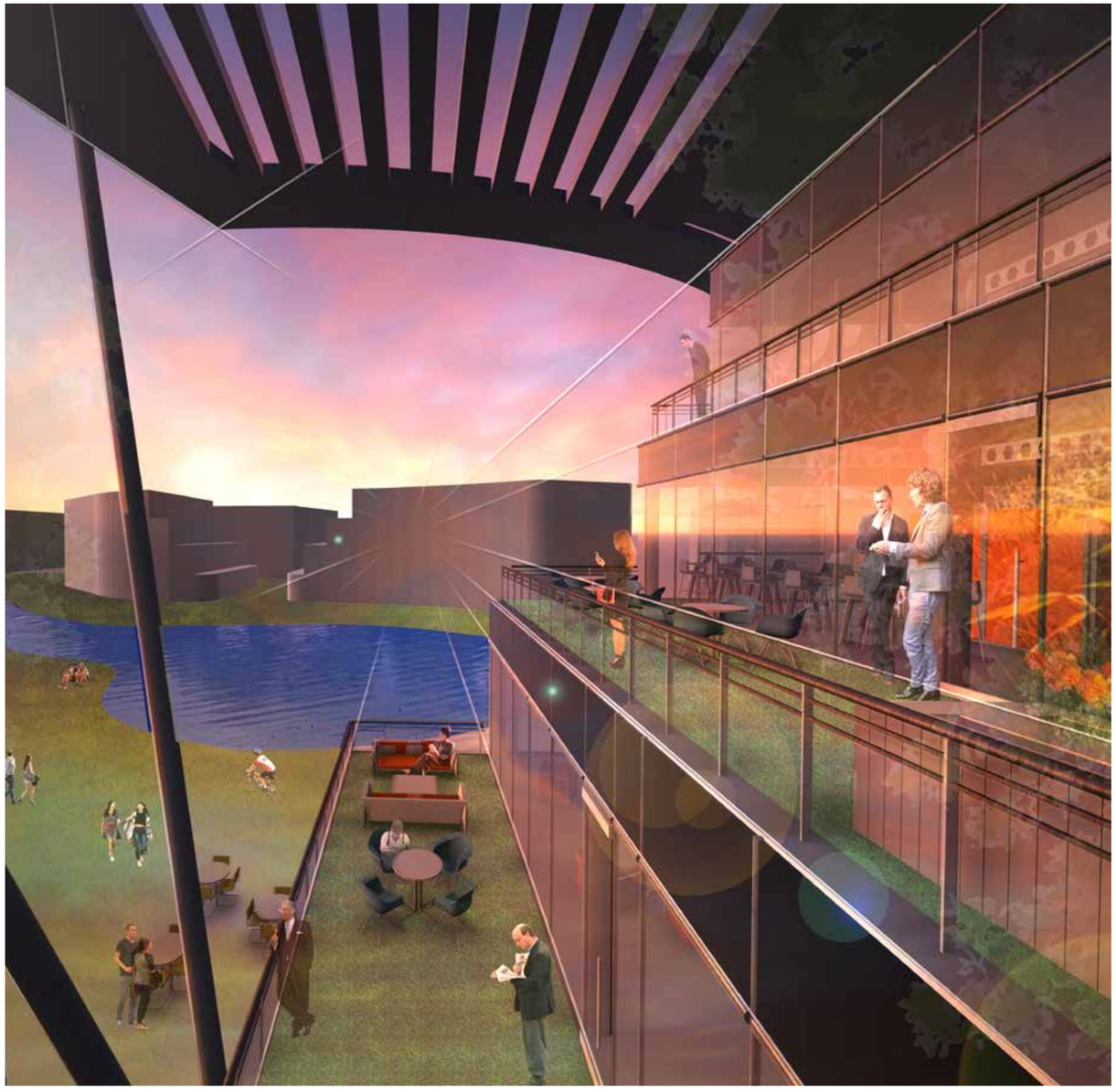
Situated in the heart of Manchester Airport City masterplan, this alluring development creates a community that will dramatically energise the business sector for the future. The office building creates agile working spaces, which maximize worker efficiency within the building. The open plan layouts, roof terraces, large open central atrium, constantly stimulates the office worker, forming a creative atmosphere. These collaborative spaces also encourage connections within different working environments. Externally the memorizing kinetic façade is a symbolic gesture to the lake, which absorbs the wind energy and transfers this into the working environment.

Hina Shah




Curtain Walling
Aluminium Framing System
Aluminium Panels





M Arch 1

Events Week

Synergy

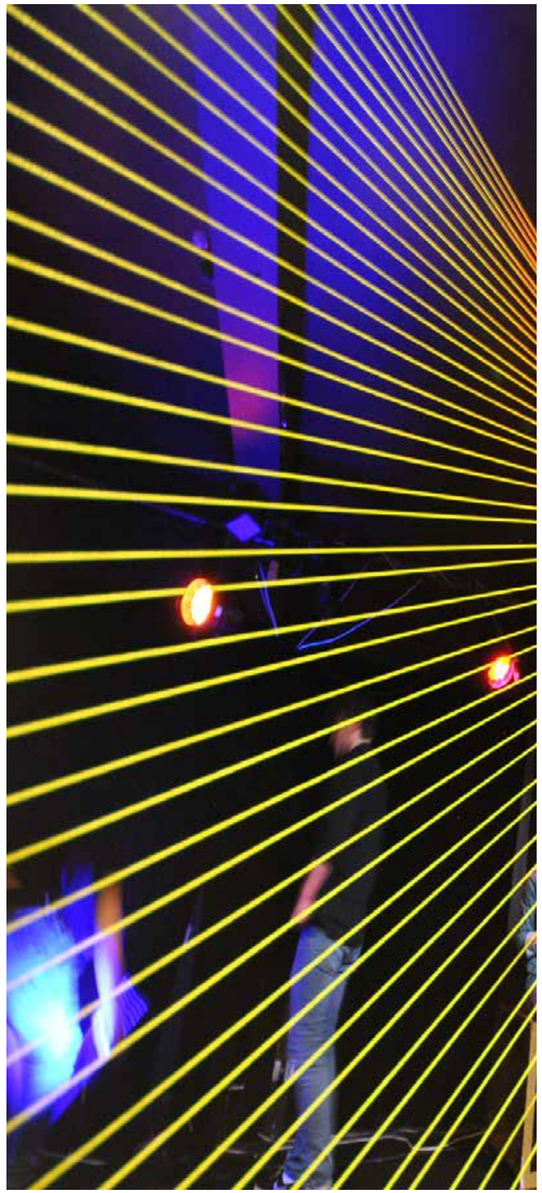
Brief

Each year the Manchester School of Architecture runs a successful collaborative Events programme to unite Years 01 and 02 undergraduates with MArch students through student-led projects. This year's Events projects are collectively named Synergy, meaning to work together. You are encouraged to use this opportunity to explore, exchange and promote ideas beyond the discipline of architecture, whilst utilising and building trans-disciplinary networks. This is a fantastic opportunity to make new contacts and expand your CV by demonstrating creativity and professionalism whilst working with others.

perFORM

Hosted by renowned Northern Quarter venue, Night and Day, perFORM was an event organised by 5th year students at Manchester School of Architecturethat exhibited a relationship between music and architecture. Local bands 'The Bright Black' and 'The Nix' performed amongst the student designed installation as a celebration of Manchester's historic and legendary music scene. Over a two-weekperiod, the team of first, second and fifth year students designed and created a sculptural intervention which aimed to break the barrier between stageand audience; viewer and performer. The installation consisted of strands of UV string, lit from above, that undulated from behind the bands and disappeared out into the crowd, twisting as it went. The UV light accentuated the installation, allowing minimal materials to have an enormous effect and in doing so, it gave the design an almost ephemeral glow; appearing more like laser beams than strands of string. These glowing strings could be interacted with by the crowd who were able to pluck them like the strings of a guitar, adding a sense of movement to the design.

Harry Harrison, Chris Doherty, Florrie Steed, Ben Blackwell, Arron El-Ammar

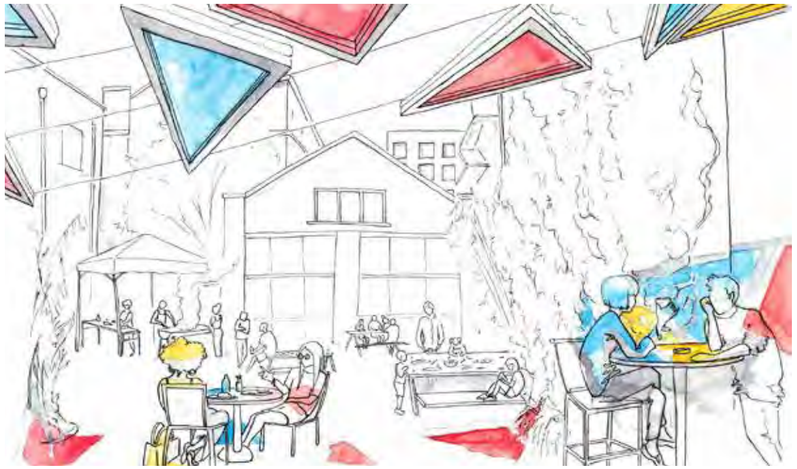


RE[N]OVATE THE MILL

In collaboration with the Islington Mill, our project is a proposal for the courtyard space attached to the old mill building. The work for our exhibition was produced by a team of twelve first and second year Bachelor of Architecture students led by first year master of Architecture students from the Manchester school of Architecture. Beginning with an initial visit to the Islington Mill and a briefing from the building manager, the students designed and produced this proposal for the courtyard over two weeks. The project aims to mitigate some of the issues facing the Islington Mill community whilst simultaneously providing an inspiring environment to be enjoyed by all of the residents and visitors during their activities within the mill.

The proposal consists of an adjustable canopy that provides shelter over the main entrance creating a comfortable smoking or waiting area. The canopy is a lightweight feature that can be attached to the existing buildings without causing any damage to the historic mill. It consists of fixed and moveable panels made of waterproof fabric that provides shelter from the rain but also creates a dappled colourful lighting to the courtyard space on sunny days. As well as the canopy the students developed a series of low-cost D.I.Y. furniture for the courtyard space that can be appropriated from wasted wooden palettes of which the mill has a good supply of. The furniture series includes outdoor lighting solutions, benches and planters that are easily constructed and can be utilised by everyone in the area.

Oliver Pozegic, Shahrukh Ahmed Sheikh

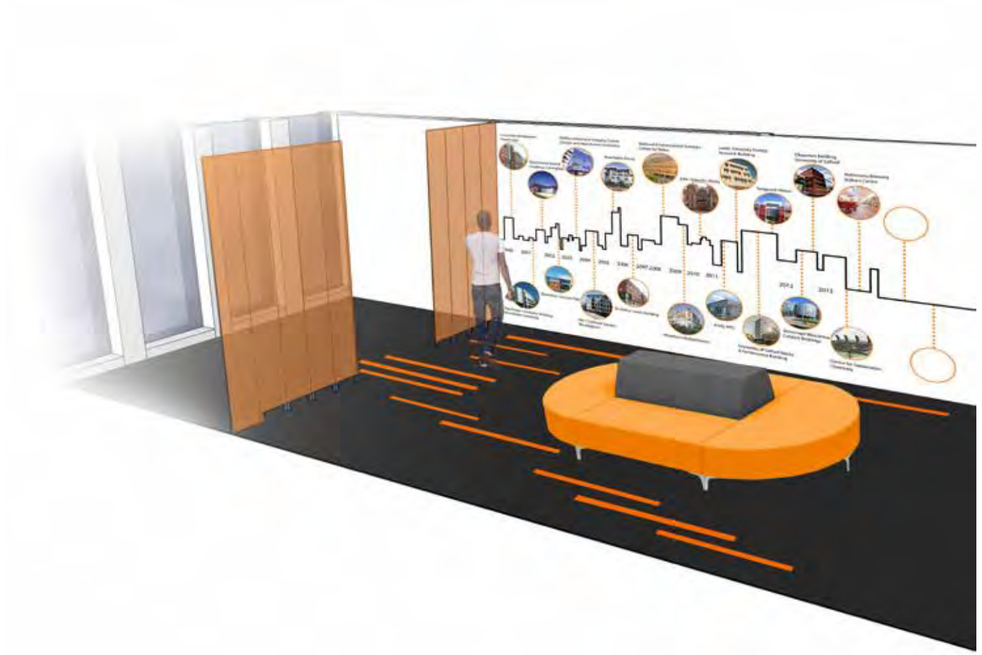


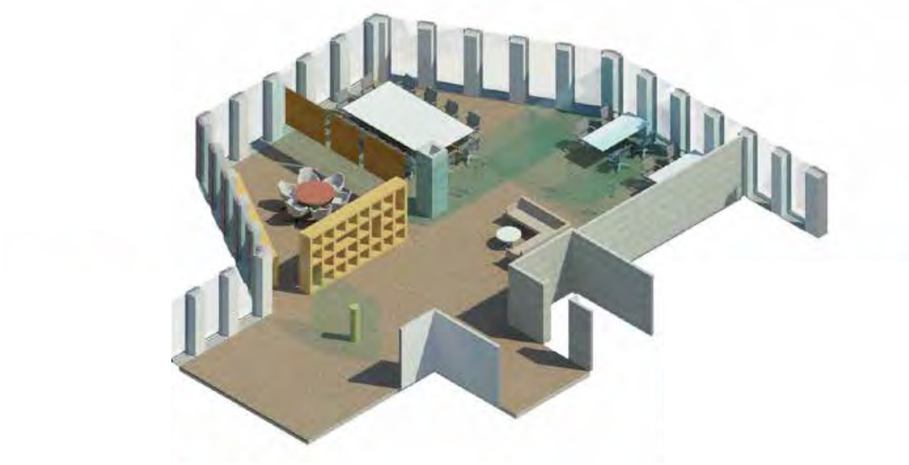
Retrofit

Fairhursts Design Group (FDG) is one of Manchesters oldest architecture firms, and the reception space at the office required an interior refurbishment as it was over 5 years old. The idea was to create a more welcoming reception area, whilst showing the company's architectural identity. The event started with a site visit to the client's office in city centre. Ian, who was our collaborator is one of the directors at FDG introduced the history of the company while setting the requirements of the brief.

Students were asked to work in groups, explored elements such as lighting, materials, and furniture to improve the spatial qualities of the site. Physical models were used to experiment their ideas and design concept. An interim review was arranged on the beginning of the second week, allowing students to discuss their schemes with the client directly. A visit to an interior showroom was also organised to expose students with different office work products and working environments.
A final presentation was done with the client at the end of the event week. Pleased with the outcome, the client would like to take on board and bring forward some of the elements from each design schemes proposed by the students.

See Sern Khor, Hina Shah, Jilly Clifford





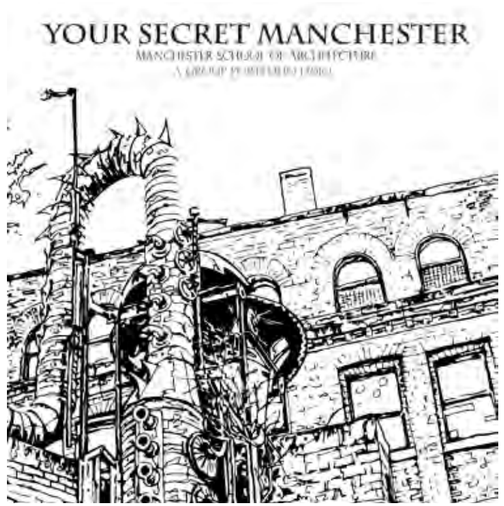
Your Secret Manchester

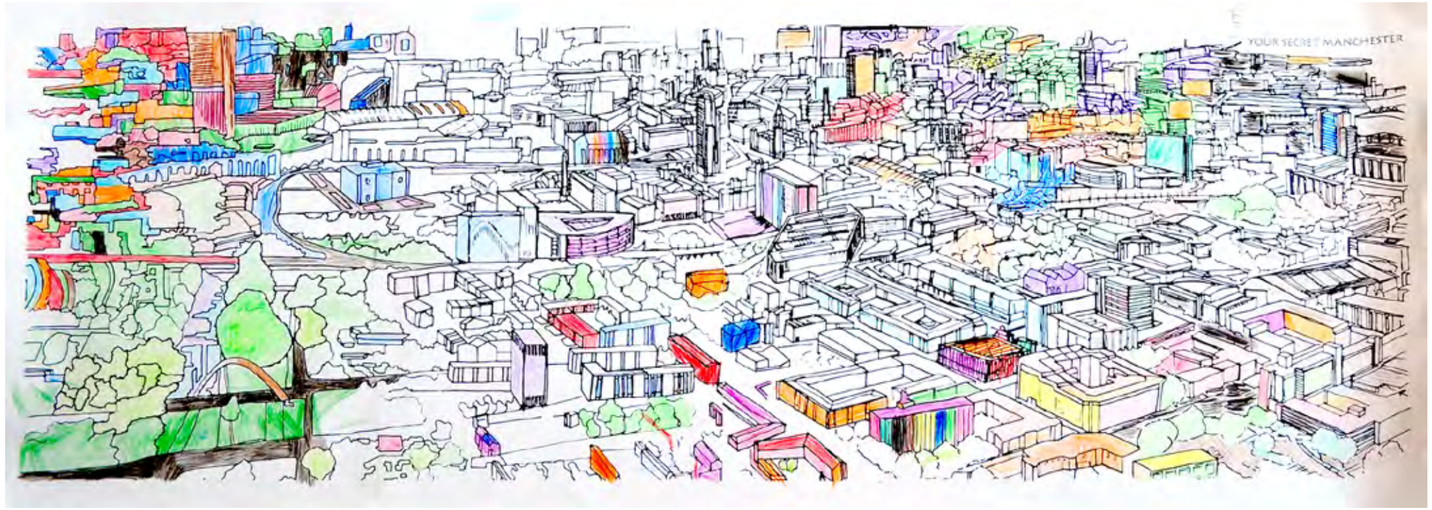
'Your Secret Manchester' is a project that aims to engage first and second year architecture students in a two-week workshop, which investigates children's perception of urbanism, architecture and the built environment. We investigate children's understanding of the city of Manchester through their graphic representation of a number of key localities.

Thus, we engage with the process of compiling a colouring book of prominent places within the city that would provide the framework for children's colouring and drawing. In the process, first and second year architecture student have the opportunity to practice and develop free hand-drawing skills, as well as inform themselves about the architecture, history and heritage of Manchester. They learn how to manipulate their drawings digitally and produce a publishable document as a group.

