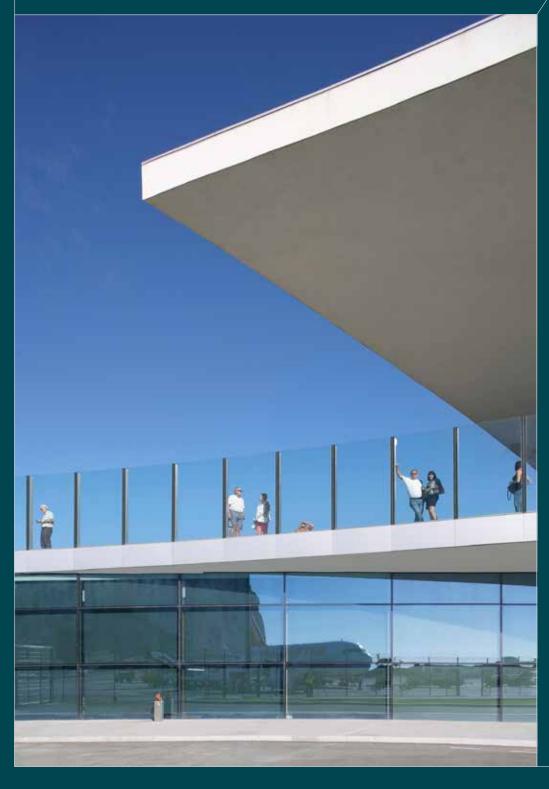
Aviation

Design Experience

2024



3DReid

3DReid

Aviation

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Introduction

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

We are a creative team of over 110 people working across five UK studios. Our cross sector experience includes aviation, culture & community, education, hospitality, industry & technology, residential, retail & leisure, workplace and urban regeneration.

We are proud of everything we do, from concept to delivery. We believe that the best architecture is responsive to its context, legacy, and most importantly the needs of its users. We work hard to create built environments that look to the future and are truly sustainable.

The success of our practice and the quality of our projects relies on the quality of our team. We encourage our people to move across the organisation, work with different colleagues on different projects and share knowledge, resources and ideas. We believe this improves our skills and expertise and enriches the work we produce for our clients. Our rigorous and pragmatic approach to design helps ensure our projects are delivered on time and on budget.



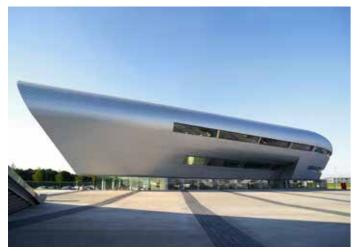




Hanna Edgren, Associate Director



Our UK aviation experience covers airports across the country, from Aberdeen to Southampton, and includes regional airports, executive terminals and major hubs. Globally we have worked across a number of major airports and FBO's in Brazil, the US, Gibraltar, Antigua, the Maldives and Abu Dhabi.



Farnborough Airport Terminal



Paul Green, Director / Head of Aviation and Rail

We masterplan and design all aspects of an airfield's operation, from logistics and operational buildings to new passenger terminals and aircraft hangarage. We have established a strong reputation for terminal refurbishments, building a portfolio of complex projects that enhance the passenger experience.

We have a keen understanding of the political, business and stakeholder drivers of the airport operations and we are experienced in dealing with the specific challenges of working within live, passenger facing environments.

The following pages show a selection of our projects, focussing on FBO's and regional airports.



Mark Lorimer, Director / Head of Industry and Technology



Andrew Marshall, Director

About usOur team

We are a creative team of over 110 people working across five UK studios, providing architectural design, interior design and masterplanning expertise.

We believe that the best architecture is responsive to the needs of its users, to its context, and is mindful of its legacy. Sometimes this calls for a bold solution: a number of our completed projects have emerged as landmarks in their own right.



