

# Industry & Technology

Design Experience

2025



# 3DReid

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# Introduction

We are an *award winning* architectural design, interior design and masterplanning practice.

We are a creative team of over 120 people working across five UK studios in Birmingham, Edinburgh, Glasgow, London and Manchester.

We work across all design stages and sectors including aviation, culture & community, education, hospitality, industry & technology, residential, retail & leisure and workplace.

We are proud of everything we do, from concept to delivery. We believe the best design comes from a culture of collaboration and sharing ideas. We deliver well designed projects that stand the test of time and a practice that people enjoy being part of.

Our rigorous and pragmatic approach to design helps ensure our projects are delivered on time and on budget. We work hard to create built environments that look to the future and are truly sustainable.

We are the go-to practice for inspiring, considered design solutions that leave a positive impact on occupants, future generations and the environment.



Mark Lorimer, Director / Head of Industry & Technology.



We are a creative team of over 120 people working collaboratively across five UK studios.

*We workshop everything to benefit from the deepest experience, the freshest ideas and the most enjoyable conversations.*

## About us *Our expertise*

We are a collaborative team of architects, interior designers, urban designers, researchers, visualisers, and dynamic problem solvers.

We offer the full spectrum of design services, from early-stage feasibility and proof of concept to full planning applications, technical design and construction delivery.

The best buildings and places come from engagement and collaboration. We listen to our clients and we work openly and collaboratively, convening regular workshops that empower the right people to contribute at the right time. This builds trust, consensus and certainty across our team, our clients, project stakeholders, consultants and end-users.

We bring value to all our projects through clear analysis and well executed design. We approach every project with the same ambition, across all sectors, whether it is a hotel refurbishment, a workplace, or a new airport terminal.



Paul Green, Director / Head of Aviation & Rail.



John Bovill, Director / Head of Workplace.

## *Our team*

*Mark Lorimer heads up our Industry & Technology sector working closely with Paul Green, John Bovill and our team of over 120 people across five studios.*



## Our *Industry & Technology* design experience covers warehouses, manufacturing facilities, masterplanning and waste-to-energy facilities.

We cover road, sea and air logistics, food and engineering sectors. We also have specialist knowledge in related road and air vehicle and component maintenance areas.

We are very proud of our track record in exceeding developers and operators expectations. This is achieved by a positive attitude to developing and monitoring the brief and by establishing clear lines of communications and responsibility.

Our industrial clients range from end-users, developers and funds and include Axis Shield, BAA Lynton, Bausch + Lomb, Bicester Motion, Chancerygate, Clyde Gateway, Hines, Gerber Foods, Lees of Scotland, Pilkington Glass, SCOT Sheridan, Scottish Enterprise, The North British Distillery, Tilstone Partners, Warner Estates and XPO Logistics.

We provide a wide range of services and can guide you through the approvals and procurement process.

Our professional services include:

- Architecture & Design
- Building Information Modelling
- Building Procurement Options
- CGI 3D Visualisations
- Interior Design
- Masterplanning and Urban Design
- Statutory Approvals
- Surveys
- Sustainable Design

Our expertise in the aviation sector gives us a high degree of competence with secure, high-spec environments and our extensive work in the commercial sector demonstrates our ability to respond flexibly to the changing requirements of clients and tenants.



Farnborough Airport hangar facilities are column free, utilising an innovative design.

# Our approach & process

## *A collaborative process*

01

Our ethos is to use our skills in an inclusive approach, where listening and exchanging ideas are integral to the design process.

We encourage the accumulation and sharing of knowledge, research and expertise across all sectors. We explore and use new material technologies and environmental strategies to constantly challenge conventional thinking and are driven by the belief that by working together, we collaborate as thought leaders to achieve greater solutions.

### The Design Process

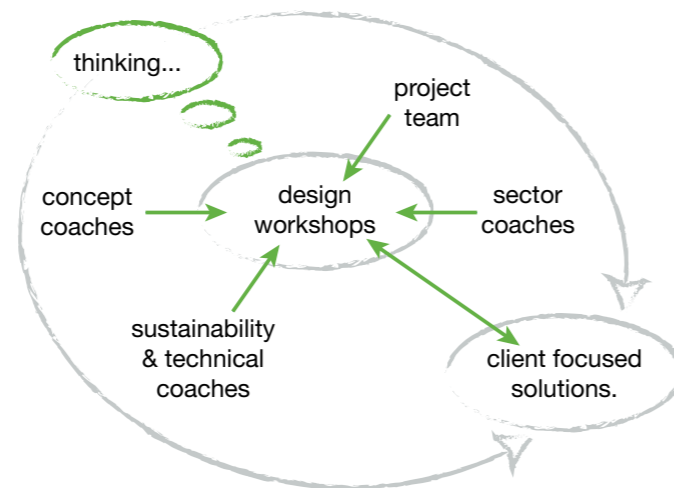
At the centre of this is the 'Workshop' approach to design development and management. This process achieves better results, faster and more economically than the traditional cycle of design and critique. It avoids disciplines and individuals working in silos and provides transparency of process, the opportunity for cross organisation contribution and collective project ownership. The best solutions are achieved when the Design and Procurement Team, The Client and the Key Stakeholders are all aligned.

Ultimately our goals are to:

- Add value and enhance the environment
- Create deliverable solutions
- Manage change and avoid untimely change
- Be inclusive in our approach and in our solutions
- Learn
- Make the process enjoyable

### Our Workshop Process

The workshop process allows us to bring the best expertise to a project in the most focused and effective way possible both from within the team and from other project participants. We ensure we have the best and most appropriate individuals assigned to a project and we demand the same from our sub consultants.



All of our project team and coaches are involved throughout the life of a project:

- Our Product Coaches ensure we are considering the highest standard of industry best practice and forward thinking.
- Our Technical and Sustainable Coaches support our project team to ensure that best practice is applied to all our work from the start to finish on a project.
- Our Concept Coaches are some of the most creative thinkers in our company and have a responsibility to ensure that we meet or exceed all project targets.

We explore the level of options appropriate for the stage of a project thus achieving progressive fixity and assurance. This doesn't preclude directional change but due to our documented management process a change can be quickly evaluated, its implications known and once decisions have been made acted upon as instructed.

Outside a workshop individual members of the team will be tasked to investigate and refine elements of the project, but these are always driven by, and brought back to, the workshop forum.

### Business Understanding

3DReid has a long history of working with end users to deliver innovative solutions to complex business needs, helping to produce holistic business cases across many sectors. The success of this is demonstrated by long and successful relationships and frameworks with companies and organisations including; Co-operative, M&S, BAA, Hewlett-Packard, Tesco, Gerber Foods, Royal Mail and Plane Handling.

Whether delivering energy, power, food, drink, information, goods or people, designing the space to allow production to occur is not just gift wrapping but relies upon a deep understanding of the complex activities the buildings encompass.

We believe a collaborative approach, bringing all disciplines and stakeholders together is fundamental to a project's success. Open forums and design workshops add value and cut out waste by clearly focusing on the critical elements of the process, as well as the architectural potential of a particular facility.

### The Value of People

Our attitude towards the industrial workplace has changed, not just through regulation and necessity, but also through an increasing realisation of the value of individuals. Investment in the health and welfare of a workplace now has tangible benefits. In addition, the requirements of the industrial environment have changed as processes become more sophisticated. People expect to work in are cleaner, brighter and safer environment.

## Form

*Setting, scale, shape, surface, shadow, shine and silhouette.*

Some of the most celebrated structures of the last three centuries have their roots in industrial progress. A good industrial building can have its own inherent, honest beauty – a process-led aesthetic where form truly follows function.