Organized visits to local collaborating primary schools give opportunity to investigate children's perception and representation of the city. Also, the first and second year students are asked to deliver a presentation to the children about Architecture in further education, thus practicing their presentational and communication skills with a very specific and unusual audience.

Enran Zhang





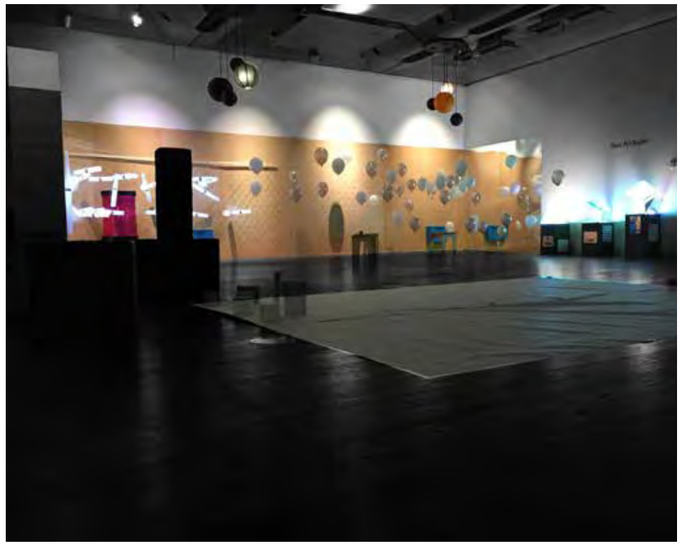
Portal

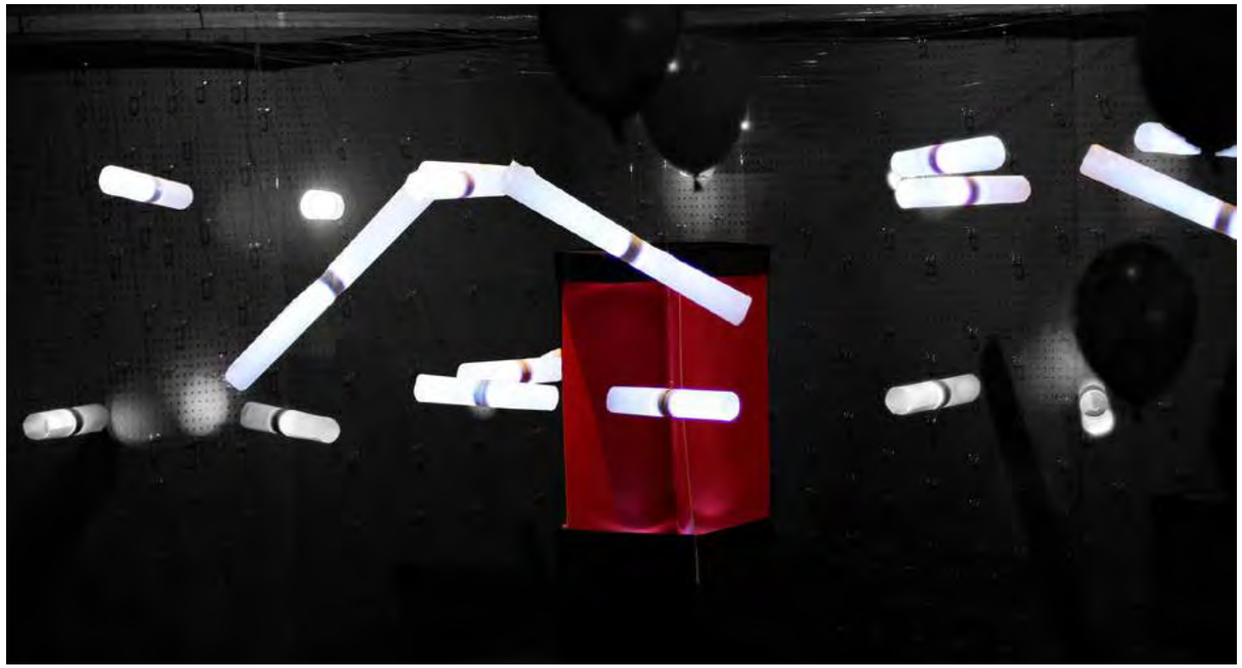
The events agenda for portal produced an installation in Manchester Art Gallery that represented network of influence and experience of the June 15 1996 IRA bomb in Manchester. Working in collaboration with Simpson Haugh architects, the brief proposed an outcome of educational and interpretative quality, whilst the realisation of the project was conceived in unison with the Clore Art Studio in Manchester Art Gallery.

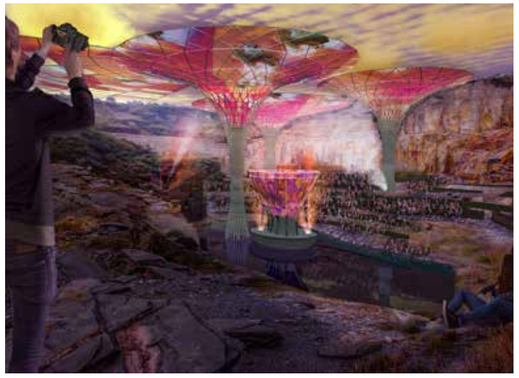
In the brief time frame students not only developed an understanding of the historical event of the bomb but designed art installations that represented different aspects of the explosion which arguably acted as a catalyst for regeneration in Manchester. Additional dynamics included the designing with consideration of a limited construction time and mobility of elements of the design.

After seven days of determined work the exhibition 'Portal' was successfully realised and engaged members of the public in an interactive and informative way showcasing the talents of the first and second year architectural students. The resultant outcome was four individual yet narrative telling installations that portrayed unique and exciting experiences using a mix of physical and digital elements that considered connection with multiple senses.

Jessie Yang Hu, Dominic Garrett



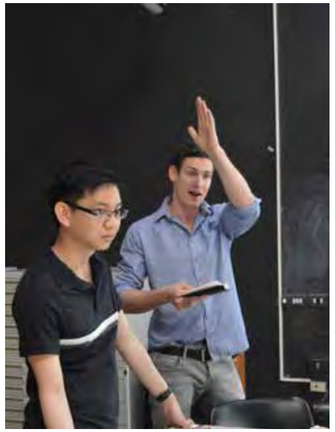




qed

M Arch 2

Mohammed Ezzad Abu Bakar / Irina Adam / Hakym Ahmad / Luke Carver / Gavin Chan / Cheryl Chin / Mark Eden / Rafat Jahandideh / Zatul-Hazirah Mohamad-Khoiril / Muhammed Akmal Waluddin Mohd Kamaludin / James Lawrence / Siew Yong Lim / Siti Syamimi Binti Sazali / Basil Wong



M Arch 2

Study Trip

Florence

M Arch 2

Thesis

qed:air

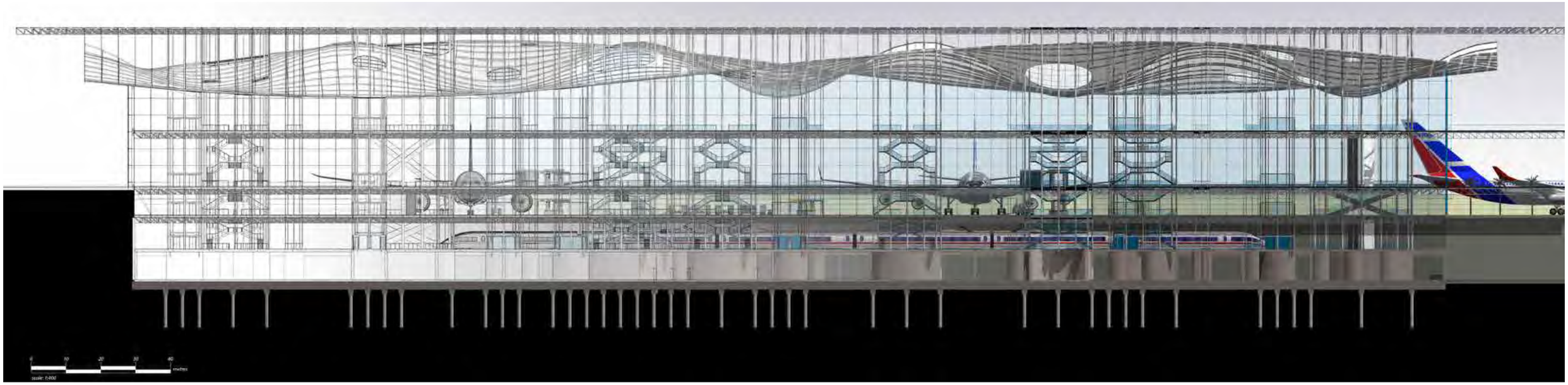
Mark Eden
Rafat Jahandideh
Basil Wong

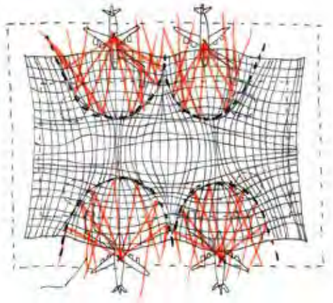
Cuba Expo Terminal

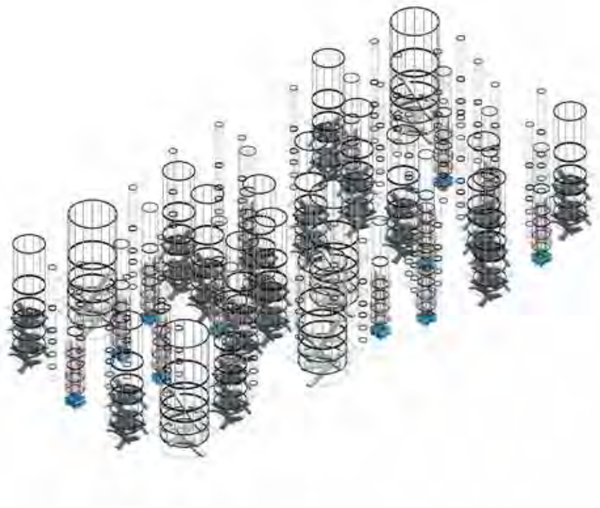
With aviation passenger loads set to dramatically increase by 2050, the thesis explores the design potentiality of an airport through better integrated solutions. The project creates additional aviation infrastructure in Cuba which is primarily orientated towards developing the economy of the country as it prepares to step into whole new world of development with the end of the trade embargo with the USA.

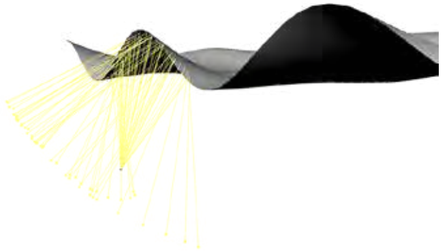
The airport seeks inspiration from nature to respond directly to its tropical climate by taking on board the key aspects of a Cuban rainforest and embedding them into its ecological strategy.
By decentralising the movement of the passengers and multi nucleating them from below, it allows the building program to be maximised by hybridising its function by integrating a trade expo environment within it. The strategic linear typology has an ability to expand embedded into its logic, allowing the building to evolve in time, always being under construction while continuously running operationally.

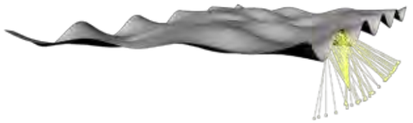
Mark Eden

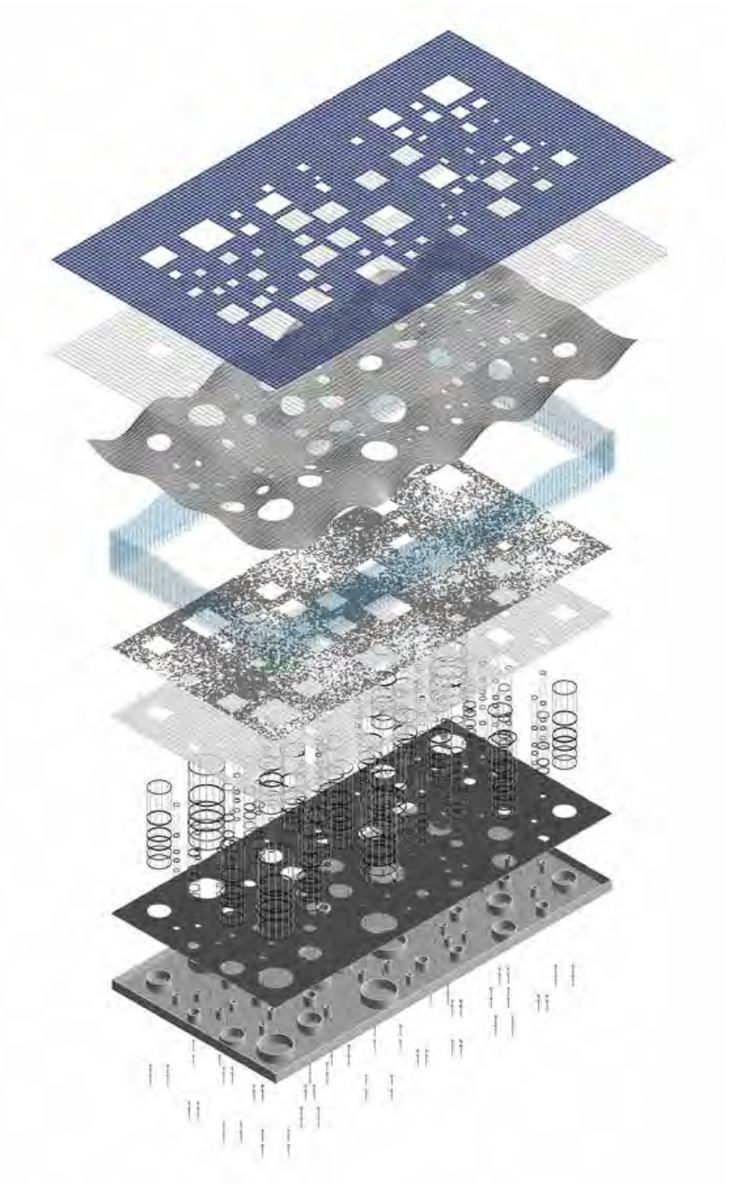












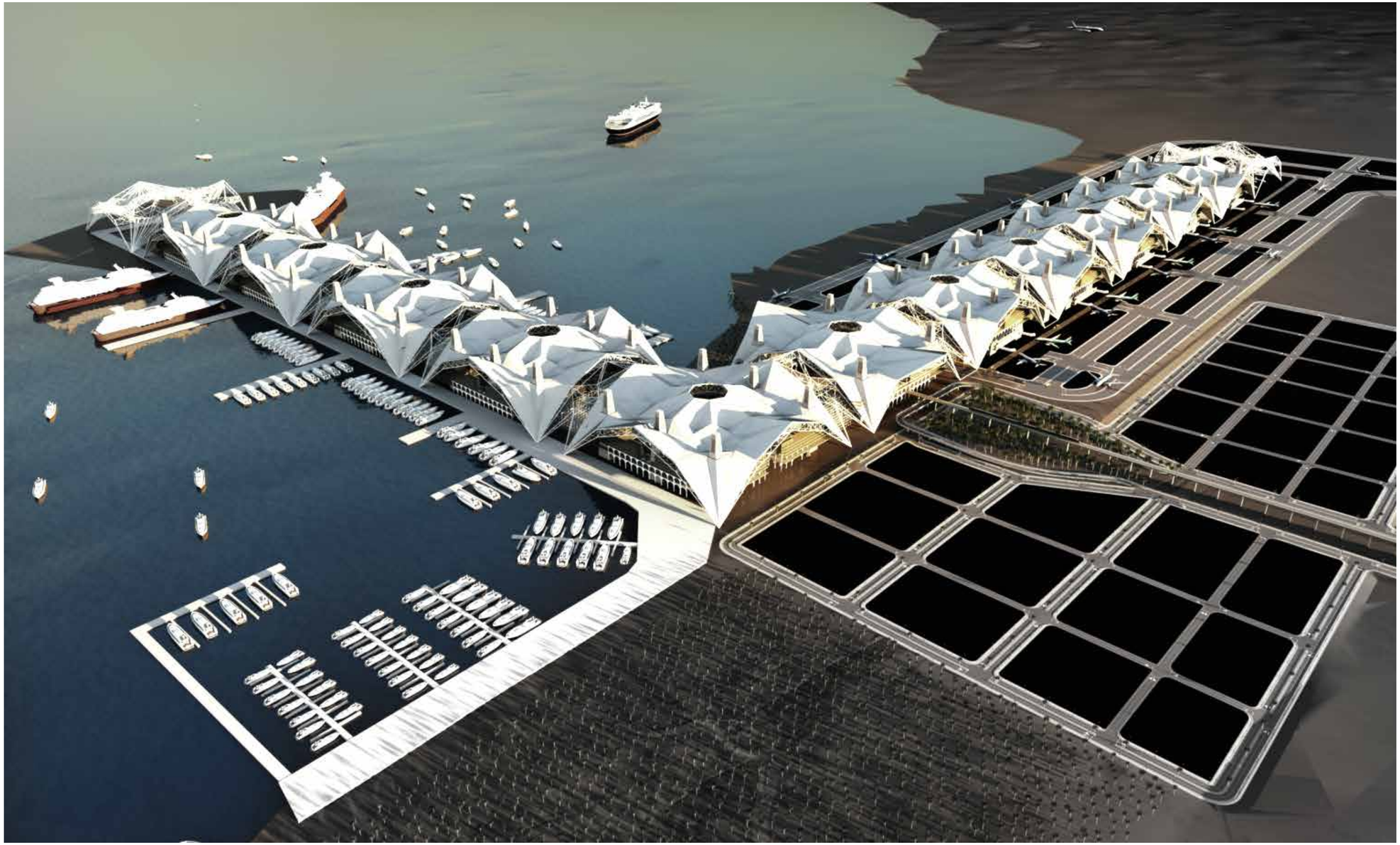
Caravanserai

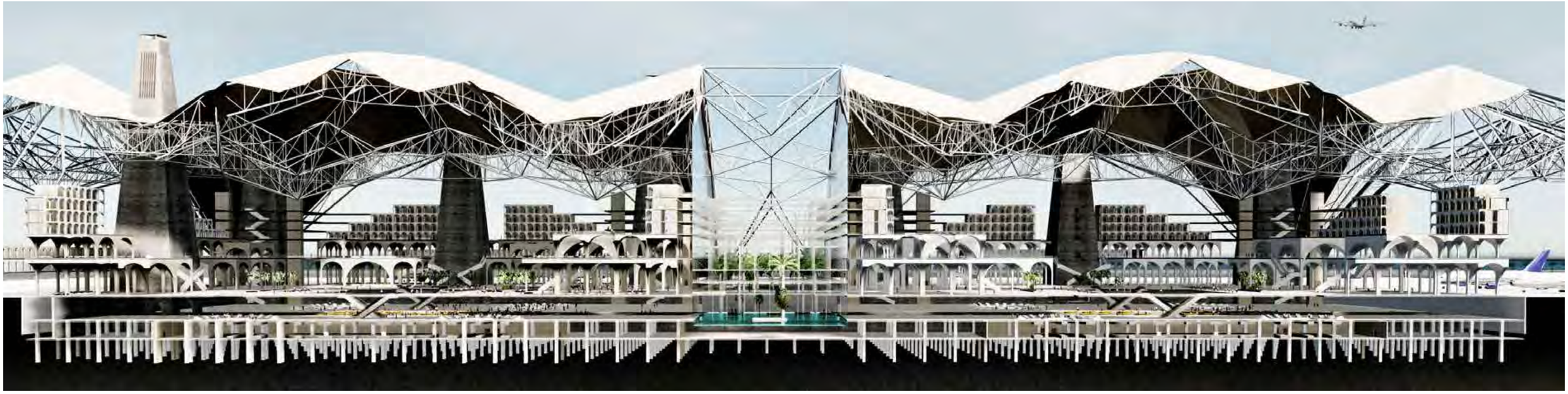
Emerging from the desert, South Iran, Abadan's intermodal Aero / Boat terminal is the Persian night's fantasy of arches, domes and pillars stretching in tessellated patterns across the coast line of Persian Gulf, it's the final destination of a desert promenade, a garden on the coast, a shelter of light in the daytime and a fresh refuge at night. Outside, palms sway in the desert breeze and beneath them families gather to greet or bid farewell to travelers.