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

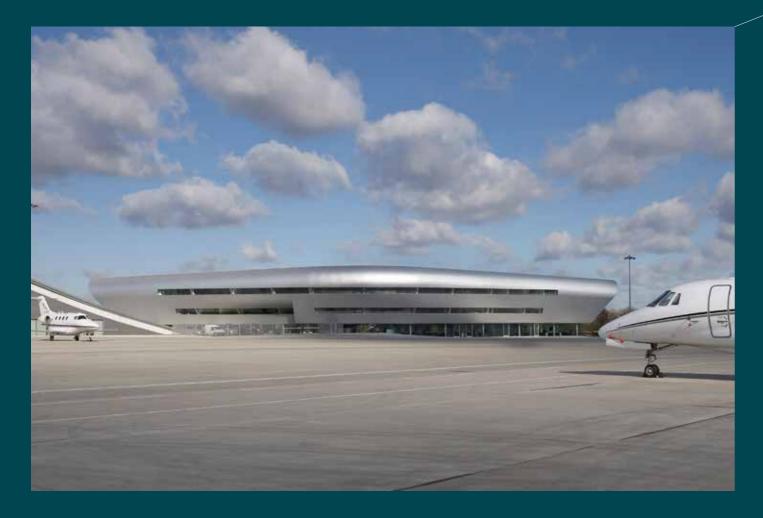
We bring value to all of our projects through clear analysis and well executed design. We approach every project with the same ambition, across all sectors, whether it is a hotel refurbishment, a workplace or a new airport terminal. Every building we design must work beautifully.

To many of our clients we are the go-to practice for inspiring, considered design solutions that leave a positive impact on occupants, future generations and the environment.

01

Terminals & FBO's

Selected Projects



Our experience of Business Aviation Terminal design stretches back over 20 years and covers a comprehensive portfolio of FBO facilities within the UK and Gibraltar and internationally at Moscow, Sao Paulo, Dallas and the Maldives. We work closely with clients to develop designs that are truly unique and reflect brand aspirations. Aviation

Farnborough Airport Hampshire

3DReid won an international design competition to create 'Europe's premier Business Aviation facility' at Farnborough Airport for 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 both a terminal and associated operational and maintenance buildings, and also become their headquarters building.

TAG Aviation's clear vision for the future presented us with an inspirational challenge: to develop an architecture that captures the romance, technology and excitement of flight. We set out to create a theatre of aviation, with aircraft as the actors. 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.

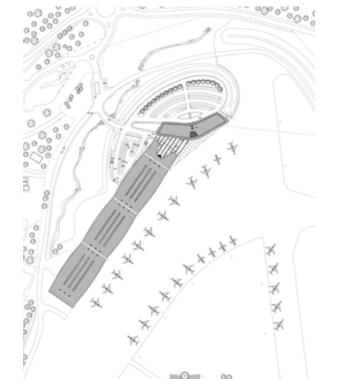








Atrium space filled with light.



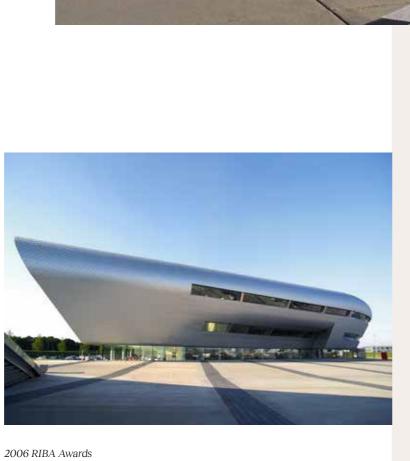
Farnborough site plan.



Southern Region (Winner)

2006 Building Awards Project of the Year (Winner)

2003 Structural Steel Design Awards Major Scheme (Winner)





Signature FBO Luton Airport

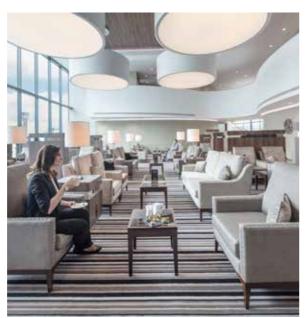
A new standalone executive jet facility for Signature Flight Support, one of the world's leading Fixed Base Operators. The building includes a 2,400 sqm VIP terminal and 5,000 sqm hangar facility capable of housing 2 BBJ aircraft and a dedicated ground support equipment store and workshop.

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







 ${\it Massing model of Signature's hangar developed as part of the project.}$

FBO Competition Winner *USA*

The client's brief for this winning competition entry was to design one building with multiple business functions.

The building needed to function as an FBO, Hangar, Exhibition & Events Space and Military area all under one roof. The plan allows for a marketing and conference suite as well as a flexible exhibition space that can be transformed into a banquet hall accommodating up to 450 people or talks for 600.