But the impact of an industrial development is a sensitive issue. Their scale is way beyond that of domestic buildings and as we reduce our impact on green sites this brings industrial development closer to communities.



*“There is an increased consciousness of the imprint industrial buildings make on the landscape.”*

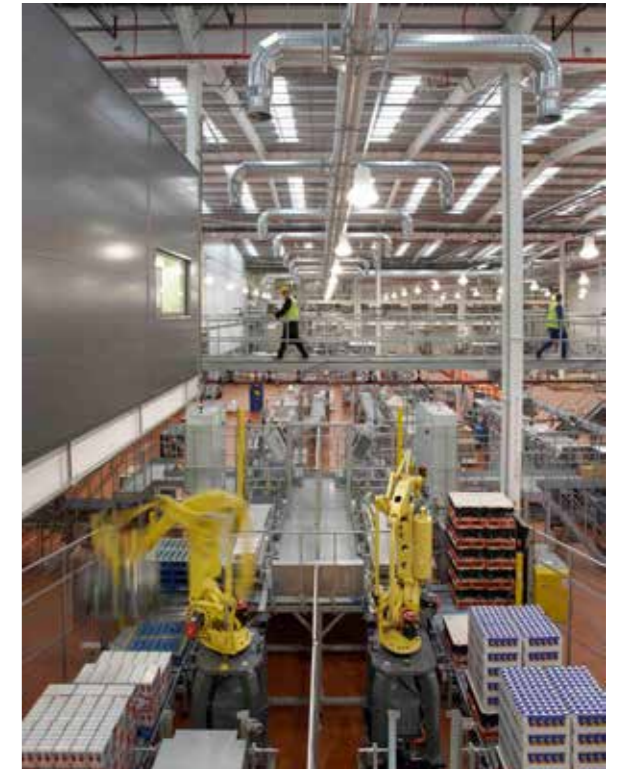
## Process

*Understanding from start to finish*

Whether delivering energy, power, food, drink, information, goods or people, designing the space to allow production to occur is not just gift wrapping but relies upon a deep understanding of the complex activities the buildings encompass.

We believe a collaborative approach, bringing all disciplines and stakeholders together, is fundamental to a project’s success. Open forums and design workshops add value and cuts out waste by clearly focusing on the critical elements of the process, as well as the architectural potential of a particular facility.

*“Industrial buildings produce and handle the vast majority of materials and goods society needs and wants.”*



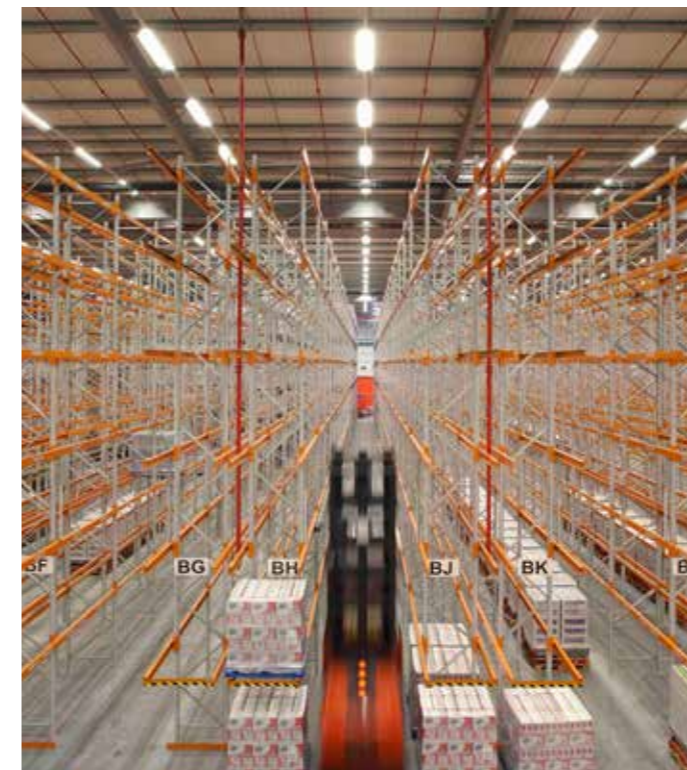
## Delivery

*Setting, conceived with ability.*

Simplicity and clarity are key to design, delivery, operation and management.

The appropriate and judicious selection of details, components and materials should always be done with consideration for the life cycle and value of the project.

We believe that proactive cost control at all stages of delivery is a fundamental part of delivering a successful project. The basic principle we adhere to is cost management and not cost reporting and we work closely with cost consultants to ensure early benchmarking and cost monitoring.



*“We understand and design within achievable parameters. We appreciate how important it is that we are able to deliver all your design, time and cost aspirations.”*

Workplace

*The value of the individual.*

Our attitude towards the industrial workplace has changed. It has changed through regulation and need but also through an increasing realization of the value of individuals.

Investment in the health and welfare of a workforce now has tangible benefits. In addition, the requirement of the industrial environment has changed as processes become more sophisticated. The environments that we expect people to work in are cleaner, brighter and safer.



*“It’s all about people. We create environments that are a pleasure to work in.”*

Legacy

*Sustainability, efficiency, flexibility, longevity, humanity and beauty.*

Global demands require us to re-establish many of the characteristics of the first age of industrialisation, some of which we have only come to appreciate in recent years: ideas of sustainability with efficiency, flexibility and longevity, humanity and beauty.

We need to produce industrial buildings that are sustainable not just now but that maintain this quality into the future. We need to consider what the legacy is that is left behind after the initial process has run its cycle. Can buildings or their individual components be converted or re-used? Can the structure itself be flexible and demountable? How can we minimize our impact on the environment?



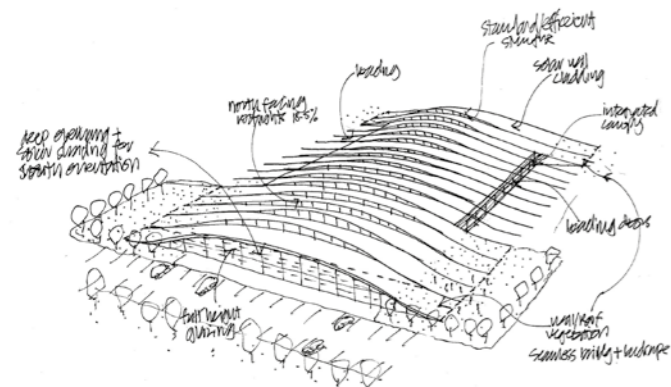
Research

*Under-pinning industry.*

3DReid’s FutureLab is a design research collaborative working at the intersection of innovation, culture, technology and knowledge. The group explore opportunities and defines solutions and trends for the world today and tomorrow. The group collaborate across all our sectors and with leading experts across a wide range of disciplines to create innovative and bespoke solutions and services.

One such research initiative which we are looking to apply to our Industry & Technology sector, is through the development and use of generative design tools, to assist in the assessment of potential Industrial sites. These tools not only give us more commercially viable options for our clients but can also reduce construction waste to enhance green credentials.

We are able to quickly generate many design alternatives and immediately evaluate the most suitable option for design criteria including greatest unit area, most efficient site layout, accessibility and height without compromising on current high standards of design.



*Eco|Box Research*



*Selected Experience*

Innovation &  
Technology





Visualisation of Bicester Motion's new Innovation Quarter.



Proposed site plan.

## Bicester Motion Innovation Quarter

### *Bicester, Oxfordshire*

Bicester Motion's new Innovation Quarter will deliver five prestigious HQ buildings with views across the airfield, at former RAF Bicester.

3DReid is working collaboratively with Bicester Motion on the redesign of the Innovation Quarter building and masterplan which accommodates new 90,000sqft HQ buildings for future mobility design, light manufacture and research and development of cutting-edge automotive engineering technologies.