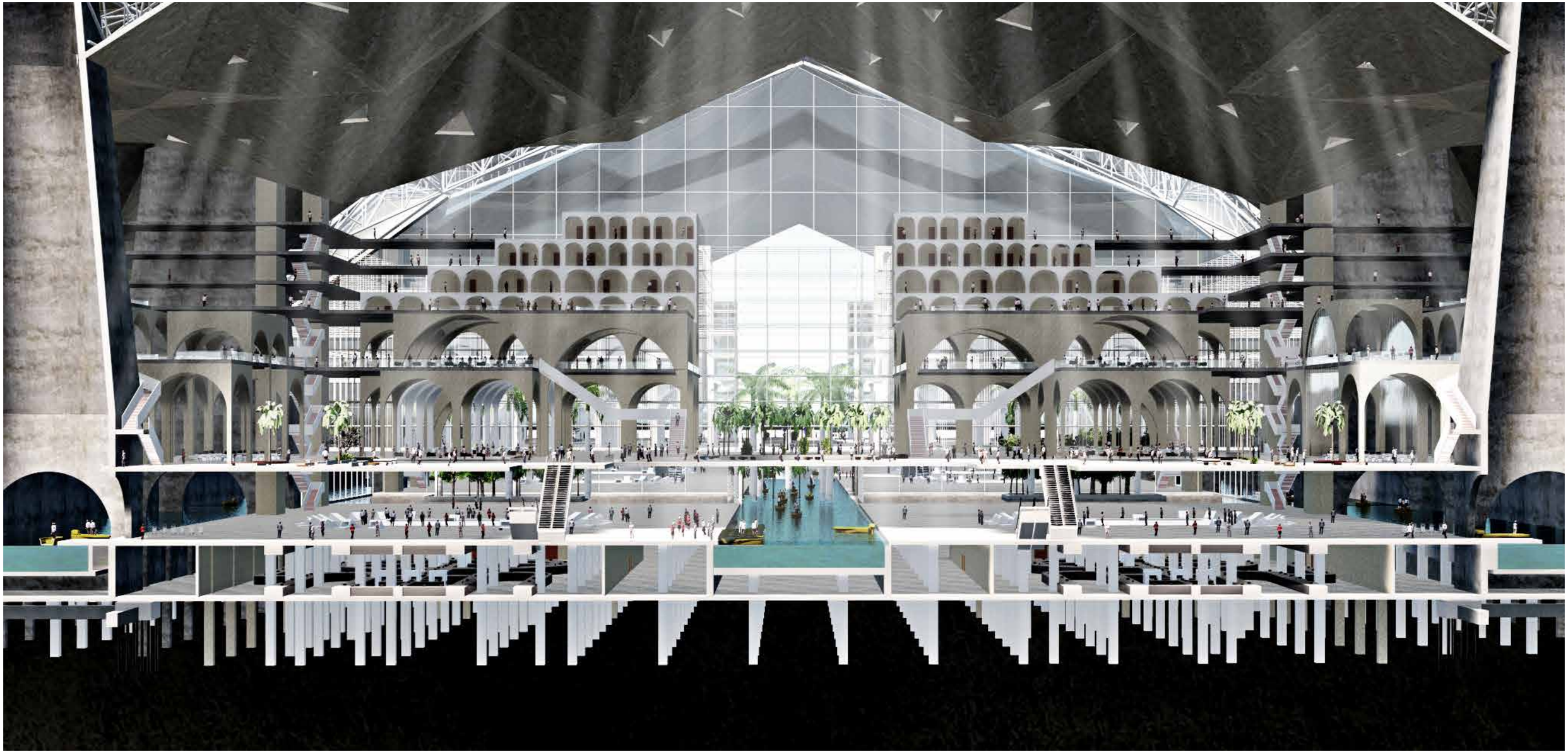
"Would but the Desert of the Fountain yield
One glimpse - If dimly, yet indeed, revealed
To which the fainting Traveler might spring,
As springs the trampled herbage of the field!"

Poem by rubaiyat_of_omar_khayyam.

Rafat Jahandideh







Water canal

"There is a moving palace
That floats on the air
With balconies and clear water
Flowing through
Infinity everywhere
Yet contained under a single tent"

Poem by Rumi

Penang Agricultural Eco City

Penang has a population 1.6 million people. Recently economy development and property boom have resulted in many farmlands on the island to be developed into more profitable high-rise projects. Though a large area of the west side of the island are still underdeveloped and consists mainly agricultural lands, as Penang is an island, these lands will eventually give way to commercialization due to the soaring land price.
The project is used as a test-bed to explore the possibilities in urban agriculture on a city scale with a hybridized airport, central market and transport hub as the heart of the city. Through strategic programs, urban agriculture can continue to thrive as an opportunistic and entrepreneurial practice with profound social and economic benefits for the Eco-City.

Basil Wong

Master Plan Strategy
By integrating the Penang Transport Master Plan 2025 with the airport's transport infrastructure (LRT, Metrolink, BRT, railway and tramlines), additional functions can be added to the airport. Other than being the gateway into Penang Island, the airport will be linked to the transportation networks distributed across the island, state and country. This enables the implementation of in-town check-in system and 'Park-and-Ride' services at designated points to reduce the number of vehicles on the road. Produce from the farms will be distributed across the island via the transportation networks.

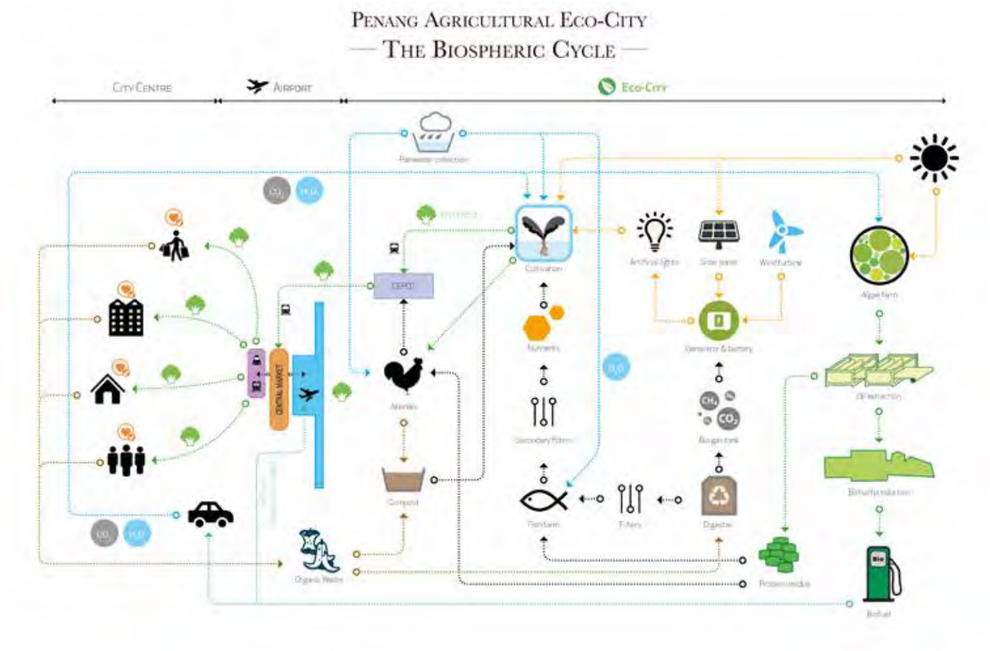
Farming System

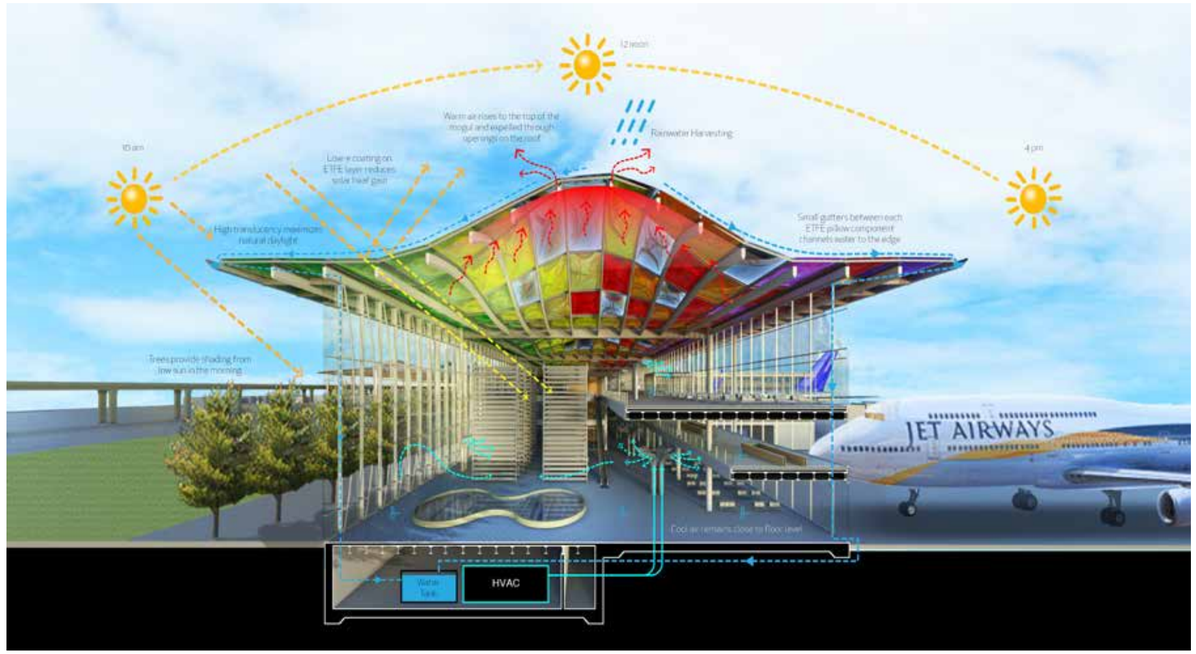
The major feature of this airport is the flexibility that allows the passengers to hand-picked the fresh produce and have them cooked and served on the aircraft later. Airline meals are often prepared at least 24 hours before the flight. Although airline meal caterers adopt a strict health and safety measures on their food, the freshness is often questionable. Through this 'Pick-and-Cook' scheme, the freshness of your food is guaranteed and plus, you can bring them on the plane and enjoy it fresh from the airside kitchen.

The vegetables are grown in an aquaponics system. The plants will be grown in vertical growing towers powered by a unique gravity aided water-pulley system that uses collected rainwater. More ecological value is added to the system by integrating the cultivation process with fish farming.

Ecology

By strategically managing the resource flow, the project will explore the ways of reducing the energy and resources currently expended on food production, including reducing the impact of urban waste streams like storm water, greywater, black water and food waste. Instead of having separated large-scale mono-functional operations, the project will bring together a whole range of productive processes in a way that allows inputs and outputs to be connected up to form a closed-loop model while incorporating community-friendly programme to reconnect people with food in a sustainable urban living environment.





Environmental Strategy

The key element of the building is the modular steel frame structure and the ETFE roof. ETFE has some very useful physical properties such as lightweightness and has high insulating value when multiple layers of ETFE are used. ETFE film insulation properties are more effective than glass thus reducing solar heat gain. Radiant floor cooling directly removing radiation striking the floor. The floor stays cool, increasing thermal comfort. By partitioning the building in zones of unconditioned spaces and cooled occupied zones, the total cooling demand is drastically reduced because air-conditioning is only administered where needed.

Central Market

Upon arrival, passengers are welcomed by the Central Market consisting of a series of food streets with high-end, as well as more vernacular shopping spaces, in particular a specialty area carrying local fruit plants, vegetables, trees and flowers. The courtyard market units implement numerous types and arrangements of vegetation particularly vegetables, including horizontal landscaped podiums, green rooftops, and vertical green walls, all of which are integrated into a spacious central courtyard. The courtyard is comprised of elevated, landscaped flower gardens and socialization spaces. On the other side, the food market provides first-hand introduction of Penang to the newly arrived visitors. At night the food stalls lights up like a lantern illuminating the food market. The space is completely transformed into a blissful night market or 'pasar malam' fancied very much by the locals as well as foreign visitors.

M Arch 2

Study Trip

Cornwall

We have chosen to study Cornwall due to its unique characteristics and unexpected contrasts. It is known mostly for the beauty of its landscapes, which makes it a popular touristic destination, especially in the warm summer months. The beauty of the Cornish nature has inspired a great number of artists and a strong artistic culture was born, which we have seen in the numerous art galleries and particularly in the Tate in St Ives, the only one in the UK outside of London and Liverpool.

The other unique aspect of Cornwall is hidden underneath what tourists see. Its geological composition is distinctive due to continental collisions that occurred in the Carboniferous period, which means that Cornwall is incredibly rich in mineral resources, particularly granite, which is the source for the highest levels of geothermal energy in the UK. Given Cornwall's reputation for geographical beauty, an unexpected feature is the highly toxic ground composition – the arsenic content here is the highest in the country.

What we envisage for the future is a rising knowledge based economy that is grounded on a regenerated Cornish landscape. Our individual projects will each explore such potential interventions, with the aim of providing a comprehensive compendium of how Cornwall can move towards a successful economic, social and environmental future.

M Arch 2

qed:land

James Lawrence
Irina Adam
Cheryl Chin
Muhammed Akmal Waluddin Mohd Kamaludin
Siew Yong Li

Delabole

Delabole quarry is the last operating slate quarry in Cornwall. Previously attracting thousands of people for work, the quarry is still in operation however only employs around 7 people. Today the picturesque site attracts a small number of walkers and passing tourists each year but is economically dependant on bespoke commissions.

Of all the material excavated from the site only 20% of the material processed actually creates a salable product. The ground water that constantly refills the quarry is used as a cooling lubricant in the cutting process and this must be maintained to prevent the quarry from filling. The waste material produced is returned to the floor of the quarry or sold as aggregate and due to its inefficiency, this process and the waste produced is inherently very expensive. Therefore there is an economic need to produce a high value product to make it a viable economic model.

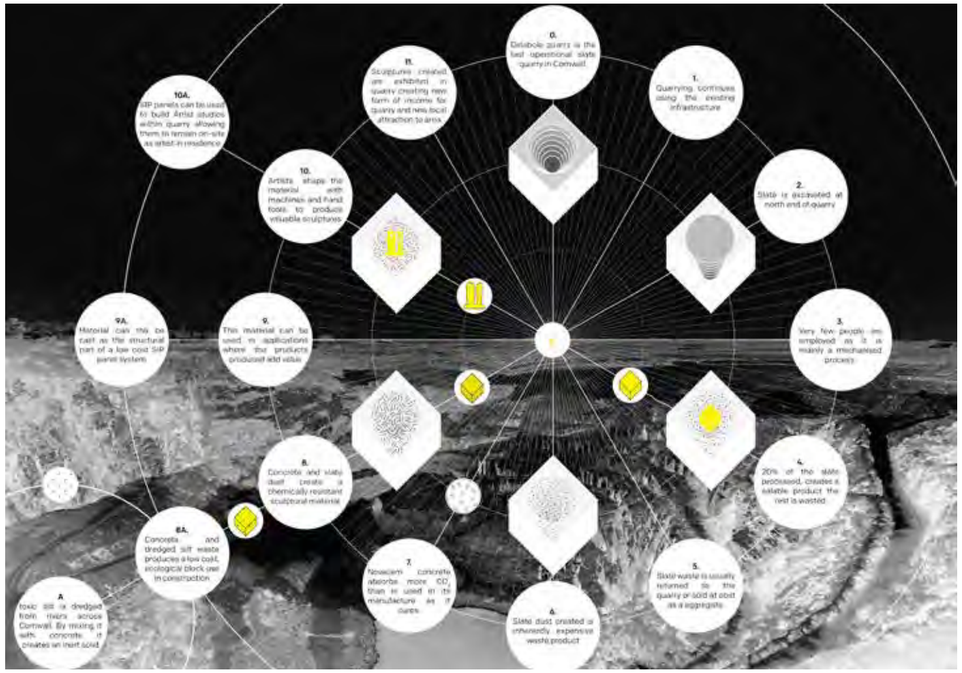
I propose a parallel industry to work with the existing site and processes. This industry picks up from where the other processes fall away, at the creation of waste. Through innovation and the addition of a key new ingredient, Novacem* cement, a new material can be created from the waste. This material can then kickstart a parallel industry, connecting back to Cornwall's historic affiliation with art in order to create a high value product.

The material created, named Slatecrete, has been tested and is ideally suited to sculpting and casting. By then providing accommodation on site this will attract artists to come to the site, to work with the material, producing sculptures that can be exhibited, attracting tourism and visitors form across Cornwall and internationally.