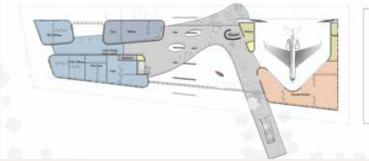
We introduced two 'service spine' elements with support accommodation such as restrooms and kitchens. A double height FBO lounge gives passengers and visiting aviators a memorable experience and a high level of comfort. Adjacent to the FBO lounge, a dedicated two storey VVIP volume provides both privacy and convenience.

With an ATC Tower behind the proposed building the roof had to remain a low profile to allow for uninterrupted sightlines to the airfield. The roof form is fluid while responding rationally to the relevant design constraints, including structural economy. The roof was shaped to help views through the building from landside to airside and to assist rainwater runoff. The column positioning was also carefully considered to maximise views through the building.

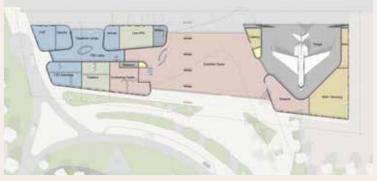




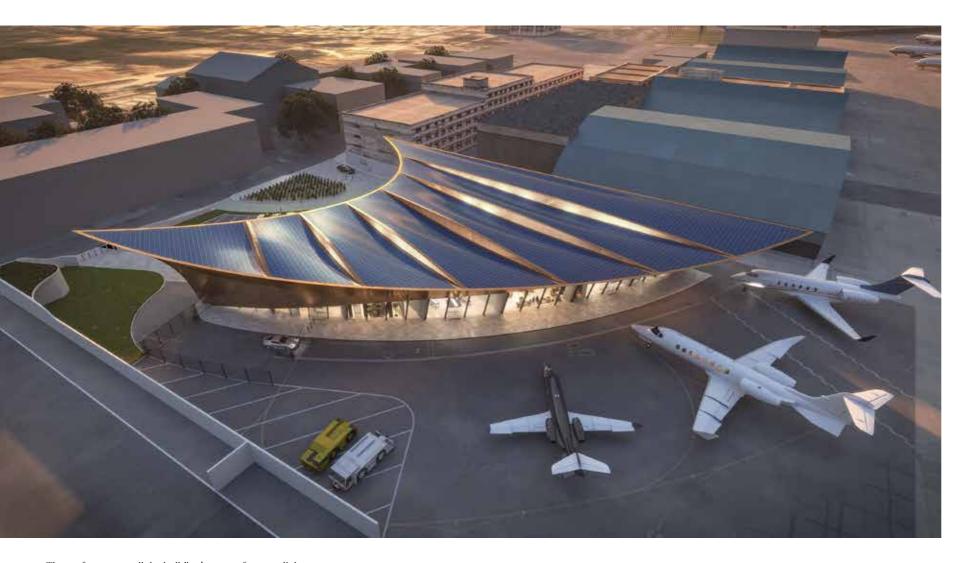
Solar protection for most of the day is provided by the oversailing roof and internal blinds for low angle sun.



First Floor Plan



Ground Floor Plan



The roof generates all the building's energy from sunlight, harvests rainwater and provides protection from the elements for both departing and arriving passengers



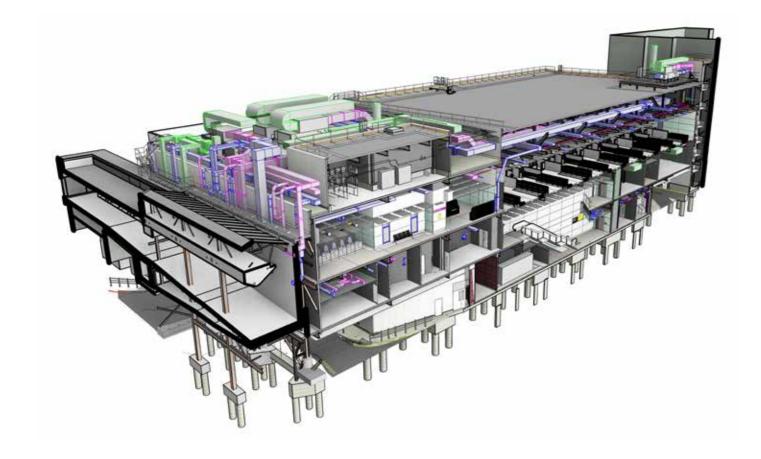


FBO Design Competition India

3DReid's entry was shortlisted in this international competition to design a new Terminal for a well established international operator.