A carbon-efficient building consisting of a production line, storage warehouse and new HQ workplace targeting BREEAM Excellent.

Rebranded to 'The Ranges' to reflect the history of the site, a former shooting range, the first phase of the scheme will be occupied in 2026 by YASA, known for their innovative electric motors. The remaining four smaller units, Phase 2, are due to start onsite summer 2025.

Client: Bicester Motion



Data Recovery Centre at Hyde Park Hayes.

*We have delivered a number of data centres and we understand the unique requirements of these specialist buildings. Our expertise gives us a high degree of competence with secure, high-spec environments.*



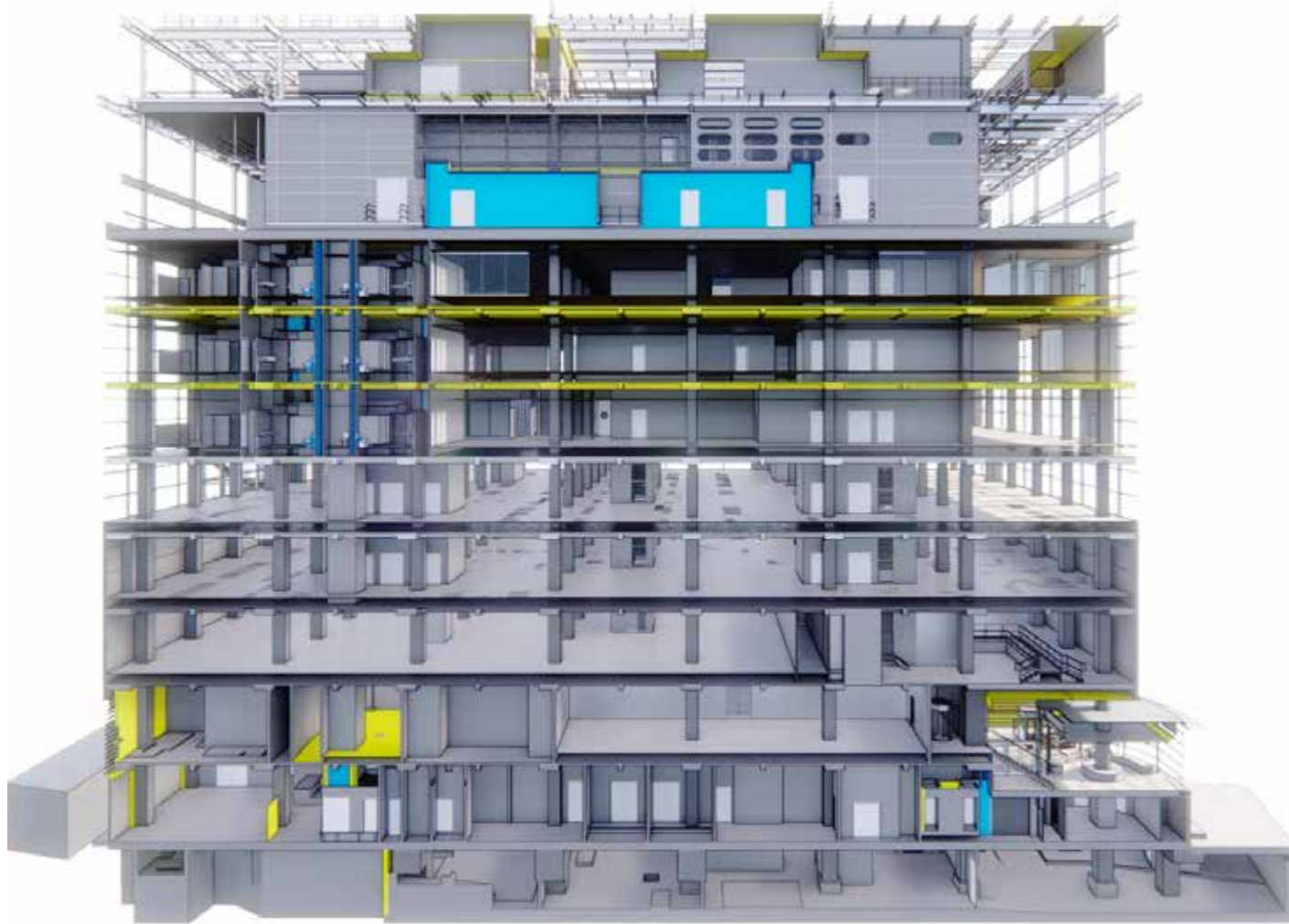
## Hyde Park Hayes Data Centre London

Previous experience with Hines brought us on board for the redevelopment of their existing Hyde Park site in Hayes which has included the refurbishment of three existing office buildings. Within one of the buildings the ground and first floor have been converted into a data recovery centre for the tenant IG Systems. A masterplan was also developed for the site including new office accommodation, a hotel, retail and some residential units.

Client: Melford Capital



Hyde Park Hayes.



3D revit model.

## Data Centre London



This project is a highly innovative high-rise data centre located in the Docklands area of London.

The data centre houses six technical floors, 1,120m<sup>2</sup> each with a power density circa 2,000W/m<sup>2</sup>. The 10-storey building maximises the site and accords with London Plan planning requirements and is thought to be the only multi-storey indirect air-cooled data centre, globally.

3DReid was employed by the M&E contractor as an architectural consultant for the delivery of this facility in London. The project consisted of refurbishments and alterations to an existing data centre to make the premises suitable for handover to a new operator. 3DReid was appointed to validate the RIBA Stage 04 information, review any technical submittals and to transpose the 2D designs into a live, fully coordinated 3D revit model.



Data Centre Proposal, London.

## Pulsant Data Centres Three hubs in the UK

An existing client EDI recommended us to Pulsant, for whom we designed and constructed three data centres. The first was a refurbishment project of approximately 5,000 sqm, which tried and tested the thinking and technology; this was followed by two new builds of approximately 20,000 sqm each in the same location. We were employed directly by 186K; Roger Preston & Partners worked in partnership with ourselves to deliver the M&E engineering and Ramboll provided structural consultancy.

Client: 186K

## Data Centre Expertise

3DReid has worked on a number of data centres and understand the unique requirements of these specialist buildings. We understand the huge importance of data centres as an emergent typology. As cloud-computing becomes increasingly prevalent and the internet of things becomes increasingly ingrained into our lives, data centres are becoming a much bigger part of the built environment. Designing these traditionally-energy-intensive buildings in the context of the climate crisis also poses a huge challenge; one that we are well equipped to tackle given our experience with environmentally progressive buildings and retrofit design.



Pulsant Data Centres.



One Angel Square, Manchester.

## One Angel Square Manchester

An award-winning £100 million low-energy, highly sustainable new headquarters for the Co-operative Group in Manchester city centre. At 500,000ft<sup>2</sup> this is the largest commercial office building in Manchester, with a BREEAM 'Outstanding' rating, scoring 95.16%.

In parallel we developed the strategic considerations and brief for the data centre that supports the new HQ and associated buildings located off the main site.

Client: The Co-operative Group

*Selected Experience*

# Industrial Developments

## Clyde Gateway East Glasgow

Clyde Gateway East aims to provide a sustainable, high quality environment to support growing businesses while delivering community benefits.

Clyde Gateway East industrial development provides a range of speculative and bespoke units. 11,000sqm delivered to date, with 7,000sqm progressing to site, and a further 11,000sqm proposed as part of the development masterplan for the 14.6 hectare (36 acres) site. Multiple feasibility studies undertaken across various sites to consider the accommodation of various interested parties throughout the development of the site.