James Lawrence

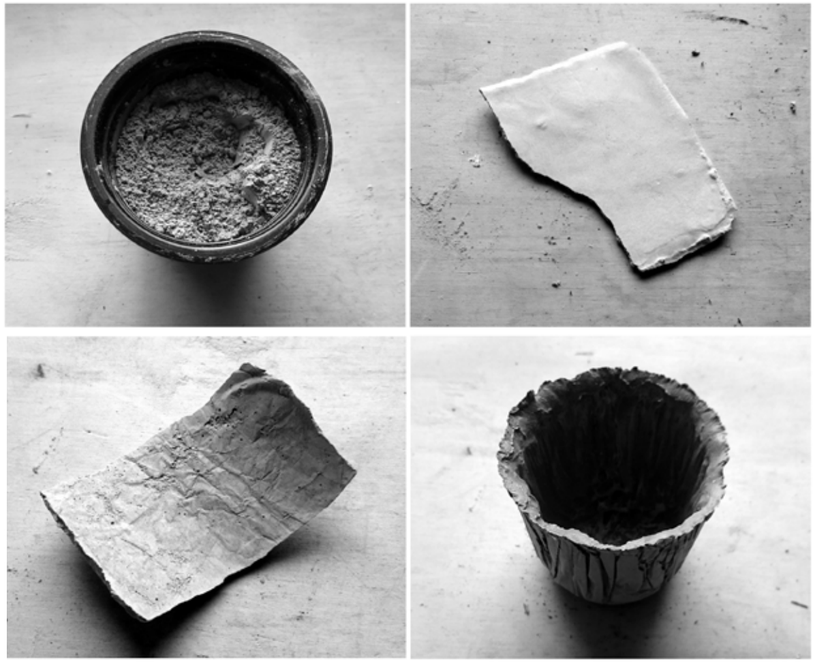
Concept

The intension is for the quarrying process on site to continue at its current rate. This will see the quarry maintain its operation for the next 100 years until it exhausts its mineral rights. Then from this process, the secondary process of the waste being converted into Slatecrete [8] to be used in high value art sculptural pieces. The potential of the binder also then allows a tertiary process [A] of using a further waste product, toxic silt from the river beds of Cornwall to be introduced. This when combined with the Novacem cement creates a building material in the form of a SIP panel system. This can then be used to build artist accommodation to allow artists to remain in residence on site, increasing the attraction of the site for artists and then tourists while using another waste material.

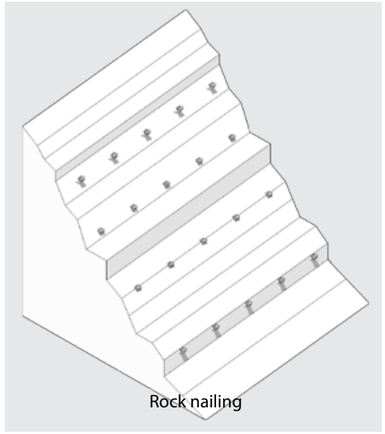


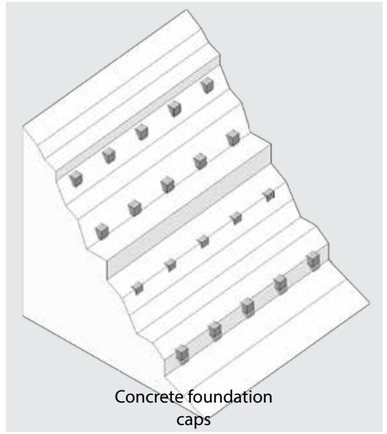
Material

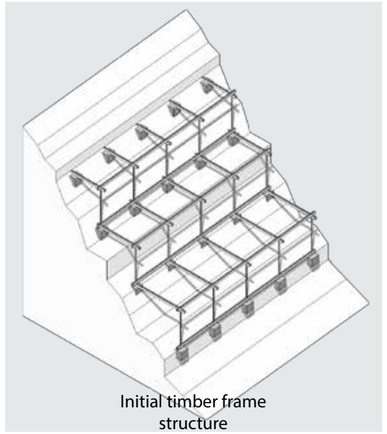
The material I have created by mixing slate dust waste with the Novacem* cement binder creates an extremely smooth and adaptable paste. Closer in consistency to plaster than concrete. This material is highly malleable with the chemical resistance associated with slate while being far more easily worked. I propose that this material be ideal for sculpting and molding, producing a material with an aesthetic that is sui generis to Delabole, much like the old slate buildings within the town.

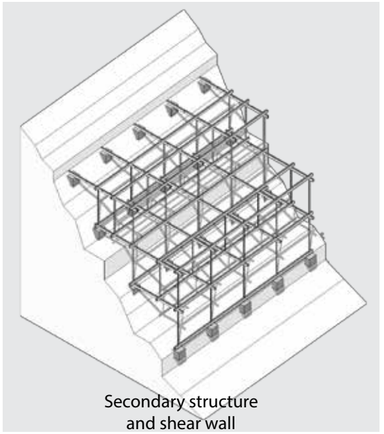


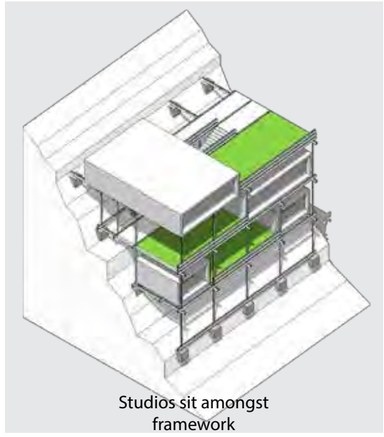
Construction of framework and artist studios


Rock nailing

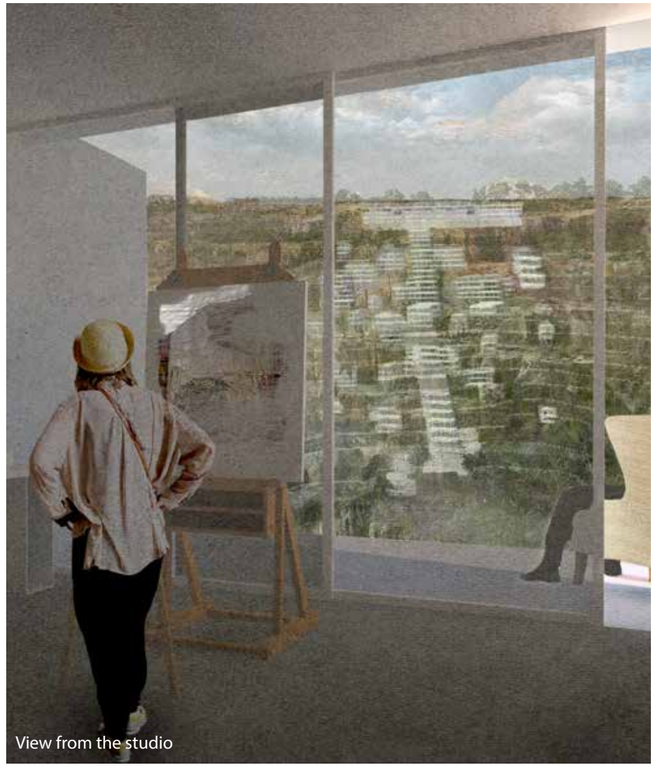

Concrete foundation caps

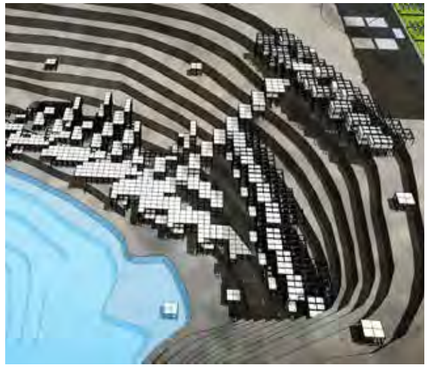

Initial timber frame structure

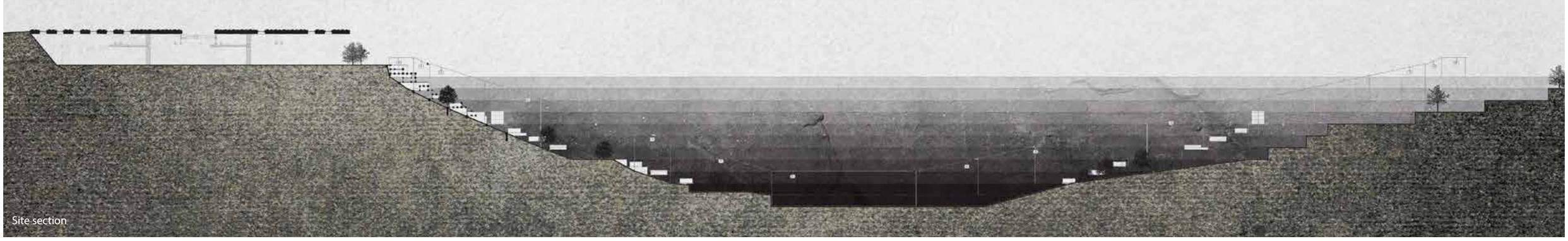

Secondary structure and shear wall


Studios sit amongst framework

Artist studios occupy the quarry slope


View from the studio


Framework adaption to rising quarry water level

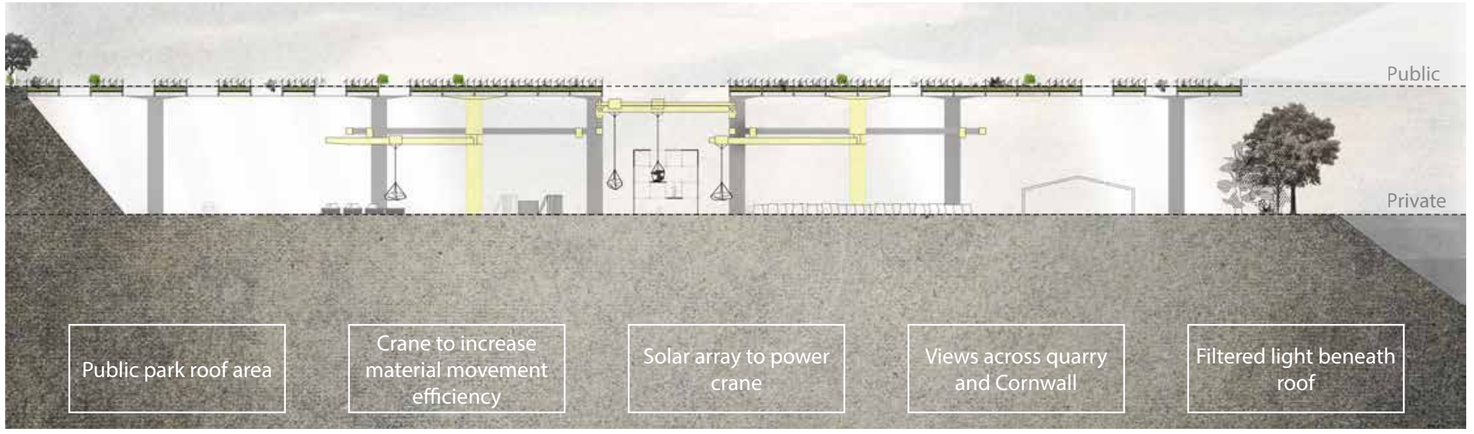

Site section


Solar PV Green Roof

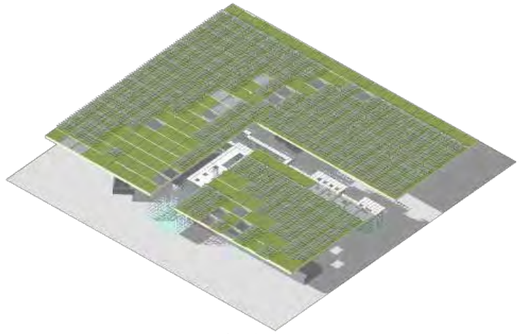
Entrance to new processing

Slate Processing

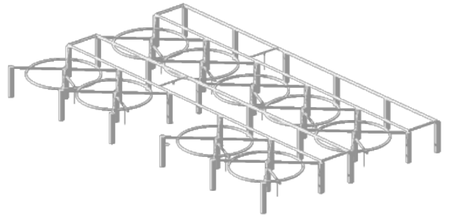
The processing plant is a hybridized system between old and new with a roof and crane system linking the two. The roof acts as a continuation of the topography behind the existing processing, and an energy production area via solar PV cells. Beneath this the new processing then fits between the old buildings and by removing the roofs of the buildings the crane can gain comprehensive access.



Solar PV Green Roof

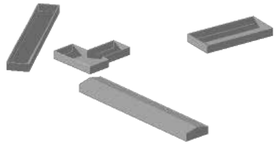


The Crane



New Processing

Existing Processing



Delabole Amphitheatre

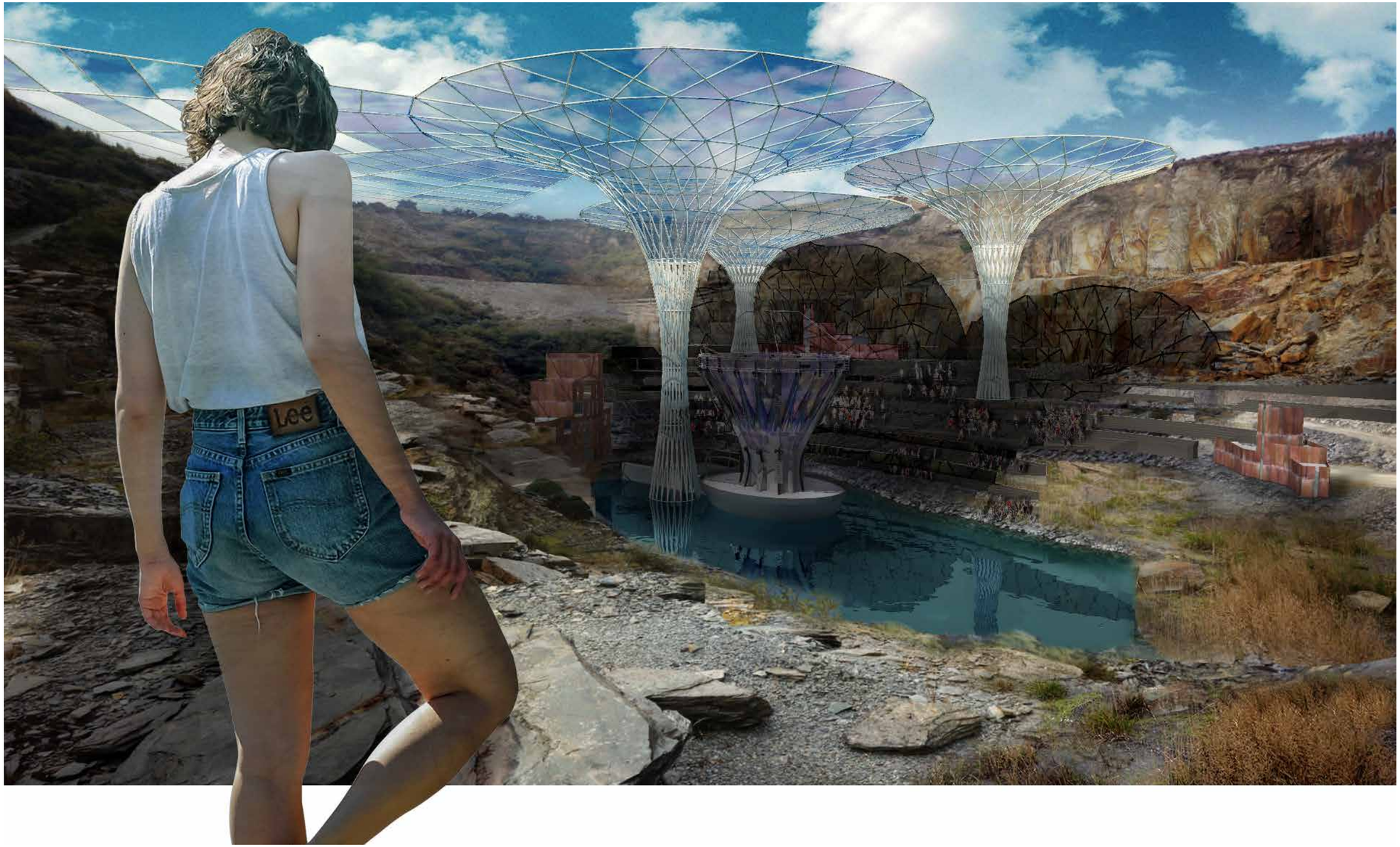
The Delabole quarry in Cornwall has been producing slate since the 15th century. Nowadays, only a small portion of the quarry is still in use and the leftover landscape is ready for new development.

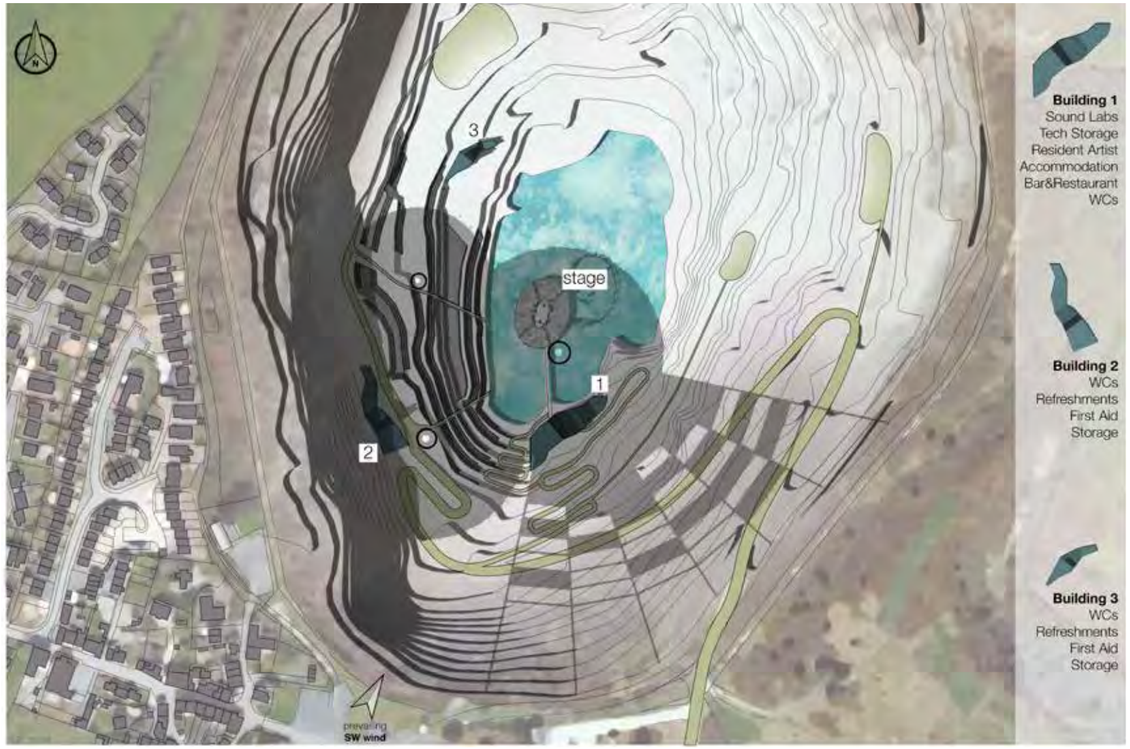
Cornwall has a strong art culture, meaning people are highly welcoming of artistic and cutural interventions. The musical culture is expecially strong, with many concerts being organised throughout the county, particularly towards the coastline. In addition, there already is a high touristic traffic around Delabole (Tintagel Castle, Port Isaac, Bodmin Jail, Jamaica Inn, Launceston Castle etc.), meaning that a new intervention will fit into an existing network of already established activities. As Cornwall is quite a poor county, a new artistic venue on the large scale of Delabole would bring new life into the area and generate more employment opportunities whilst helping the nearby village grow and redevelop.