Our proposal creates a dynamic and beautiful building that will enhance passengers' experience in a statement design, embodies the quality and luxury of the Client and set a new benchmark for all future FBOs. An expressive form and rich materiality creates a building that conveys the excitement of air travel and evokes the craftsmanship of the local area.

From the air, the expressive roof shape evokes the aerodynamic language of aviation. The roof generates all the building's energy from sunlight, harvests rainwater and provides protection from the elements for both departing and arriving passengers. Rooflights follow the curves of the first floor interior and allow for natural daylighting.



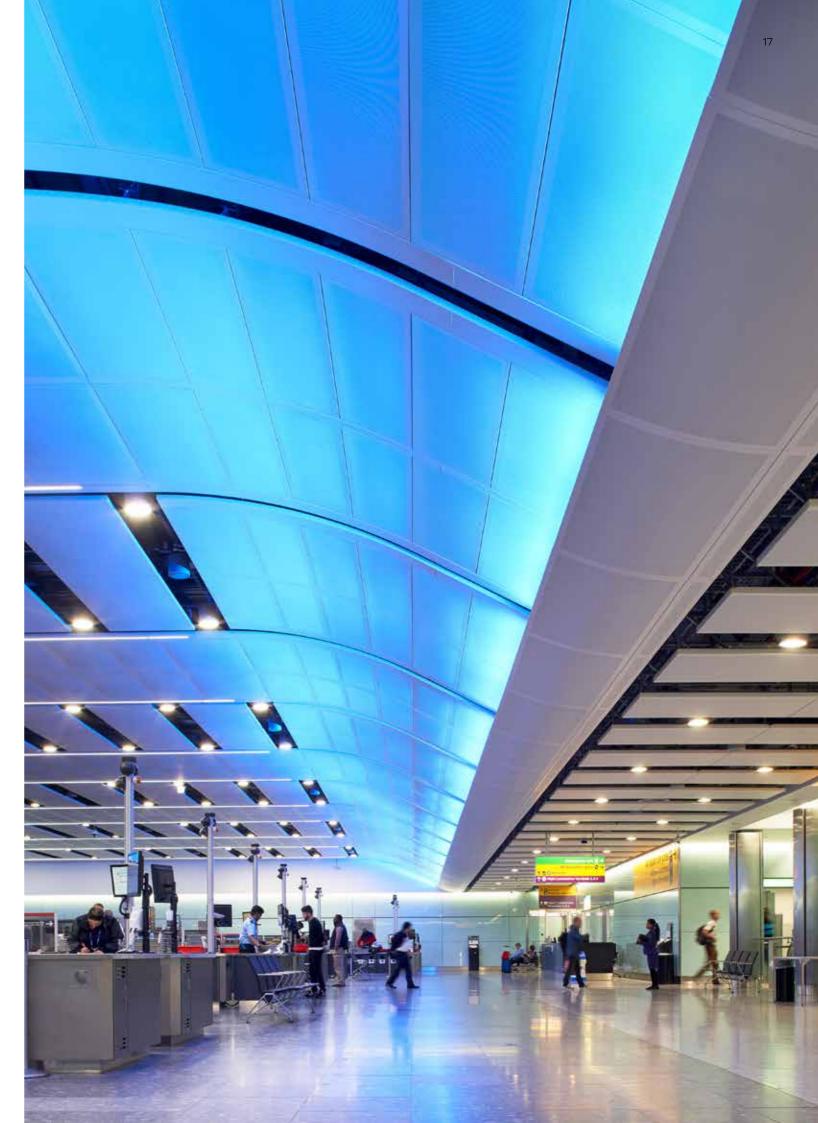
Heathrow T3, Flight Connections Centre London

3DReid provided architectural design and BIM management services on all design stages of the new Heathrow T3 Flight Connections Centre (FCC). The project involved the demolition of the existing FCC prior to the delivery of a new facility designed to meet the projected growth in connecting passenger numbers at T3 over the next 20+ years.

The new facility provides 7,000m² of accommodation including a 2,000m² 10 lane security search area (with peak hour capacity of circa 1500 passengers), orientation and information zones, 46 airline service desks, coached connections to other terminals and revenue generating commercial spaces.

We took the opportunity of the vast, clear search area to create a theatrical 'sweeping ribbon' ceiling concept punctuated by aesthetic lighting and natural daylight.