The units were developed as speculative units responding to local market requirements with target areas established at an early stage. Although there was clarity regarding the current demand for industrial floor plates, the ancillary office space generally associated with the units was open to a wider range of interest.

We were able to develop the design of the units to offer 1,000sqft of office space within the base build, with the potential to easily expand anywhere up to 5,000sqft depending on tenant requirements.

Options considered for the various buildings providing efficient layout / structure whilst providing maximum flexibility for potential tenants relative to floor slab loadings, building heights for high bay racking and flexibility for crane installation.

Client: Aberdeen Standard, Clyde Gateway URC, SCOT Sheridan and MEPC



Clyde Gateway development site overhead view.

*“A modern, fit-for-purpose base from which to grow our business, somewhere that fits the Glacier brand and our reputation for quality.”*



3DReid is commissioned from inception to delivery of the development. Initial phases are complete with further phases currently progressing on site.





3D visual daytime view.



3D Visual night-time view.

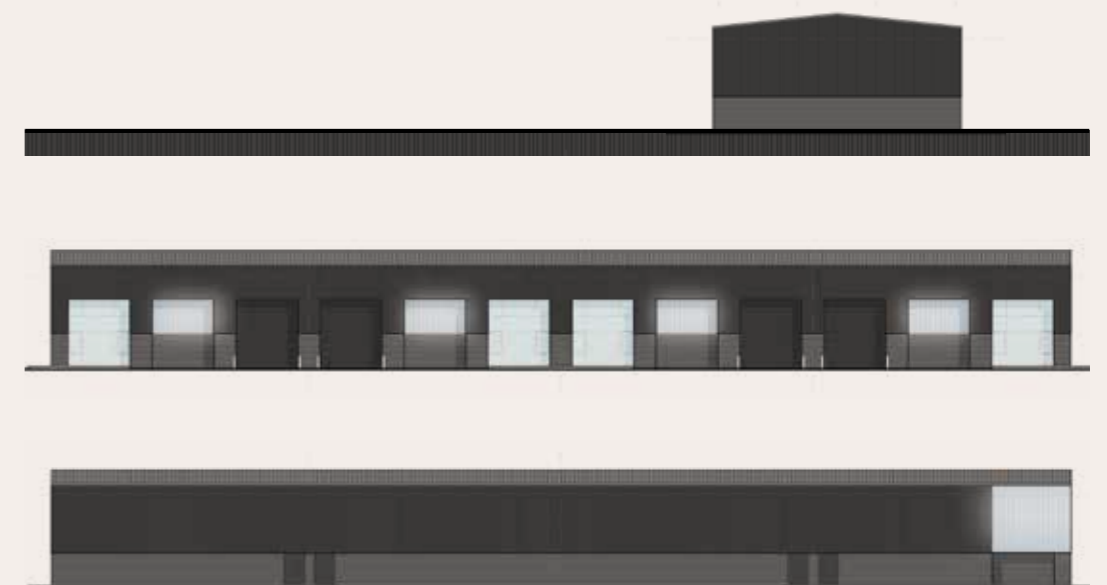
## Redtree Industrial Glasgow

Industrial development providing a range of speculative units, from small 96sqm workshops to 1,000sqm units.

Multiple feasibility studies undertaken to maximise site layout efficiency, and offering the best mix of units possible.

The site layout provides a very high level of flexibility for the client within a restrictive site, allowing small business the opportunity to establish themselves and grow.

Client: Clyde Gateway URC



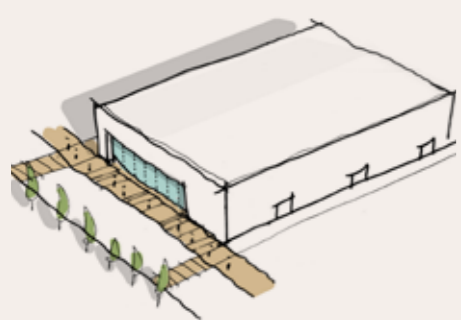
Section through Redtree Industrial.



3D visual daytime view.

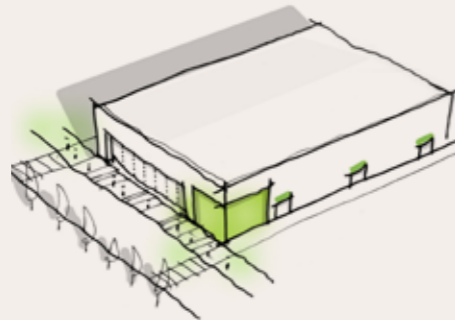


3D Visual night-time view.



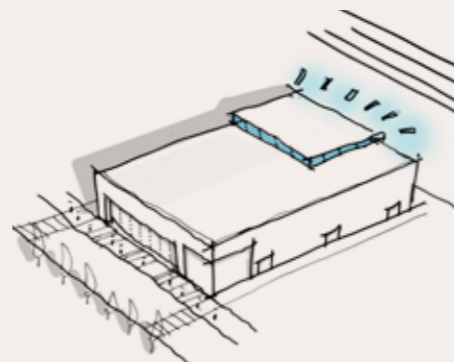
**Activated and Safe Public Realm**

*Landscape and building design which offers activated and safe public realm, and permeability into and through Queenslie Park.*



**Visible Branding and Signage**

*Building design which helps to create a clear sense of identity for Queenslie Park, along with branding and signage opportunities for tenants to display individual identity within Queenslie Park.*



**Identity and Placemaking**

*Strategic exposure to key areas, signposting Queenslie Park as a destination and promoting a sense of place.*

## Queenslie Park Glasgow

Queenslie Park will create a major business base for both Glasgow and Central Scotland.

Estate masterplan and detailed plot development proposals to transform the former Queenslie Industrial Estate and create a major business base for both Glasgow and Central Scotland.

In addition to enhancing both the industrial provision and the quality of the environment the opportunity to include complimentary facilities including car showrooms and retail facilities will widen the appeal of Queenslie Park.

Client: Tilstone Partners





*“Satisfies both our brand and future market requirements.”*

## Gerber Foods *Bridgewater*

Gerber Foods 77,000sqm production and warehouse facility and head office delivered in five phases for Europe’s largest soft drinks manufacturer.

Efficient and flexible masterplan with individual phases to reflect the highly volatile nature of the client’s business while maintaining their aspirations to create a quality building that would advertise Gerber Foods business and brand. We also introduced new habitats around the site to provide a natural environment for wildlife and adopted rainwater harvesting to create an attractive and sustainable development.

Client: Gerber Juice Company Ltd







RTPI Regional Awards 2014:  
South East Planning (Overall Winner)  
Planning Design in the Public Realm (Winner).

## Peacehaven Wastewater Treatment Plant

*Peacehaven, East Sussex*

Part of a £300 million environmental improvement scheme to bring cleaner seas to Sussex, won in design competition.

The pumping station at Portobello, Telscombe Cliffs, is below ground level to maintain uninterrupted views of the sea from Telscombe Tye – where the South Downs meet the sea. Marine Drive Pumping Station, located above Brighton Marina, was designed as a landmark feature, providing a gateway into the city from the east. Made up of a domed, metal-clad structure, set between two free form, curving ‘berms’, it integrates into the soft forms of the adjacent open spaces.

Client: Southern Water



Site plan.



## Wind Turbine Manufacturing Facility *Edinburgh*

Feasibility study which considered the development of wind turbine manufacturing facilities, across various sites.

In addition to the life cycle cost comparison between the refurbishment and new build options, a logistical appraisal was undertaken to compare the optimum LEAN solutions available to the refurbishment option against a new build solution.

Client: Scottish Enterprise/Areva



## Edinburgh Interchange *Edinburgh*

Masterplanning and completion of 7 industrial / warehousing units totalling 250,000sqft with each unit varying between 15,000sqft and 50,000sqft with 10% office provision.