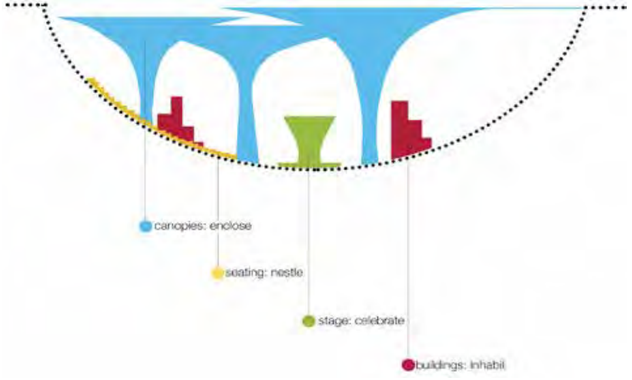
Delabole Amphitheatre invites visitors to open-air performances such as concerts and theatre plays in a dramatic natural landscape. The unique geography of the space also makes for an excellent sound laboratory, where resident artists can practice their craft. The site offers accommodation, technical rooms for equipment and sound labs, as well as facilities and refreshment points for visitors.

The Delabole amphitheatre will be the most beautiful performance space in Cornwall, with visitors coming from all over the country to enjoy performances that utilise the quarry's natural qualities. As traffic increases, the infrastructure in the Delabole village will grow, new jobs will be created and the area will be revitalised.

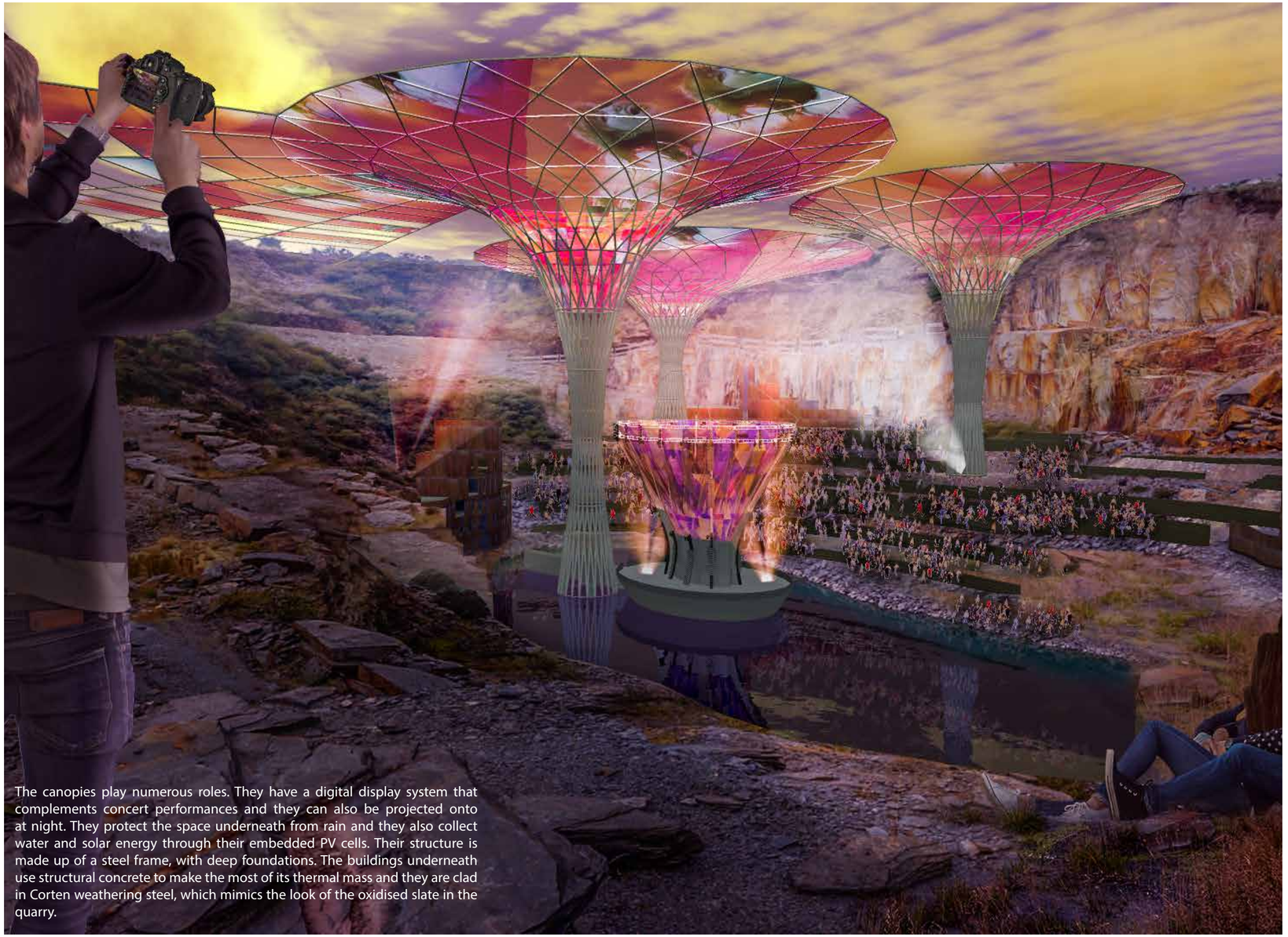
Irina Adam



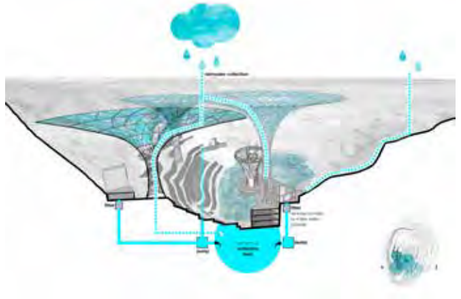


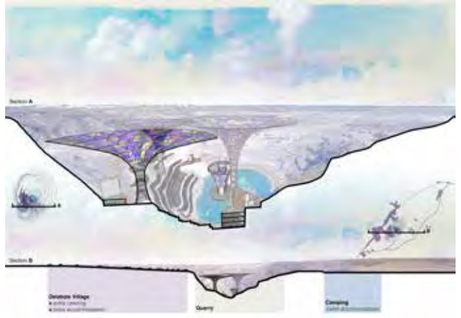


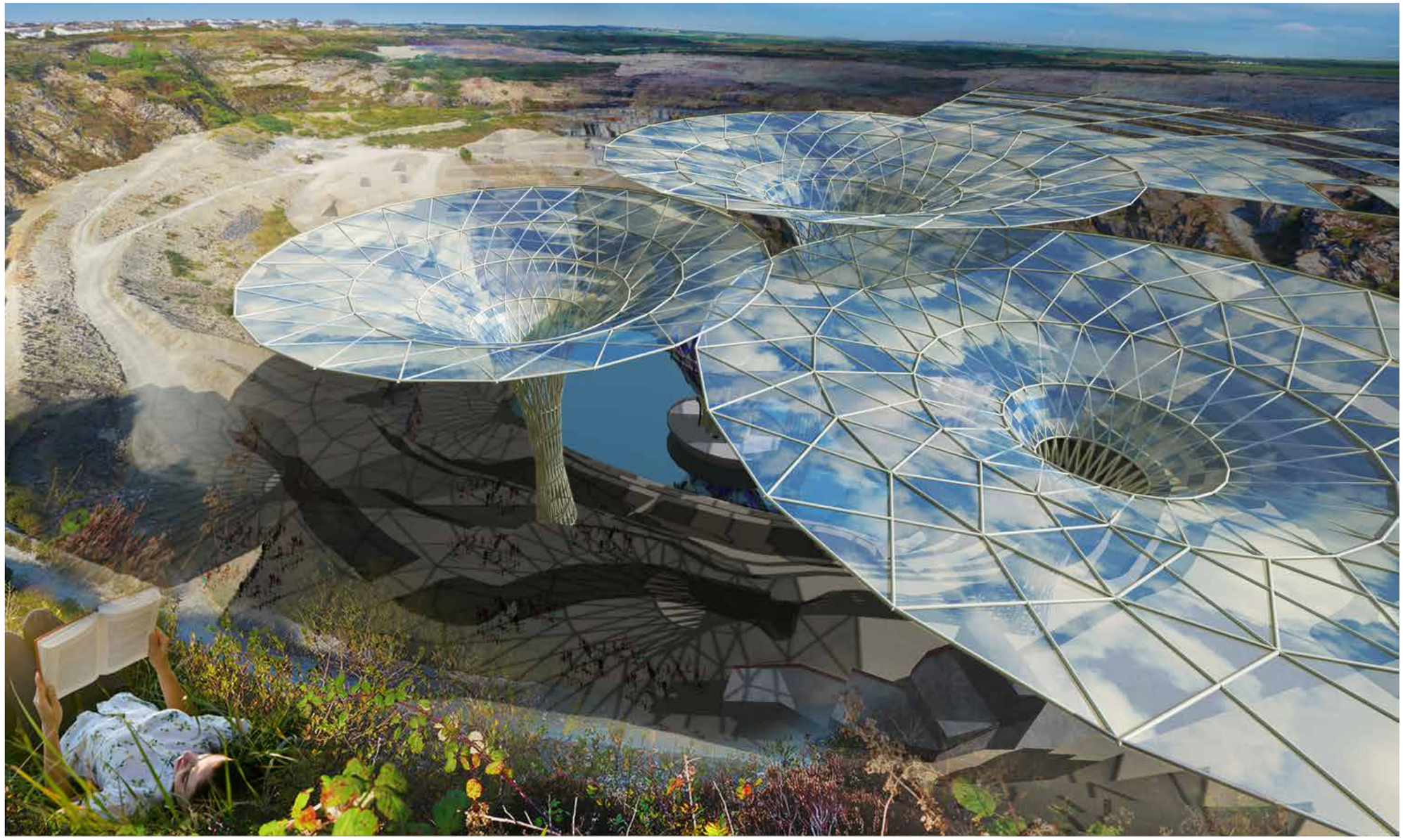
The quarried out "bowl" shape of the site has become a natural amphitheatre, creating the ideal opportunity for an outdoors performance space. With the seating nestled into the quarry wall, the floating stage becomes the central feature, at the heart of the existing lake. The auxiliary programme has been housed in enclosed buildings that use the language of traditional Cornish architectural motifs, such as tin mines and old castles. In order to keep most of it outside and to allow people to enjoy the natural landscape, tall canopies are erected and create a new "biome" by protecting the programme underneath from the elements. These are modelled after the native gunnera plants of Cornwall, which have a long, thin structural stem and wide leaves that enclose the space underneath them.



The canopies play numerous roles. They have a digital display system that complements concert performances and they can also be projected onto at night. They protect the space underneath from rain and they also collect water and solar energy through their embedded PV cells. Their structure is made up of a steel frame, with deep foundations. The buildings underneath use structural concrete to make the most of its thermal mass and they are clad in Corten weathering steel, which mimics the look of the oxidised slate in the quarry.







Wheal Jane Light Box

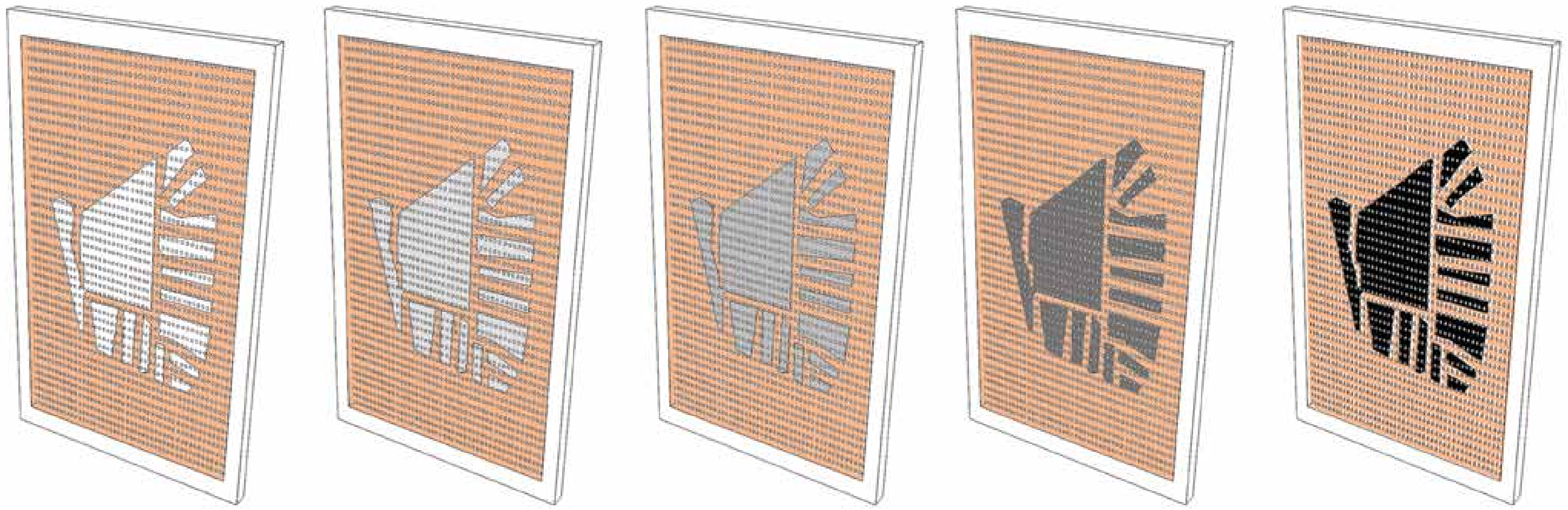
The Wheal Jane Light box was founded on the principle that an integration of art, science as well as business partnership to create innovative and effective ecological interventions. The initial intention of this project is to create a platform for the celebration of the character of the unique landscape in Wheal Jane in paintings. Artist in Residence sets up easels quickly to transcribe the beautiful landscape of Wheal Jane in front of their rooms to shape them on canvas.

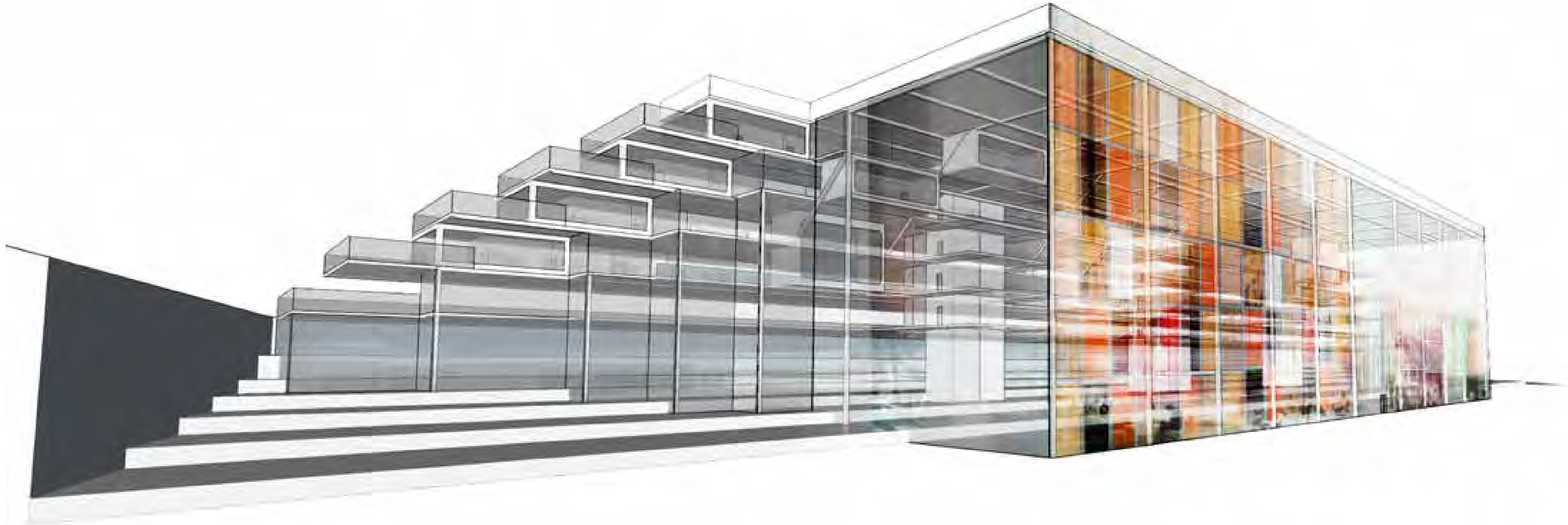
The idea is to glimpse into the artist's own personal and physical relationship with the place and it also enable cross over between art, science and business. This could potentially resulted in successful environmental remediation projects and generate more revenue through the hybrid characteristic of the proposed building. The Wheal Jane Light box hosts multi-disciplinary programs that are organized around an interior atrium of varying levels and an exterior landscaped courtyard and a live painting and researching platform, this will foster collaboration across two different disciplines, the art and science.

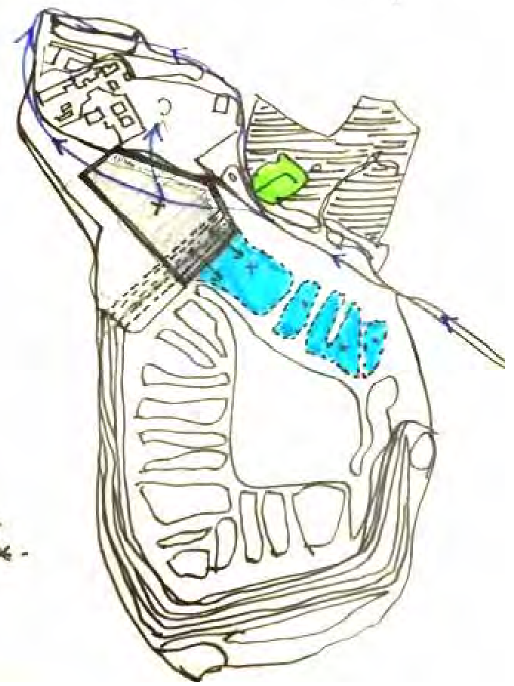
The dye used in the making of the main glass facade will be made from iron pyrite extracted from the Clemow Tailing Dam on site. The amber and yellow rusty tones, mimicking the color of the toxic water in Wheal Jane, characterize the building from a visual point of view the main north facing glazed facade, making a bold statement when visitors enter the site.