The demolition and construction took place airside in a location constrained on all 4 sides by interfacing existing buildings containing live passenger and baggage processing areas and above an operationally critical airside road.







Skyhub Glasgow Airport

Refurbishment and two-storey extension to the Terminal Building at Glasgow Airport incorporating additional landside and airside retail facilities, bars and restaurants on the ground floor with security, baggage check and duty free areas on the first floor.

Client: BAA.





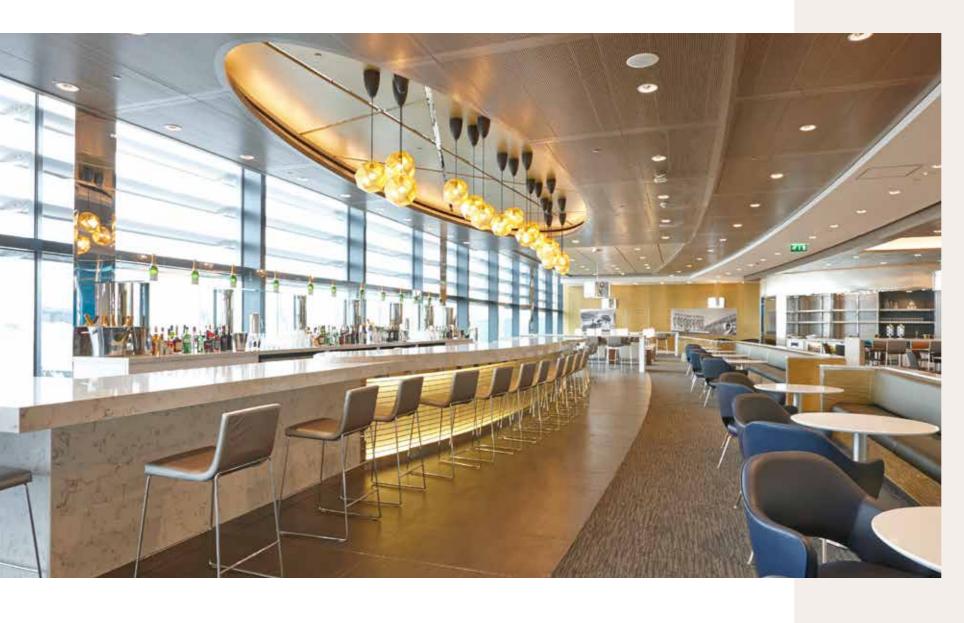
02

Lounges & Interiors

Selected Projects



The secret to a successful environment lies in the look and feel of the spaces, from the first impressions set upon arrival to the everyday functional areas. Going beyond interior design to create a sense of well-being requires a command of spatial design combined with a thorough understanding of the customer base.





The airline's first facility outside the US to feature its new United Club design concept, the lounge is an impressive space – large, airy and luxurious, it seats more than 280 guests

United Airlines Lounge *Heathrow T2*

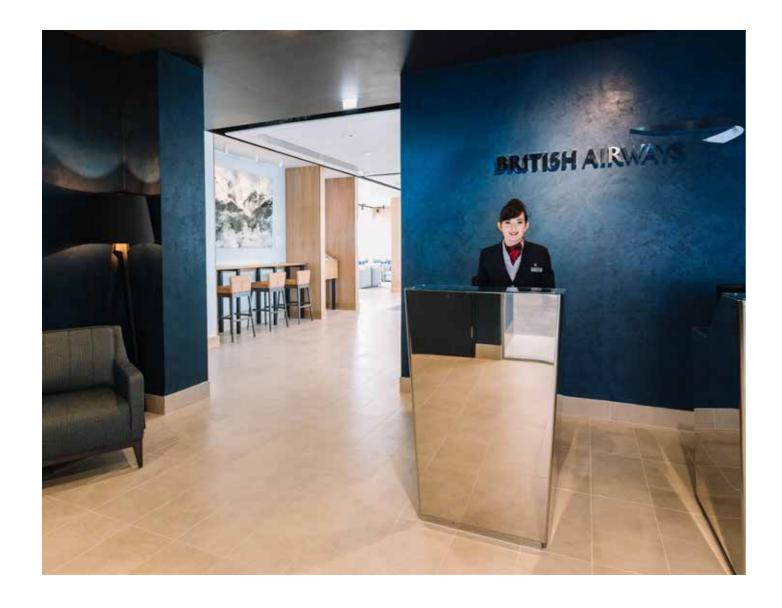
Located in the newly completed Queen's Terminal (T2) at Heathrow, the United Global First Lounge is one of two new United facilities at Heathrow's new Star Alliance terminal.