Client: Wellbeck Land / Pricoa

*Selected Experience*

# Logistics & Distribution



*“A new £40 million XPO logistics hub delivering a 100% carbon neutral facility and addressing increasing e-commerce demands.”*



*The site masterplan.*

## XPO Logistics Newarthill Motherwell

Proposed 300,000sqft logistics hub, situated within Green Belt land. XPO Logistics aim to give something back to the community via ecological enhancements to the existing shrub land.

The development will address a market-proven requirement for large-scale warehousing facilities in the region, and deliver biodiversity enhancement measures over the more than 40-acre site, which adjoins the company’s existing transport hub.

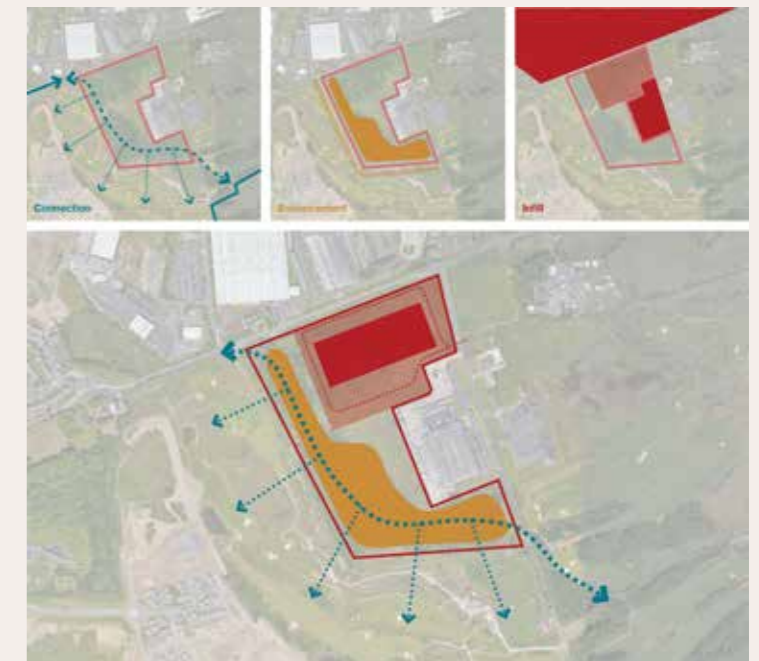
XPO is also aspiring to achieve net zero carbon for operational energy. This will be achieved through creative building design measures and the introduction of low and zero carbon technologies such as roof-mounted solar panels. Currently navigating through the planning process, undertaking significant engagement with the local authority, community groups and councillors.

Client: XPO Logistics



## *A challenging project due to the sensitive nature of the proposed development site.*

XPO is an ambitious client who are keen to give something back to the local community. We have developed a proposal which delivers the clients requirements within an infill area of land and developed an ecological strategy for the remainder of the site which helps to increase biodiversity and maintain a green corridor to the edge of the industrial context.



*XPO Logistics site concept.*



Girteka Campus landscape view.



Proposed aerial view from North West



Proposed interior view of lobby

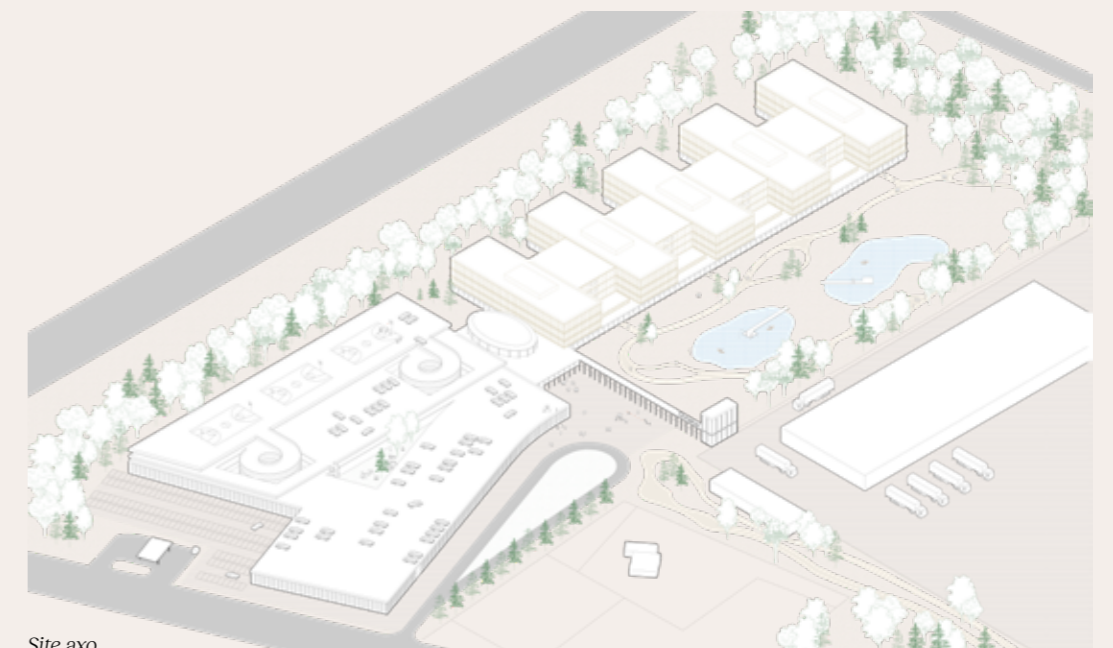
## Girteka Campus Vilnius

Shortlisted competition design proposals for the Girteka Campus Design Development for Girteka Logistics and Sirin Developments.

As part of our initial studies, we worked in collaboration with Cundall, to obtain expert input on matters relating to structures, servicing and sustainability. Their studies incorporated high level desktop studies of the site location and anticipated ground conditions, in the development of potential strategies to be considered as part of the detailed development of the project.

We were delighted that our design proposal was one of the finalists for Girteka Campus competition.

Client: Sirin Developments



Site axo.



## Filling Station & HQ Vehicle Assembly Facility

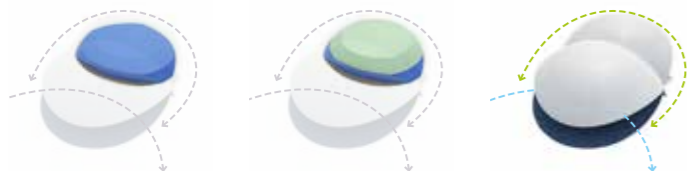
*Multi-site across the UK*

Feasibility exercise which considered the filling station of the future, and an associated HQ vehicle assembly facility.

A strategy was developed to accommodate the refuelling of hydrogen vehicles, charging points for electric vehicles, along with space for either retail, commercial, or leisure opportunities to support the primary function.

The vehicle assembly facility was developed to offer a light and efficient enclosure to the assembly process, with ground bearing automated process lightening the load on the structure of the building.

Client: Confidential



*Filling station of the future.*

## West Point *Stanwell*

5,500sqm distribution warehouse and 1,000sqm workplace environment.

The client's brief required a "top of the range" building and a break from the traditional crinkly tin shed often associated with this type of development. In response the project features dark grey, standing seam cladding - RIGIDAL ZIPLOL- with curved eaves to reduce the impact of such a large building; canopies, which have been designed to look like "peeled back" cladding; and offices and gable ends in contrasting silver, which also helps reduce the apparent bulk.