In the atrium space, we can see how sunlight casts images onto the floor and walls, showing how the coloured glass facade can throw coloured patterns around the open plan office building to create a lively working environment. This huge atrium acts as a creative backdrop to host different exhibitions in the characterful landscape of Wheal Jane. It is also flexible enough for easy reconfiguration for adaptive reuse as well as to accommodate various events from weddings to parties to corporate events and seminars.

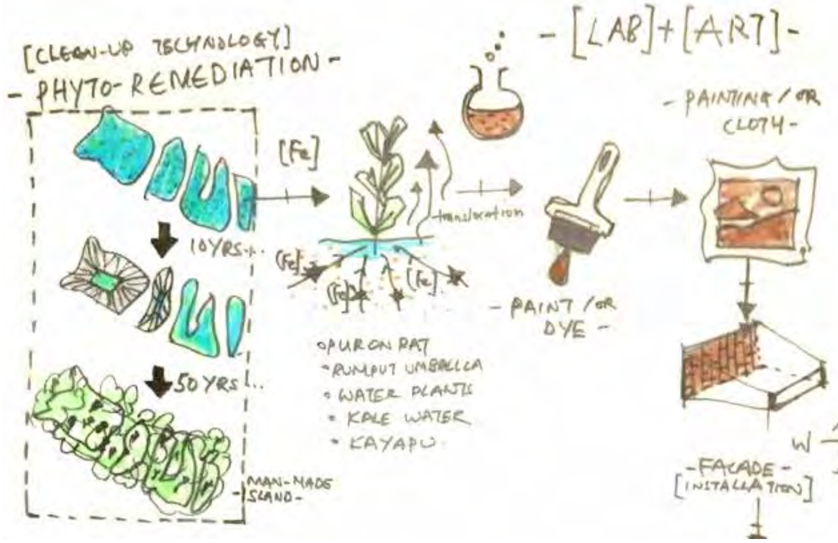
Cheryl Xin Hui Chin







FO-NORTH-EAST FACADE -



[CLEAN-UP TECHNOLOGY]
- PHYTO-REMEDIATION -
- [LAB]+[ART] -
[Fe]
10YRS
50YRS
MAN-MADE ISLAND -
translocation
- PAINTING / OR CLOTH -
- PAINT / OR DYE -
RUMPUT UMBRELLA
WATER PLANTS
KALE WATER
KAYAPU
- FACADE -
[INSTALLATION]

03
04
05
06
07
LAB
OFFICE (SECURITY)
ACCOMODATION

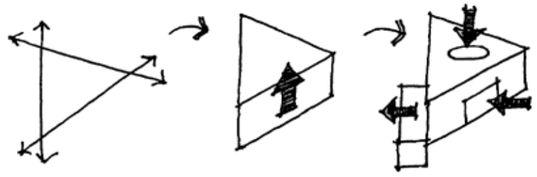
The Mine

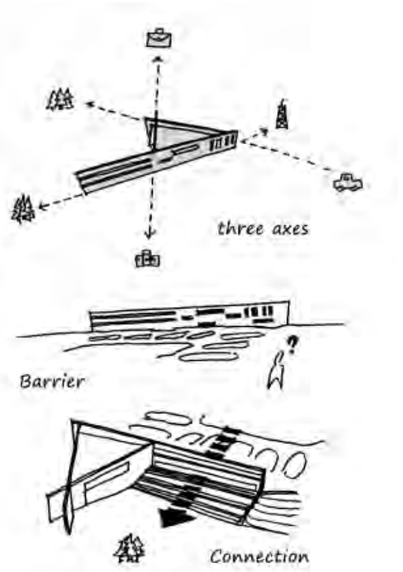
The Mine is a design thesis that investigates the transformation of the post-mining site through architectural intervention. The thesis involves in researching the mining areas around Cornwall and their transformation through natural evolution as well as redevelopment. At the end, the Wheal Jane is the site that being chosen for this thesis due to its existing masterplan proposal.
The thesis responses to the existing Wheal Jane masterplan, that further detail through the building programmes. The design intention of this proposal is to design a building that integrates all the site contexts and become the pioneer development that allows the transformation and the redevelopment of the site.

Muhammad Akmal Waliuddin Mohd Kamaludin

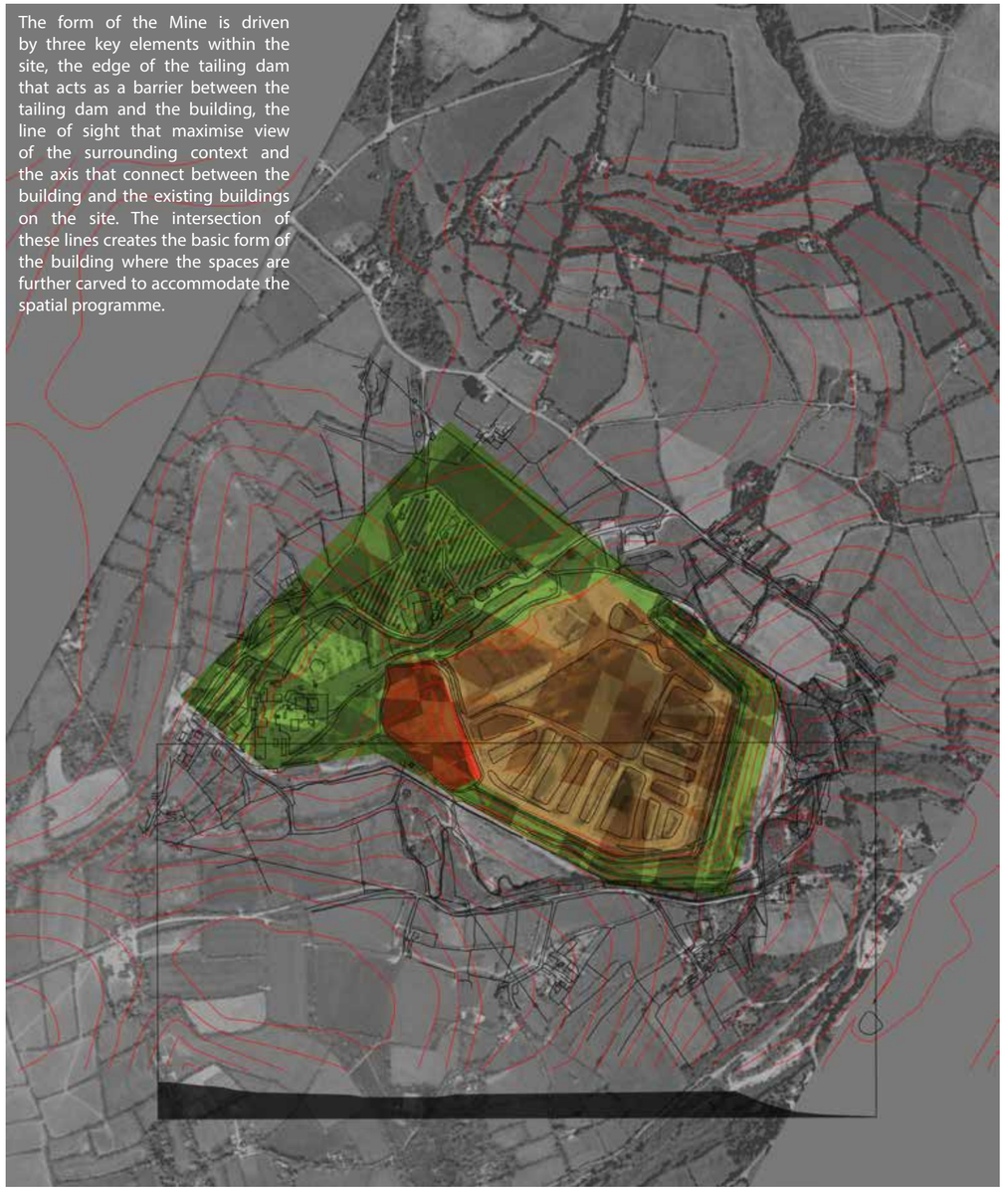
The programme proposal responses to the existing Wheal Jane masterplan that involve in remediate the site as well as redevelop the site as an Earth Science Park, a business park that integrates with geoscience industry. A Research and Development Centre (R&D Centre) is proposed for this thesis that integrates the entire existing context around the site involving the programme as well as facilities.

The R&D Centre will involve the collaboration of the existing companies within Wheal Jane Group. The group will engage in contributing their services of their expertise during and after the development of the site. The R&D Centre will be used as a research facility for the academician and the opportunities to materialise it through prototype development process.



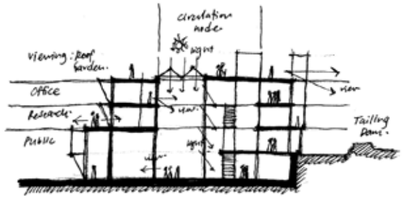


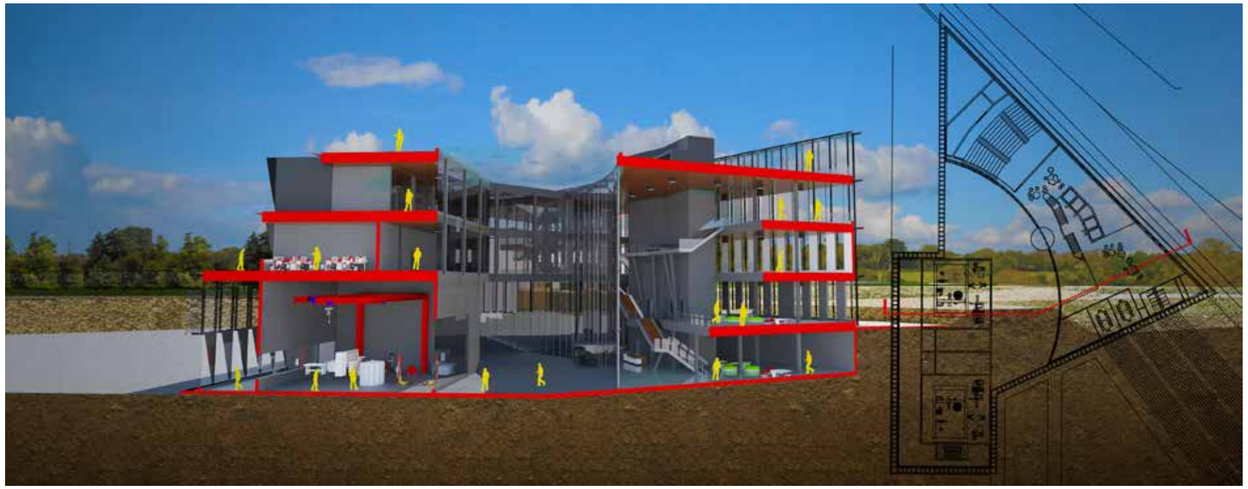
The form of the Mine is driven by three key elements within the site, the edge of the tailing dam that acts as a barrier between the tailing dam and the building, the line of sight that maximise view of the surrounding context and the axis that connect between the building and the existing buildings on the site. The intersection of these lines creates the basic form of the building where the spaces are further carved to accommodate the spatial programme.

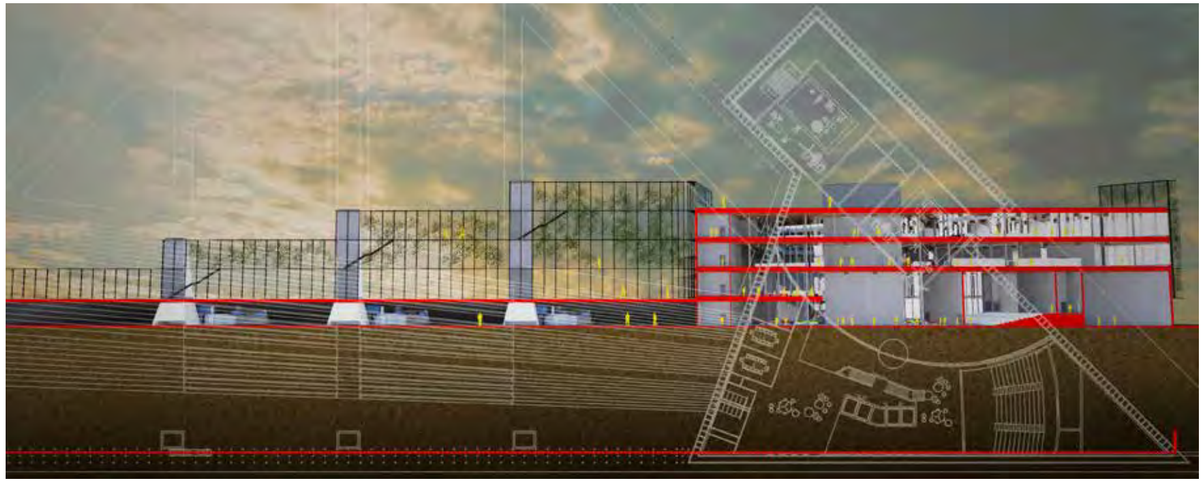


The green façade is a living façade that changes and controls the environmental performance of the building. The façade, covered by plants will naturally responses to the environmental changes especially the seasonal changes. The approach of designing a living façade into the building feature is to allow the change of the environment of the building occurs naturally. Thus, the building morphs naturally to sustain its performance both energy as well as comfort.

The building generates its own energy through a geothermal turbine that both provide electrical energy, as well as heating energy during the winter. The heat of the geothermal spins the turbine and generates electrical energy to be utilised by the building, the excessive heat steam is discharged through the cooling tower. However, during the winter, the excessive heat is used to heat up the building.



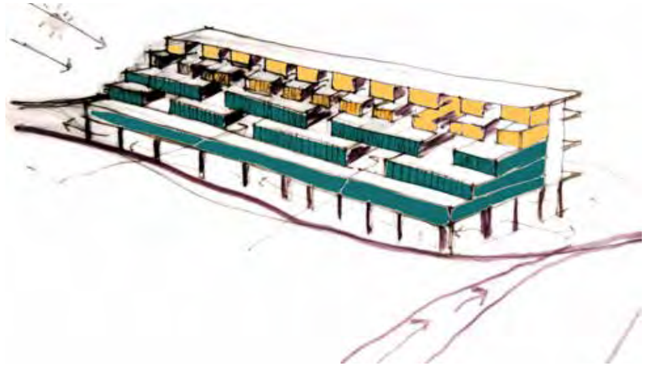


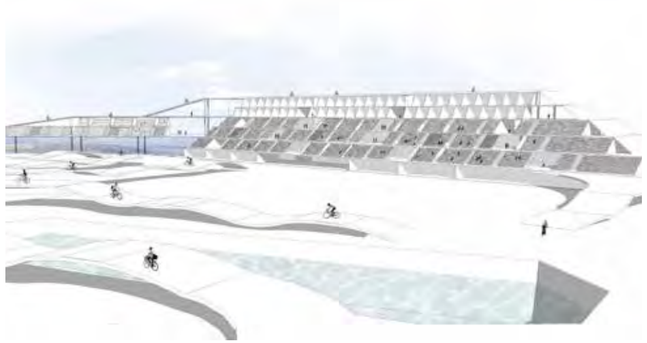


The Wheel

This thesis project is located at Wheal Jane Cornwall, which was once an important tin mine of Cornwall's mining industry. The site is relatively big and currently in the process of developing into an Earth Science Business Park through an innovative post-mining remediation project. In conjunction with the existing masterplan, this proposal aims to support this framework at each stage. By generating a hybrid office programme, the building will be able to help to return the site once again to an economic employment asset of Cornwall as well as benefits the local community in all mining-related activities.
The project also emphasises on generating a cycling related recreational programme to support existing cycling plan in Wheal Jane. The proposed cycle scape will enable small-scale recreational activities up to bigger competition scale. It is about re-energizing Cornwall's community (particularly the ageing group) as well as revitalising the area from uninviting to an enjoyable place.

Siew Yong Lim

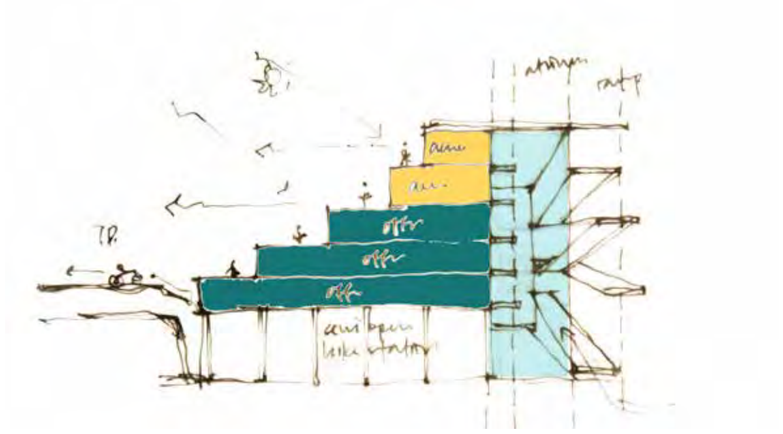


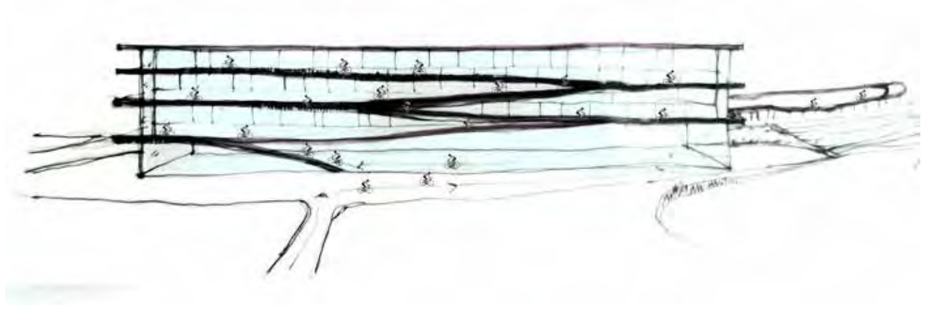


Within the building are two workspaces, one for mining consultation work, another for cycling related activities such as medical room, bike rental and bike service area. There is bike station on the ground floor and accommodation is provided for cyclists and tourists on the top floor. Acting as a global office building, there is also some quality conference rooms, cafes , and office spaces that offer spectacular views to surrounding nature.