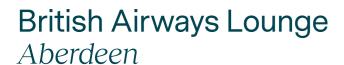
Building the United brand is key to future lounges and 3DReid worked closely with Chicago based practice Solomon Cordwell Buenz on designs for the interiors of the Club and First Class lounges.

The facility reinforces a new design concept launched at Chicago O'Hare airport. Notable features include a long, sweeping bar, high-quality finishes throughout and floor to ceiling windows with views across the airfield.



25

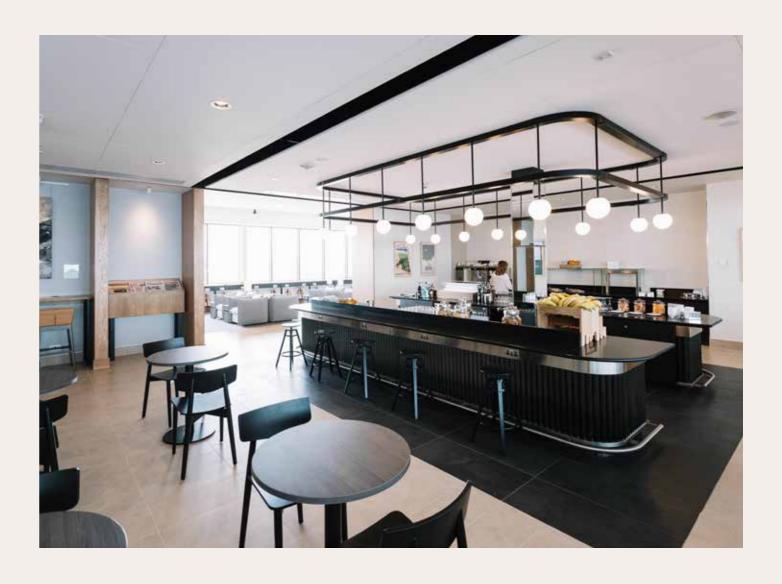




Aviation

We worked closely with British Airways development team on the 380sqm BA Lounge in Aberdeen Airport which encompasses a reception, seating area, bar, food to go, VIP area, office and F&B catering areas. The bar was designed as the focal point of the Lounge, with a series of connected smaller spaces to suit all BA customers' needs. The lounge overlooks the runway and houses bespoke furniture and fittings such as the feature lighting, marble topped tables and a crafted black silestone topped bar.