Client: Saudi Arabian Airlines



## FedEx Cargo Facility *Stansted Airport*

This 25,000sqm cargo facility is a pre-let development, acts as a FedEx regional sub-hub. Its warehouse features one of the UK's largest mezzanine floor structures for the sorting of packages. The core function is supported by three levels of office facilities, a 500-space car park and vehicles and aircraft maintenance workshops. The development also included the design and construction of 4N0. MARS aircraft stands and a new control post. Many of the construction supply chain knowledge and economies were developed on a previous project for the same client, Project Caesar.

Client: BAA Lynton

*Selected Experience*

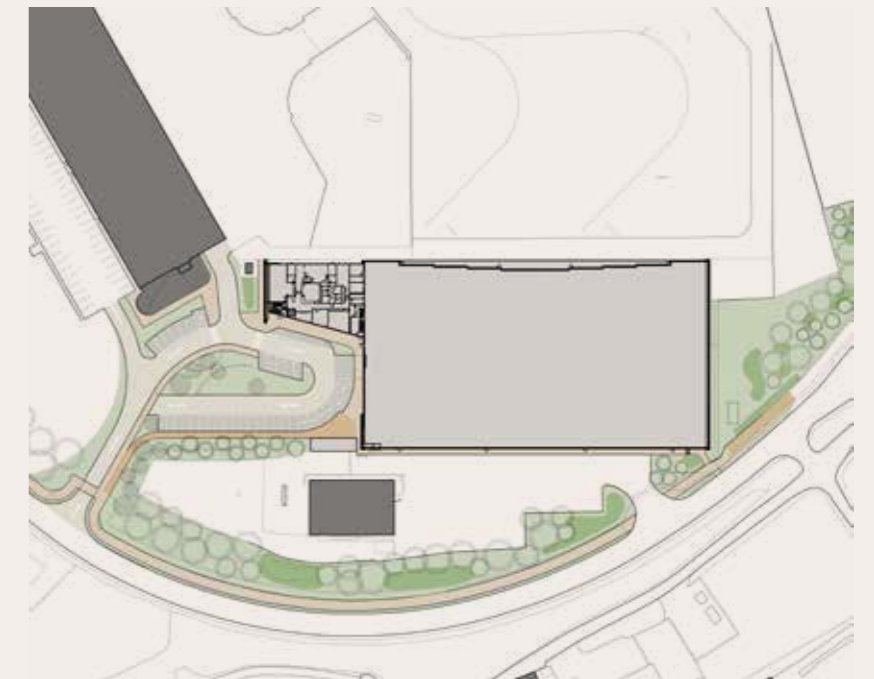
Airport  
Hangars





*“We’ve been working with 3DReid for nearly two and a half years. It’s been a real pleasure partnering with them on this landmark project for both Jersey and Gama Aviation.”*

*Tim Pedley  
Regional Director Jersey, Gama Aviation*



*Proposed site plan.*

## FBO & Hangar *Jersey Airport*

3DReid’s design proposal for Gama Aviation’s £10.5m business aviation facility at Jersey Airport has received unanimous backing from members of the Government of Jersey Planning Committee.

The new facility will house Jersey’s air ambulance, along with a state-of-the-art VIP passenger lounge for private jet users and business jet crew facilities. Gama Aviation had a clear vision on the level of design quality and identity which they were looking to achieve.

Through collaboration with the client, design team, and local authority, 3DReid delivered an ambitious, creative scheme which met the aspirations of the client and the requirements of the brief within a sensitive environment.

The proposal delivers a 64,000sqft hangar with 10m internal clearance, associated Fixed Base Operation facility, 40,000sqft Apron upgrade, and BREEAM rating of Very Good.

Client: Gama Aviation





*The maintenance and hangar facilities are column free, utilising an innovative design created in tandem with the structural engineers, Buro Happold.*

## Farnborough Airport Hangar

We won an international design competition to create 'Europe's premier Business Aviation facility' for the newly created TAG Aviation. Drawing upon a reputation for high-quality performance (through association with McLaren Racing) and design (Techniques Avant Garde), the client was explicit about the quality of design for the new facility which would provide a terminal and associated operational and maintenance buildings, and their headquarters building.

Careful planning, innovative building and engineering techniques from our partners Buro Happold and the use of a family of materials, produce a coherent, well integrated airport from three functionally diverse buildings of vastly different scales.

The maintenance and hangar facilities are column free, utilising an innovative design, created in tandem with the structural engineers, Buro Happold. By adopting a tied arch below ground-level, the internal spaces remain unencumbered by structure, maximising usable space to accommodate growth in aircraft to be stored and serviced. The rolling elevation of the roofline responds to the low-lying location of the airport and works with the landscape bunds and surrounding Hampshire hills. The hangars were awarded a Structural Steel Design Award in 2003 and a LEAF Award in 2004. A further set of hangars was added in 2012.

Client: TAG Farnborough Ltd

*The hangars were awarded a Structural Steel Design Award in 2003 and a LEAF Award in 2004.*





## Signature FBO & Hangar *Luton Airport*

A new standalone executive jet facility for Signature Flight Support, one of the world's leading Fixed Base Operators. The building includes a 2,400 sqm VIP terminal and 5,000 sqm hangar facility capable of housing 2 BBJ aircraft and a dedicated ground support equipment store and workshop.

This project not only provides the highest level of terminal environment for passengers and crew, but also paves the way for a standard facility model that Signature can use in future developments across their expansive global operations.

Client: Signature Aviation

*"We have created a transient terminal facility, which is an efficient and cost-saving design that can be replicated throughout Signature Aviation's global locations."*



Massing model of Signature's hangar developed as part of the project.



## Air West *Edinburgh Airport*

The development of a phased masterplan to develop small to medium sized airport related distribution units. The scheme needed to be designed to minimise the amount of infrastructure investment for each phase and to be flexible to meet many potential tenant floor area requirements.

We agreed a development strategy with the local authority which would allow flexibility in the final unit sizes without materially affecting the principle of the planning approval.

Client: BAA Lynton and IM Developments



Site plan.

## Ryanair Hangar *Glasgow Prestwick Airport*

Steel frame clear span two bay maintenance hangar, 86m wide by 47m deep, designed to service Ryanair's fleet of Boeing 737-800 aircraft and the larger variant 737-800 BBJ2.

The mezzanine platform is designed around the aircraft to enable direct maintenance access to doors and surfaces, minimising the need for access staging. Hangar door designed to enable a third aircraft partial access to the hangar for emergency maintenance.

Client: PIK / Kier Scotland



## UK Search & Rescue *Multi-site UK*

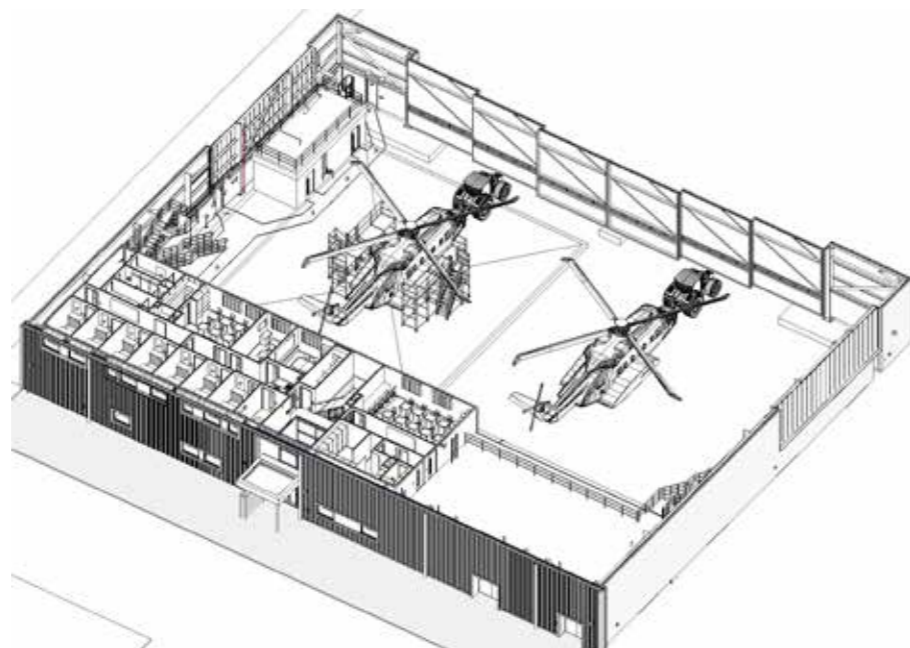
3DReid was appointed as part of Bristow's agreement to take over the UK's helicopter search and rescue operations, replacing the RAF/Royal Navy service. This is a blue light service operating 24 hours a day / 7 days a week / 365 days a year.