One of the key features of the building is the public terraces on the south facade which act as an important public space for sitting, viewing and social regeneration. It allows visual connection to the proposed cycle scape as well as the landscape of surrounding countryside.

The picturesque seating terraces also serves as a large event space and it will become an object with high visibility and landmark character that act as a visual reference to Wheal Jane, Truro, and other small towns nearby.





Most importantly, this proposal embodies a positive ecological approach in design, construction, operation and use of building. For instance, the private office space is designed in a module of (8.6mx10m) so that it can be reuse or adapt to change over time. The cycle scape which formed by a series of portable tracks of different types also enable the space to work more flexibly for both recreational and competition purposes.

M Arch 2

qed:water

Hakym Ahmad
Mohammed Ezzad Abu Bakar
Zatul-Hazirah Mohamad-Khoiril
Gavin Chan

Cornish Global Marine Convention Complex

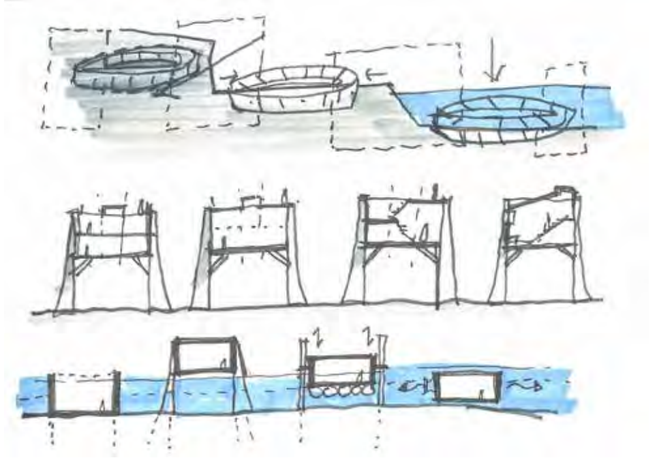
Given the context of Cornwall, in portfolio 5.1 titled THE SUNKEN CITY I was interested in investigating Cornwall through its' existing networks and history as a gateway towards the seabed intervention in which explores the potential of underwater habitation to adapt into the future of climate change and ocean ecology.

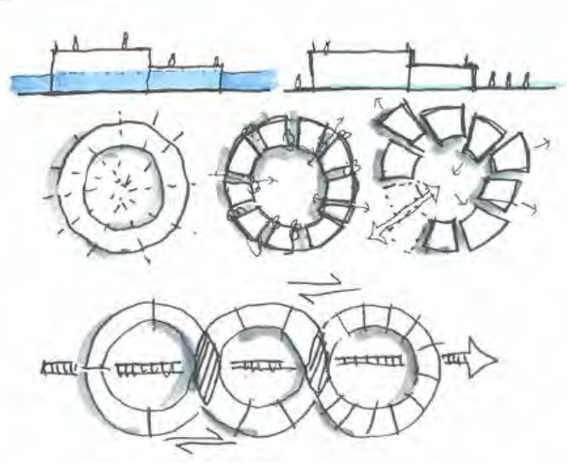
Through framed research framework, portfolio 5.2 titled SYMBIOSIS narrowed down the research into a specific site in Falmouth to develop an architectural program on site to carefully intervene the existing ecological cycle of the site as a means of positive intervention to nurture the growth of the future changes over time. The document explores the manifestation towards positive intervention model of an architectural project, which address the whole ecological 3 E's components Environmental, Equity and Economy of the context.

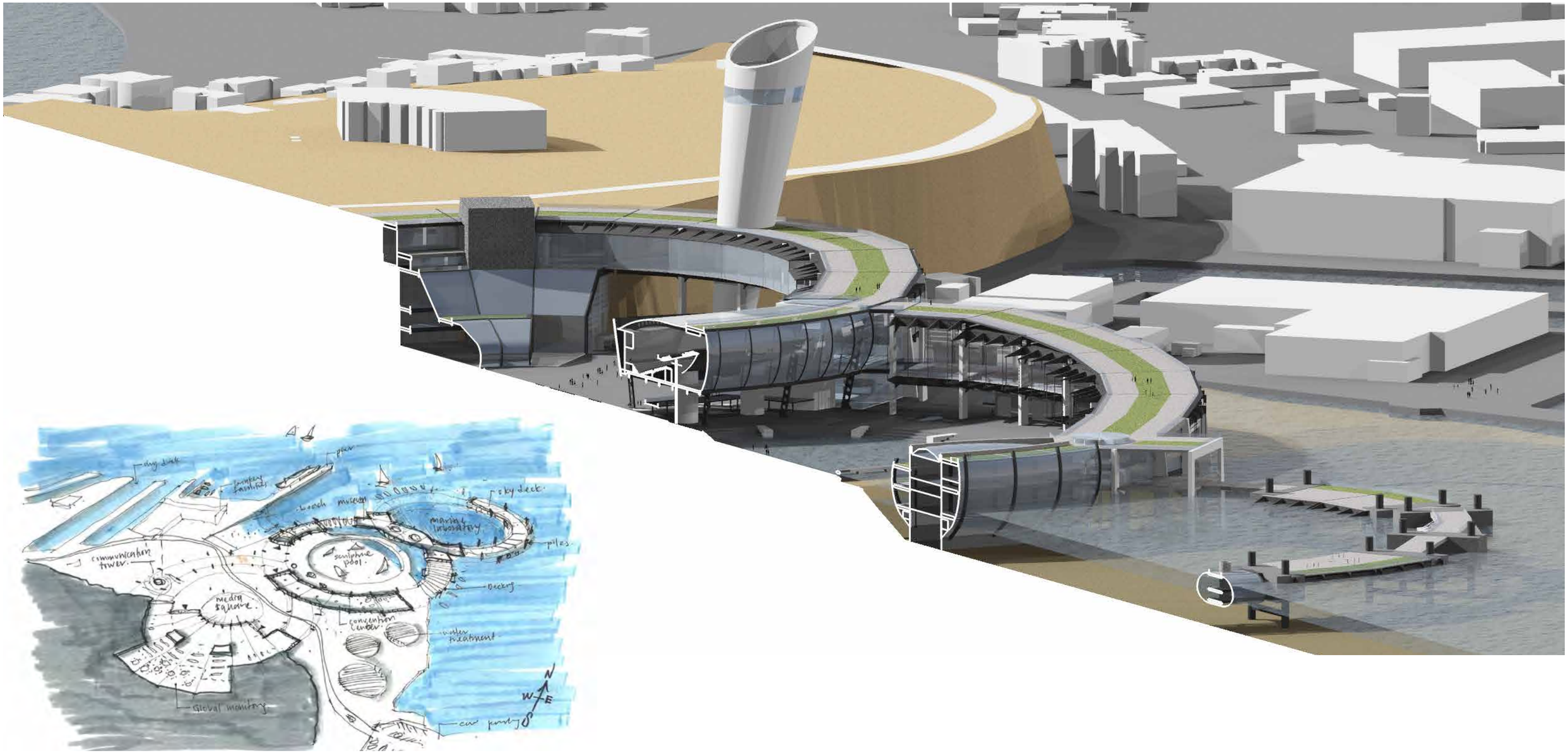
Thesis portfolio 5.3, the CORNISH GLOBAL MARINE CONVENTION COMPLEX puts the theoretical narrative into context as a derivation through a thorough process of scenario development through portfolio 5.1 and 5.2 in which exploring the global design thesis towards developing a holistic environmentally positive intervention model.

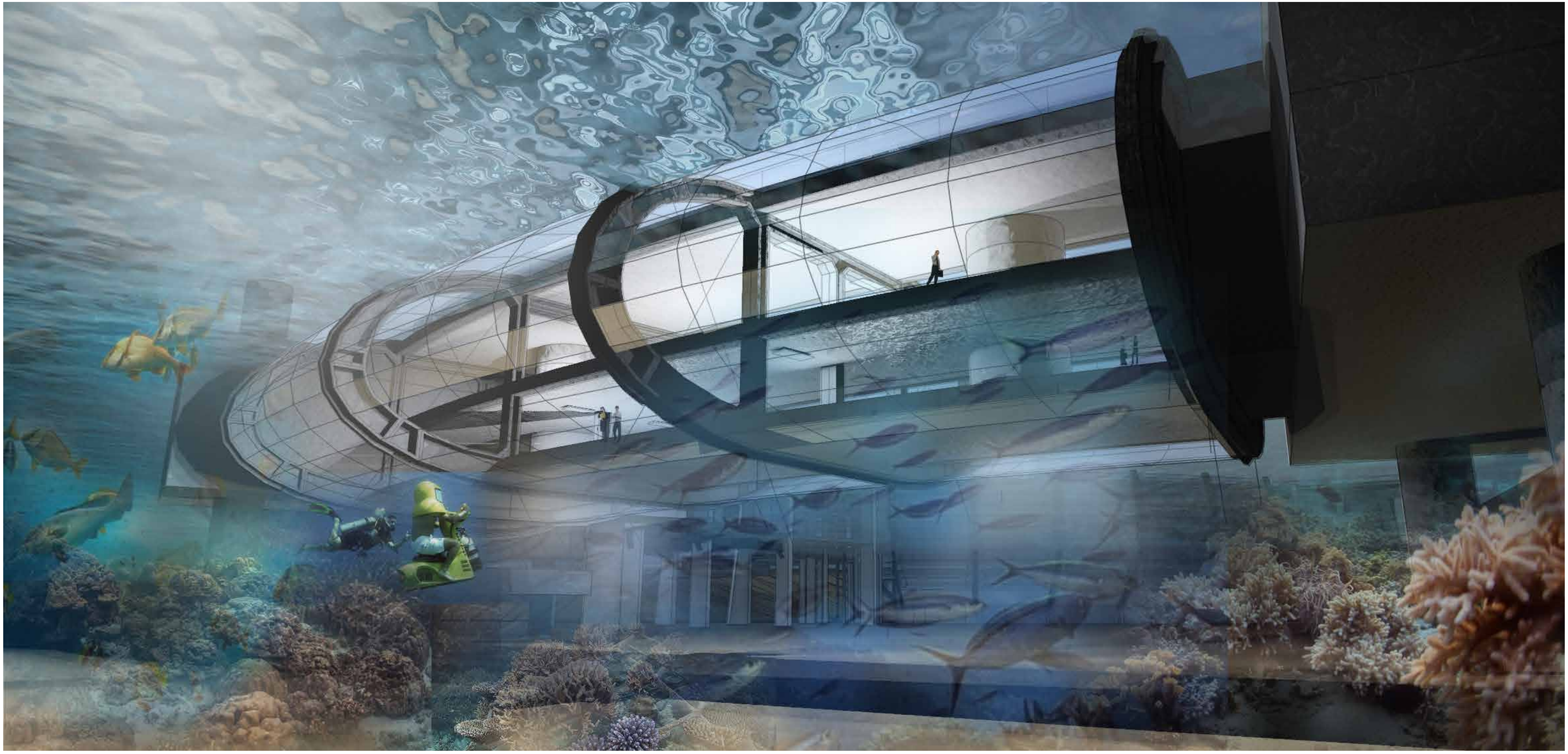
The design housed a series of programs into a complex of a holistic marine convention tourism model that plays its' role as a gateway assimilating the land and sky with the ocean and seabed as a complete ecological significant to sustain the Earth's balance. The core building programs were carefully introduced into the context whilst delicately choreographing the landscapes that caters sub-programs (read: cultural programs) as a result of a symbiosis with the 3 E's networks existing in the context over time. In a bigger scope, the architecture significant of the complex acts as a technological showcase that provides the opportunity to invest and implement a showcase of advanced technological architecture. The project's construction methods and materials are an interpretation and utilization of the steel ship industries that exist in the immediate context. The main structural strategy is to merge the technologies of ship making and architecture symbiotically to the site.

Hakym Ahmad






dry dock
pier
fishery facilities
beach
museum
sky deck
marine laboratory
piles
communication tower
sculpture pool
decking
media square
convention center
water treatment
global monitory
N
W
E
S

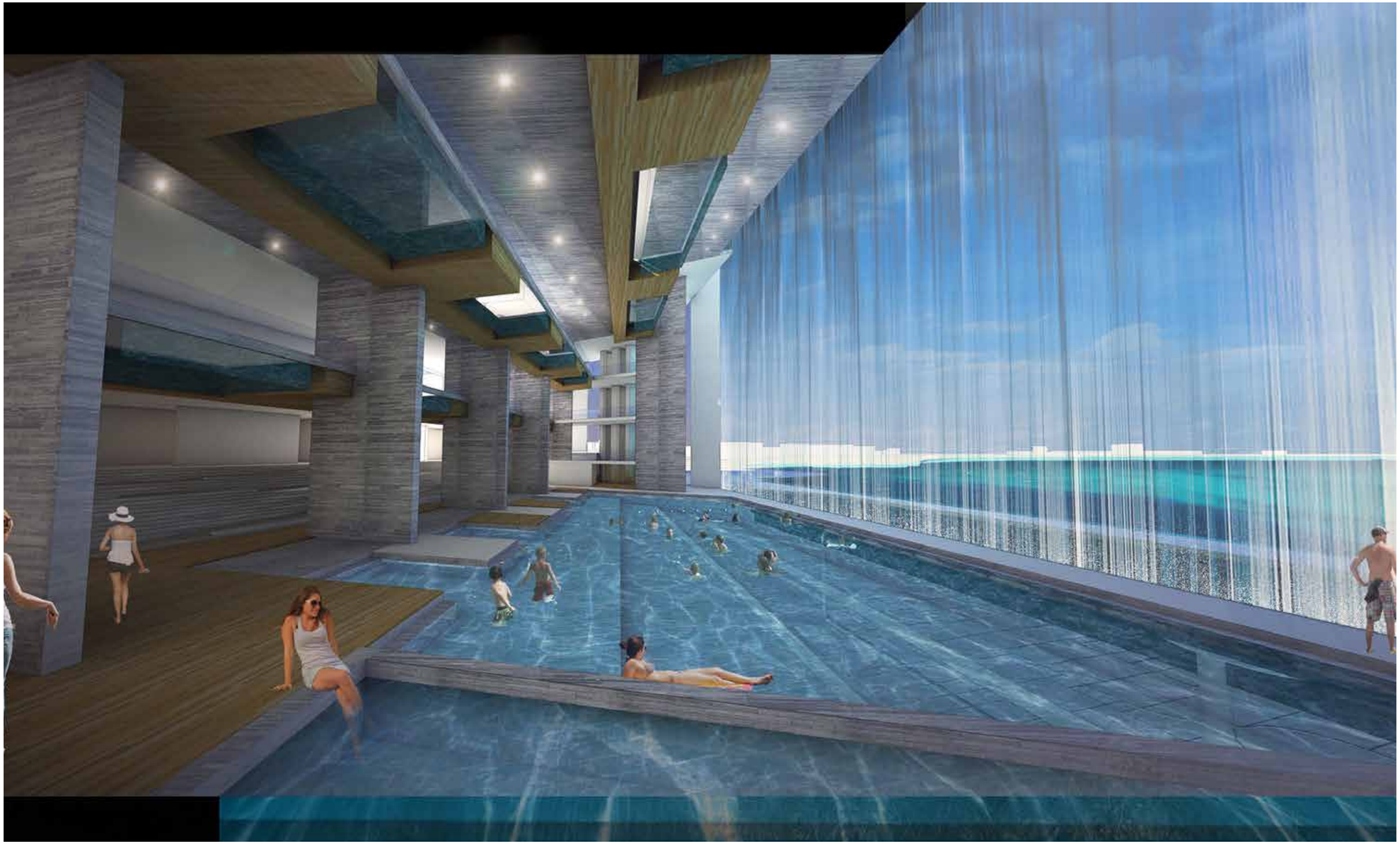


Penzannce Aquavista

The primary objective of this proposed project of ‘Penzance Aquavista’ is to define, to establish and to design a contemporary standard for 21st century health care and wellness institution incorporating water therapy as the main remedies, anchored with deep conceptual emphasis on Cornwall regional expression and issues, surrounded with Penzance psychological atmosphere (stunning views overlooking toward Mount Bay).

The proposition will consist of combination between health care, wellness services and also recreational activities programmes, that intended to give empowerment to the local area and community (in term of economic revitalisation, job prospect), and generating medical and wellness tourism to Penzance, that in the same time, will subsidised healthcare function in Cornwall, especially Penzance in particular.

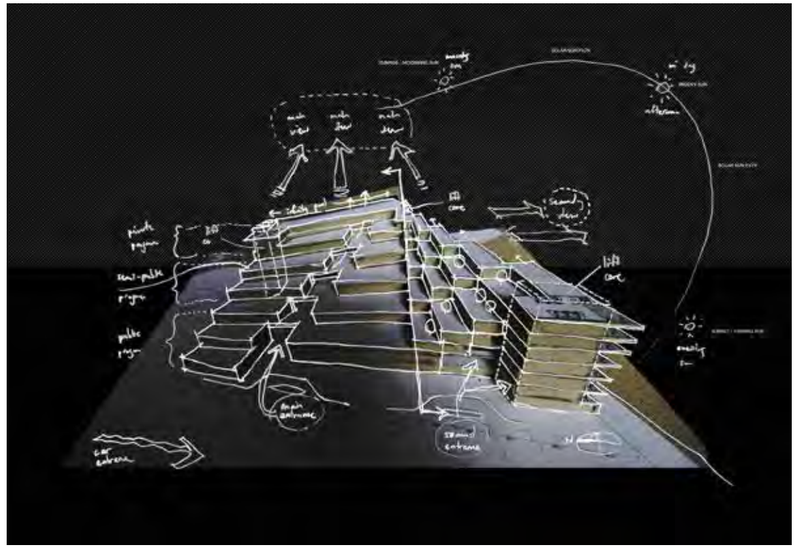
Mohammad Abu Bakar

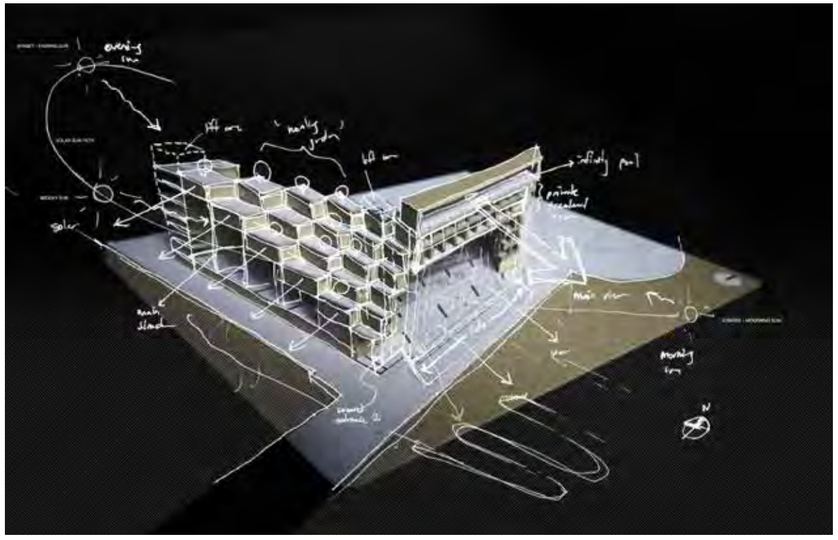


Demographic Pressure

Based from our group research, people aged between their late forties and early sixties and will form much of the retired population over the next ten to twenty years, resulting in demographic pressures on Penzance rural health care system. As people get older, they could become prone to an increasing number of debilitating conditions if they do not keep active.