The project was to design operational hangars for 22 Sikorsky S-92 and AgustaWestland 189 helicopters operating from 10 locations around the UK (Cardiff, Humberside, Inverness, Lee on Solent, Manston, Newquay, Prestwick, St Athan, Stornoway and Sumburgh).

In addition to facilitating helicopter maintenance, the bases were designed to enable rapid and efficient mobilisation of rescue staff and equipment. All bases to be compliant with all technical, training and infrastructure requirements of the service.

Hangar accommodation: hangar includes decontamination area, workshops and avionics, personnel support accommodation includes sleeping and recreation areas, training and briefing rooms.

Client: Bristows / Balfour Beatty





Cargo 777, one of several industrial buildings at Heathrow Airport.

## Cargo 777 Heathrow Airport

Redevelopment of an 11,800sqm site on the edge of Heathrow Airport. This speculative scheme was aimed at air-related users and consists of a single level 5,500sqm cargo warehouse with 1,550sqm of high quality finish offices on 3 levels.

Flexibility and adaptability within the design was an essential component. The project was shortlisted at the Industrial Agents Society Awards for Best Speculative Development.

Client: Hines Air Property UK



Royal Mail, Site 520

## Project Caesar Heathrow Airport

Air cargo perishable transit facility, including food testing laboratories.

Significant economies were achieved by specifying an external cladding skin that would achieve the U-value and food safe internal finish required by the fit-out.

Client: BAA Lynton

## Royal Mail, Site 520 Heathrow Airport

Two sites located strategically on the Heathrow airport boundary with direct airside access and adjacent to the airport's existing cargo area and the British Airways World Cargo Centre. The first building of the 13,000m<sup>2</sup> development was pre-let to Royal Mail.

Client: BAA Lynton



Project Caesar

## Building 549 Heathrow Airport

Building 549 is an airside/landside air cargo transit facility with ancillary offices, car and lorry parking and yards.

The operator of the building, Plane Handling said: "The building is a great success operationally and has improved health & safety."

Client: Heathrow Airport Ltd



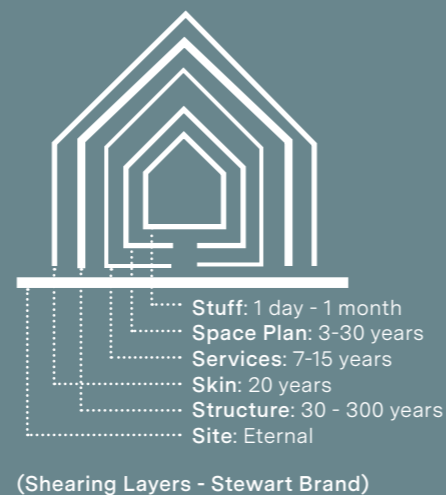
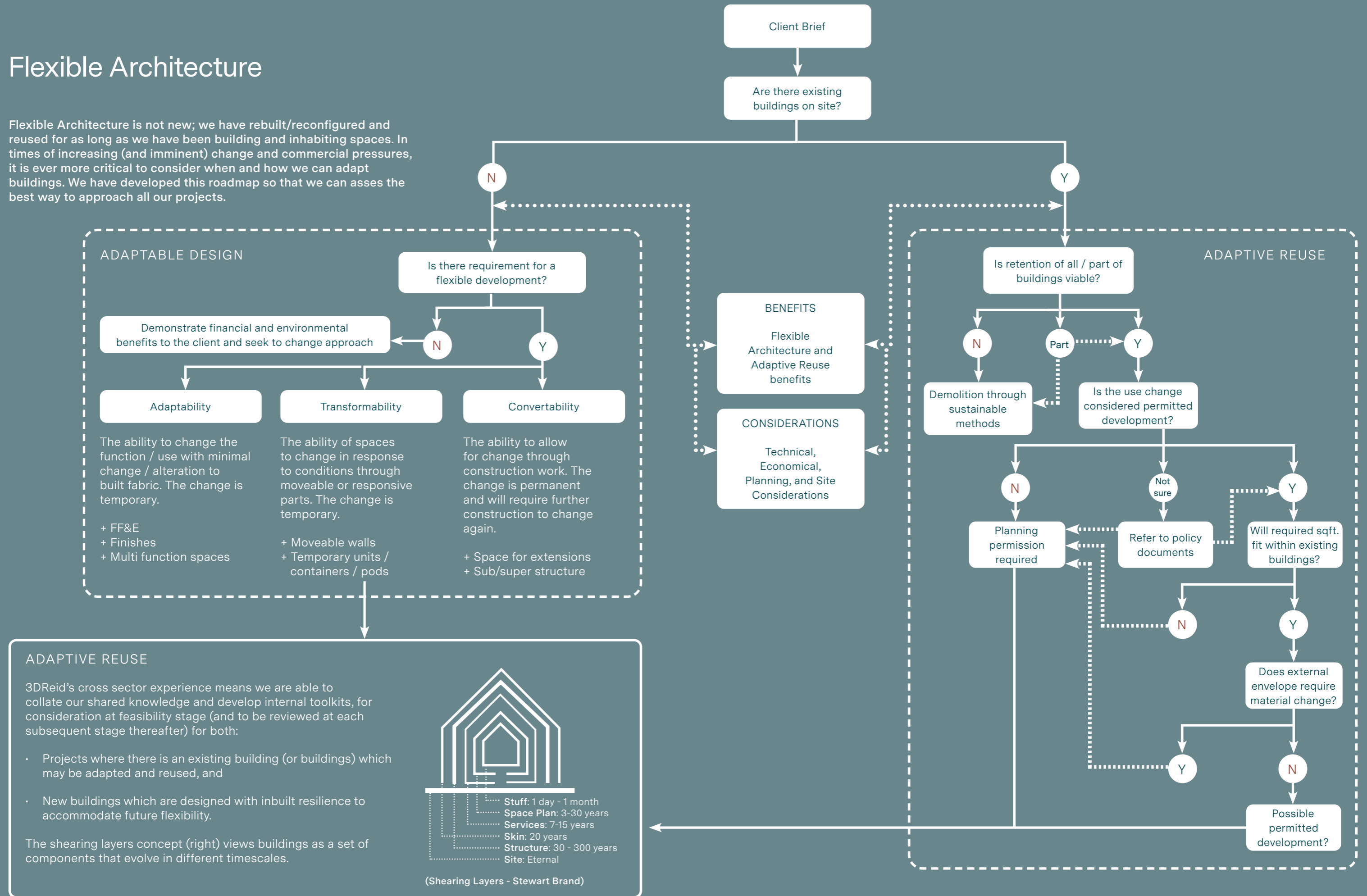
Building 549.

*Selected Experience*

Flexibility  
Adaptability  
Sustainability

# Flexible Architecture

Flexible Architecture is not new; we have rebuilt/reconfigured and reused for as long as we have been building and inhabiting spaces. In times of increasing (and imminent) change and commercial pressures, it is ever more critical to consider when and how we can adapt buildings. We have developed this roadmap so that we can assess the best way to approach all our projects.



## ADAPTIVE REUSE

3DReid's cross sector experience means we are able to collate our shared knowledge and develop internal toolkits, for consideration at feasibility stage (and to be reviewed at each subsequent stage thereafter) for both:

- Projects where there is an existing building (or buildings) which may be adapted and reused, and
- New buildings which are designed with inbuilt resilience to accommodate future flexibility.

The shearing layers concept (right) views buildings as a set of components that evolve in different timescales.



# Adaptive reuse

The largest benefit of adaptable design is the ability to keep the built environment relevant and useful as time goes on. Occupant needs can change drastically even in the span of just a decade, and this typically results in the need for buildings to undergo renovations or other updates. If successful flexible and adaptable space is achieved at a reasonable price, then landlords would be able to respond to market conditions without altering the shell construction, thus maximising the return at all times, and minimising construction time and costs. With buildings that are purpose built and difficult to adapt the cost of refurbishment can be as high as new build.

Adaptable design offers an effective solution to the challenges that face designers in this new era of the sharing, collaborative economy. Ideally future savings would outweigh initial investment. Factors such as maintenance costs, life expectancy and cost of adaptations should be taken into account. By adopting an agile approach, designers and developers are creating truly innovative, configurable spaces that are fundamentally practical but unique to their setting.



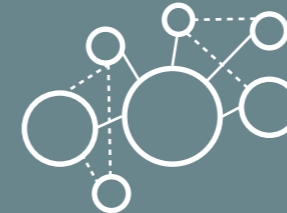
*Environmental  
Sustainability*

- The greenest building is often one that already exists. AR retains the embodied energy and carbon of the existing building
- 85% of the buildings which will be in use in 2050 already exist today – we need to learn to adapt and retrofit our existing building stock. (World Green Building Council 2019)
- Adaptive reuse is itself considered sustainable because of the reduction in building materials and resources needed to transform a space
- Adaptive reuse reduces the energy consumption and carbon emissions associated with demolishing a structure and building a new one to replace it
- AR conserves land and reduces the expansion of unsustainable urban sprawl and extensive daily commuting patterns.



*Economic  
Sustainability*

- Fewer hurdles generally associated with development of greenfield sites including legal issues, pressure from anti-development factions, zoning problems, finance, design and construction costs and environmental impacts.
- The adaptive reuse of existing buildings in general can be 16% less costly than other forms of construction.
- Typically an overlooked expense, demolition costs can run as high as 5-10% of the total cost of new construction.
- Many of these spaces also become ideal settings for start-up businesses because cost efficient shell space can be made available at a lower leasing rate than the market for new construction.
- Adaptive reuse can save time and therefore cost. A renovated existing building becomes suitable for occupancy sooner rather than later. This allows developers to have cash inflow and for cities to turn around desolate areas in a much shorter time frame.



*Social  
Sustainability*

- Restoring a historic space goes a long way in preserving local sense of place and authentic experiences that cannot be replicated elsewhere.
- With good design, displaying harmony between old and new infrastructure illustrates the community's identity.
- As more abandoned and dilapidated properties are revitalized, more businesses, communities, and healthcare facilities will see the benefits of adaptive reuse.



The urban strategy for Central Quay, Glasgow puts placemaking at the heart of the design process.

## How we support you in sustainability

We are RIBA 2030 Climate Challenge and Architects Declare signatories. We respect both commitments in our own processes and in the way that we work to support you in sustainability.

The RIBA 2030 Climate Challenge sets project targets for sustainability. In support of this, our in-house Environmental Management System (EMS) has been shaped to focus on our project work and minimisation of the associated Scope 3 emissions, and adopts the RIBA 2030 Climate Challenge targets. Our EMS is reviewed and updated annually, and is independently certified as ISO 14001 compliant.

Architects Declare have set twelve points for engagement by built environment professionals. We have made our own statement of the twelve points and the processes defined in our in-house EMS reflect them.

### 01 Raise Awareness

We will:  
Prioritise sustainability in client and team interactions  
Make sure that practice members and all stakeholders know our targets

### 03 New Goals

We will:  
Recognise and reward sustainability in our own work  
Enter our best projects for sustainability awards

### 05 Evaluate Projects

We will:  
Use energy modelling (such as PHPP or CIBSE TM54) iteratively from project inception  
Promote the best certification process (such as BREEAM)  
Promote lifecycle carbon assessment  
Promote post-occupancy evaluation

### 07 Whole Life Carbon

We will:  
Determine how lifecycle carbon will be assessed at briefing  
Ensure that building energy use is accurately modelled and that fossil fuel use is not disguised by offsetting  
Promote low energy, low embodied carbon design that enables circularity and re-use

### 09 Collaborate & Re-use

We will:  
Promote the use of reclaimed materials, including structural materials  
Promote material passporting  
Collaborate with like-minded clients, consultants and contractors

### 11 Minimise Waste

We will:  
Design to enable low-carbon lifestyles and active travel, and minimise car dependency  
Promote low carbon choices in our own practice life  
Design spatially efficient buildings that minimise waste in construction

### 02 Change Fast

We will:  
Engage with relevant professional groups and knowledge-sharing events  
Publicise our own approach and targets

### 04 Share Knowledge

We will:  
Identify project-relevant sustainability knowledge at briefing  
Share our own R&D widely  
Consistently state our values via the channels that are open to us

### 06 Upgrade Existing

We will:  
Promote re-use or retrofit and avoid unnecessary demolition

### 08 Regenerate

We will:  
Promote connections to nature  
Promote natural regeneration where opportunities exist  
Promote the use of natural, minimally processed materials from sustainable sources  
Be aware of the potential for 'greenwash'

### 10 Low Carbon

We will:  
Promote the use of low carbon structural materials  
Ensure that all team members, including specification writers, give priority to low carbon materials  
Communicate the demand for low carbon materials to suppliers

### 12 Climate Justice

We will:  
Advocate for biosphere protection and defend the freedom of individuals to engage in such advocacy  
Act in support of justice with respect to the environment consistent with our capacity to effect change.



Retail / Primark Birmingham.



Aviation & Rail / Gibraltar Airport.

### Cross Sector Expertise

Take a look at our work in further sectors. All of our brochures can be downloaded from our website: [www.3DReid.com](http://www.3DReid.com)



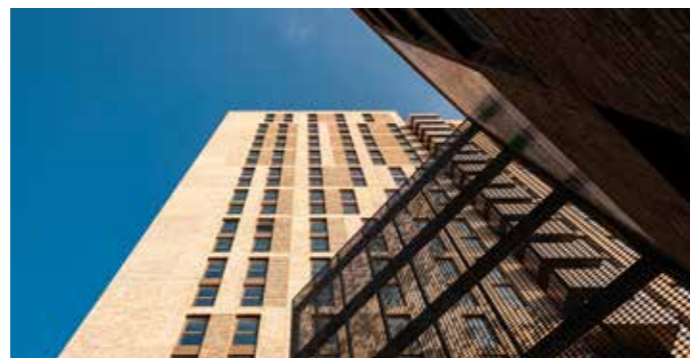
Culture & Community / Thistle Centre of Wellbeing, Edinburgh.



Hospitality / Gleneagles, Edinburgh.



Workplace / One Angel Square Manchester.



Residential / Apex House, London.



Education / Seamab School, Kinross.

*“Our ever increasing reliance on technology and online retail, coupled with an extraordinary rate of change, makes this a highly dynamic and exciting sector to be working within.”*

*Mark Lorimer  
Director, 3DReid*

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Spaces that work,  
*beautifully.*



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