In Cornwall more than 60% of men and 70% of women are not active enough to benefit their health. We found that Cornwall has lower levels of participation in sport and active recreation than the rest of the south west despite access to some of the most beautiful natural environment in the country.

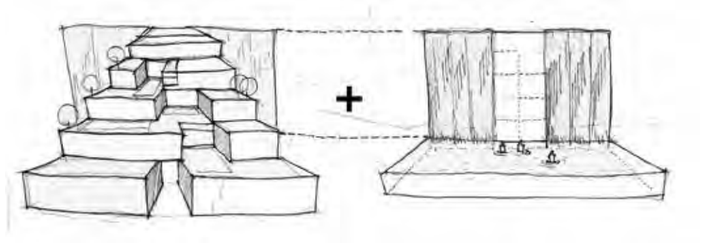




Subsidised Healthcare Function

With the demographic pressure, Cornwall's health care system are becoming more stressed, and patients will, quite rightly expect higher quality care from healthcare providers and new treatments and procedures. Thus, there are demand for increasing the amount of health care centre and institution in Cornwall, particularly Penzance (Poltair Hospital, Penzance community hospital just recently closed), in order to elevate this problem, and as an appropriate respond to the issues.

As the proposition of Penzance Aquavista become more and more successful, it means that the health services in Cornwall will become more and more secure, and the idea of health and wellness tourism will work in both ways, where it helps to strengthen Penzance health services by having health and wellness traveller come to Penzance, thus generating income that will subsidised the main healthcare institution in Cornwall. With its immaculate environment and view, it will further help to motivate the traveler for health interest.



Income Generator

This proposition are using tourism to help to support infrastructure, specifically in the field of healthcare, as it is currently under stress in Penzance. Penzance Aquavista are intended to generate income to be used to subsidised the health care function of Penzance. It will be connected to the hospital in financial relationship, and there will be transfer of expertise between two side (hospital and aquavista)

Penzance need new and imaginative idea. Proposed Penzance Aquavisata will let people to come here to have luxury treatment with its scenic coastal environment. It help to create a health and wellness tourism culture in Penzance, as it is tourism as economic activity is already established in Penzance. There will be financial and economic symbiosis, and health and wellness tourism work symbiotically with health services in Penzance

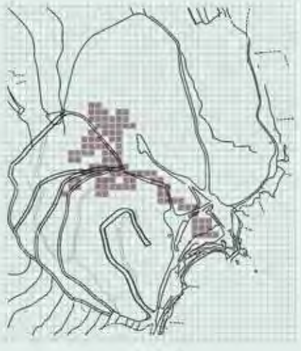
Metabolic seacoast

The vision behind this project is to proposed a long –term development on a unique, semi-disused site named Dean Quarry, which located on a seacoast near Coverack and St Keverne on the Lizard Peninsula in Cornwall.
Located in the Area of Outstanding Natural Beauty, the site is surrounded by famous location of shipwrecks and home to interesting marine life in Cornwall and it also holds potential for marine alga-culture activities at the seaside.
Given such strategic location and context, a program over time strategy has been introduced into this proposal, which includes 4 main zones that will be developed over time.
In the Phase 1, which indicate present time until 2035, training zone (diving centre)and scientific zone (marine algae research centre) will be developed in the site.
In the Phase 2 (10-20 years later), where the mining activities has fully stopped, these two zones will grow and another two zones will emerge from Phase 1 which are ; recharge zone (resort accommodation, retail, food and beverages) and harvest zone (harvesting biomass from alga-culture).
All these four zones from Phase 1 and phase 2 are interrelated to each other, and create a dynamic development over time on the site. Metabolic Seacoast envisions well utilisation of an abandoned quarry into an active site that caters for marine leisure, research and education for the next 100 years.
In this design proposal, fractal system is used as the method to test out the distribution and additions of programs in phases on the site context. The development growth is also affected by the changes of topography as well as changes of activities happening on site. The morphological growth will continue from now-abandoned area of the quarry to the other part of the quarry after the remaining quarrying activity has stopped.
Further in realisation studies, a system of self-similar construction components has been developed to visualize the vision . This system will be supported by the virtue of onsite CLT construction workshop on site which allows contextual and pragmatic adjustments as the site & occupation change over time.

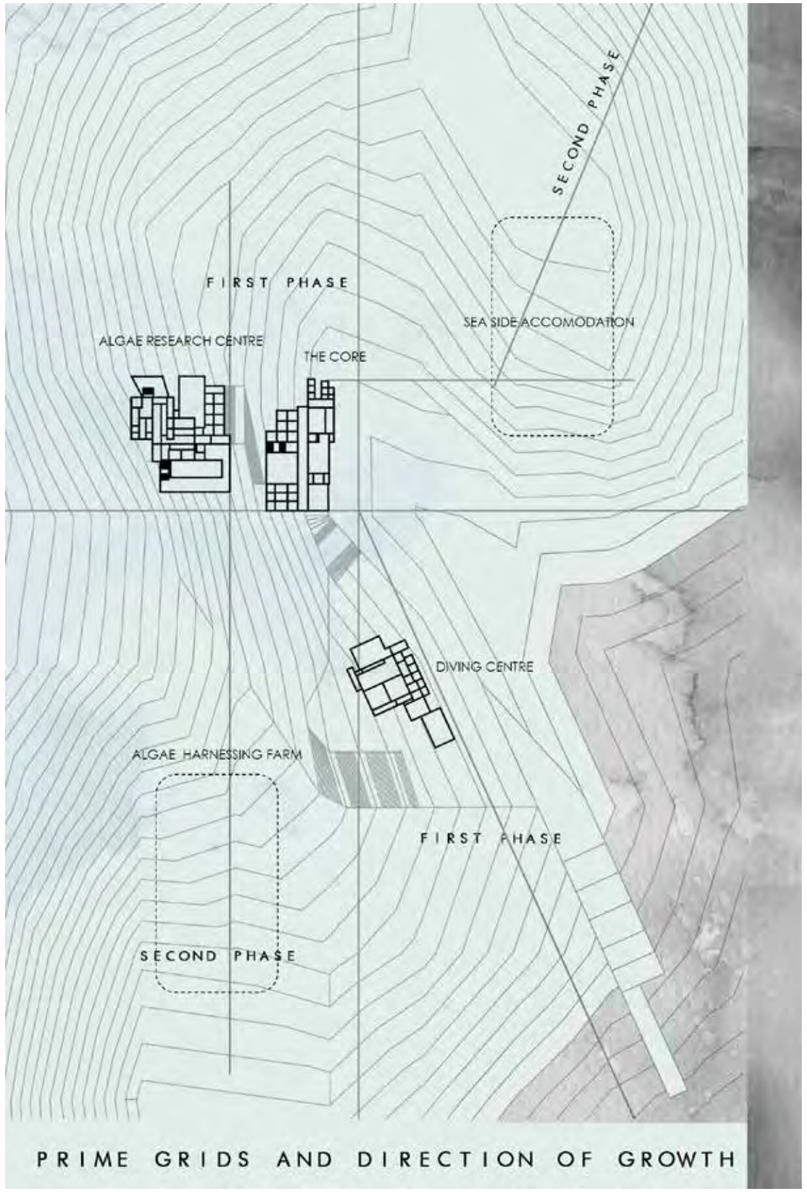
Zatul Hazirah

INITIAL PHASE

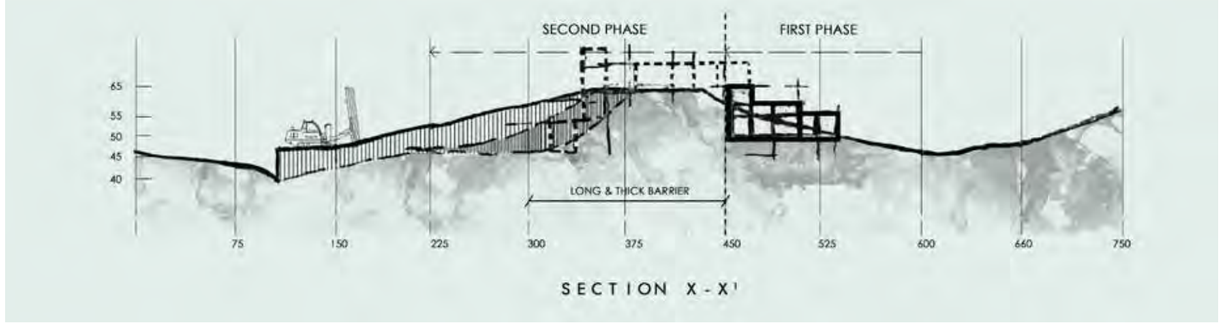
MID PHASE



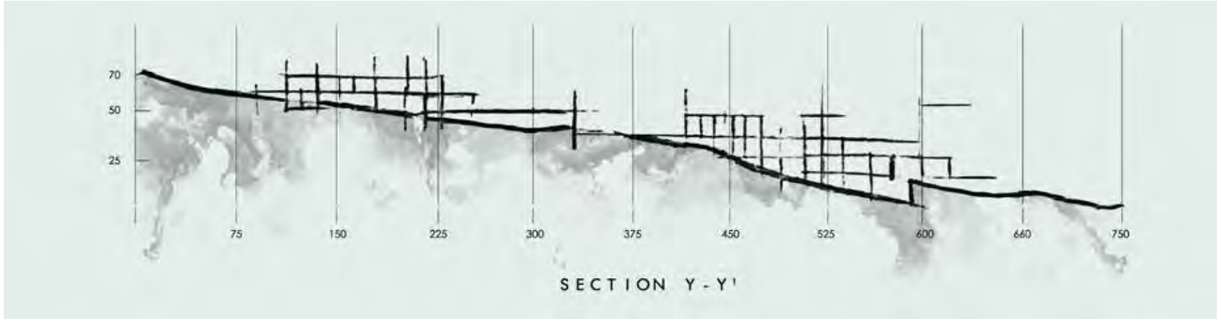
FULL PHASE



PRIME GRIDS AND DIRECTION OF GROWTH



SECTION X-X¹



SECTION Y-Y¹

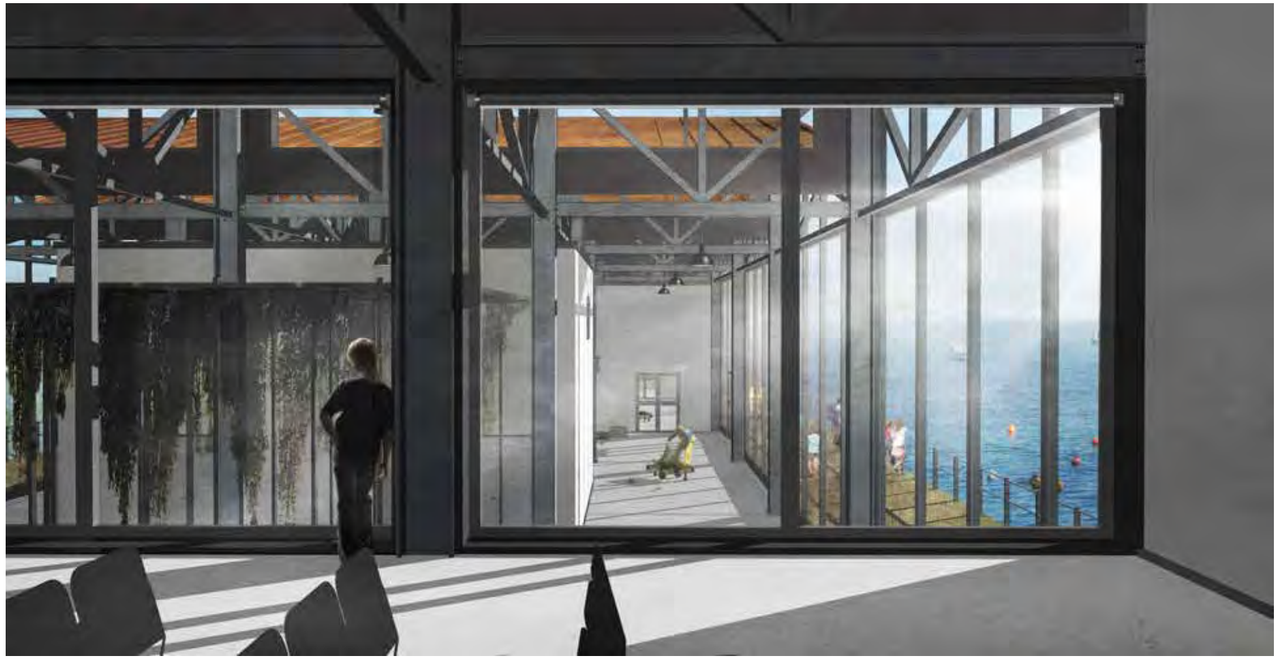
Kelp Pier

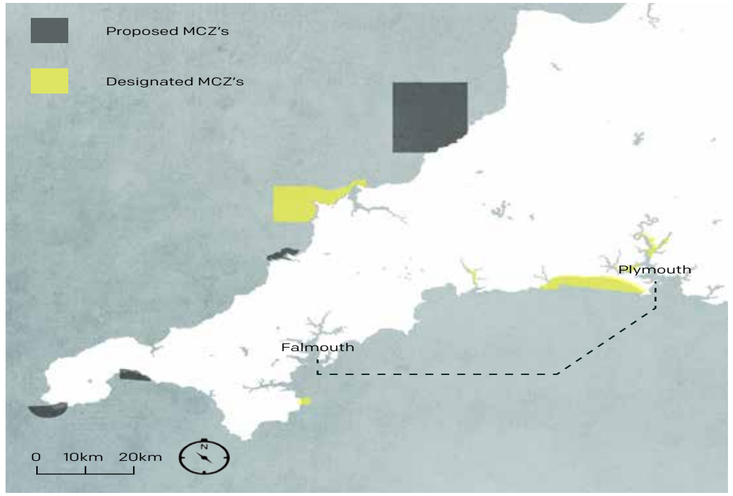
The design proposal is a an overall strategy that involves a seaweed farm located in Falmouth, Cornwall which specialises in the production and cultivation of sugar kelp during the day. In the evening, however, the farm becomes part of the landscape serving as an extensive lighting installation. The scheme in essence serves a number of practical purposes whilst appealing to the Cornish environment and its extent of activities within the culture of food, arts and tourism.

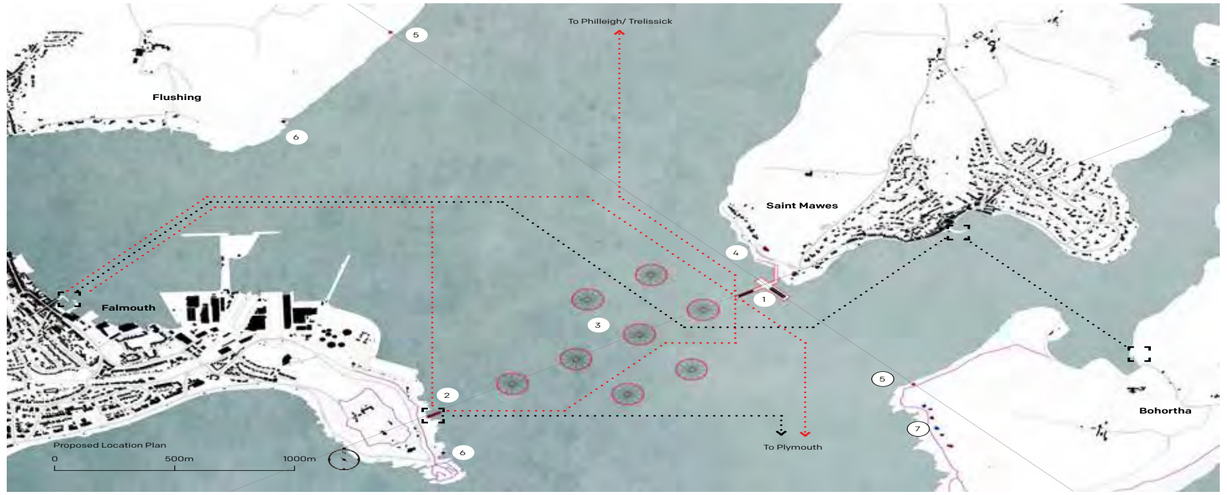
The strategy for this masterplan consists on one hand of core pieces of development concerned with the collection and production of kelp. This comprises of the Seaweed Capsules, Seaweed Hangar and finally the Kelp factory. Other infrastructure includes key points to experience the landscape installation in the form of restaurants and cookery workshops. Some buildings, however, have the capacity to be interpreted in different ways, replaced and moved to other locations to serve different interests. These consist of temporary structures such as viewing platforms and bothies.

Therefore, the whole of the estuary and surrounding context becomes a symphonic environment that is constantly able to adapt to suit changing demands. This also allows the potential for people to engage with the surrounding context of the estuary on different layers, almost like the curation of an exhibit in an art gallery where each point or piece of infrastructure is able to tell a different part of the story.

Gavin Chan




Proposed MCZ's
Designated MCZ's
Plymouth
Falmouth
0 10km 20km
N


To Philleigh/ Trelissick
Flushing
Saint Mawes
Falmouth
Bohortha
To Plymouth
Proposed Location Plan
0 500m 1000m
N
1 Kelp Factory & Seaweed Hangar
2 Pendennis Dock
3 Seaweed farming capsules
4 Hilltop Restaurant/ Cookery Workshop
5 Permanent Observatory
6 Temporary Observatory
7 Artist Bothies
Proposed ship routes
Proposed temporary Infrastructure
Proposed permanent Infrastructure
Buildings
Existing Roads
Existing docking infrastructure
Existing ship routes
South- West coastal path

msa **M Arch**

atelier qed

2015 - 2016