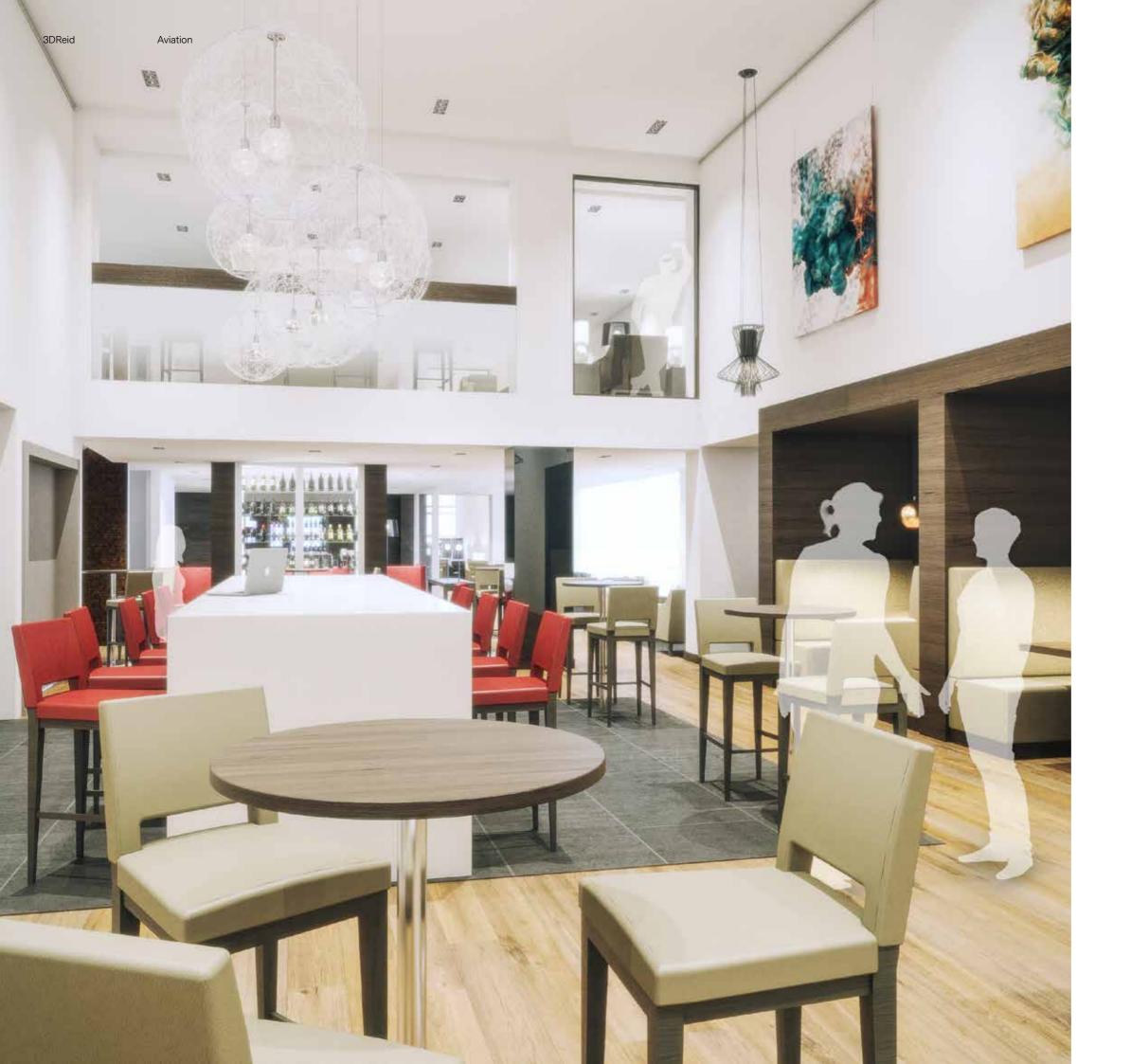
3DReid was appointed as the Architect and Interior Designer for the BA Lounge at Aberdeen Airport. This follows on from further recent experience, as the Architect, working on the BA Lounges in Edinburgh, Glasgow and Gatwick.



"Based on the BA Futures Manual, we developed a design concept to create a better use of the space, while still making it feel contemporary and luxurious."







British Airways Lounge Gatwick

The construction of a branded lounge aligns with the move of British Airways operation from North to South Terminal in November 2016. The lounge is required to serve first and club class passengers of 70 flights per day equating to a maximum of 439 passengers at peak hours.

British Airways' lounge provides two distinct seating areas; the Galleries Club lounge accommodates a peak occupancy of 341 passengers where seating is split across the main concourse level and a smaller mezzanine level above. Food and beverage is served from a large kitchen via a number of bespoke catering joinery units with integrated fridges, hot plates, chilled wells and wine storage. Additional Galleries Club facilities include an independent study area, an acoustically enclosed family room and showering and washroom facilities.







Gatwick NT International Departures Lounge Refurbishment Gatwick Airport

A comprehensive update of the North Terminal international departure lounge. The project scope includes the design of an eye-catching orientation zone, incorporating a striking, curved LED installation suspended from the ceiling; new flooring and retail bulkheads.

The upgrade also includes new fixtures and furniture including the design of free-standing flight information display screens supported on curved "trees", new seating split across several themed zones; and a curved feature staircase, incorporating parametrically designed timber cladding and mood lighting.



03

Operational Facilities

Selected Projects



3DReid has established a reputation as a leading designer of Air Traffic Control Towers, creating a series of sculptural forms that combine optimal area efficiency with iconic architectural design.

Our involvement in hangar design covers a comprehensive portfolio of hangars to accommodate and service all ranges of aircraft, from light turbo prop's to A380's.

Our experience derives from an in-depth understanding of airfield operations and strong technical knowledge of the aircraft maintenance requirements. Our previous hangar projects include stand-alone and multi-bay hangars as well as mixed-mode buildings that include terminal facilities and FBO operations.





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 not only provide a terminal and associated operational and maintenance buildings, but also become their headquarters building. TAG Aviation's clear vision for the future presented us with an inspirational challenge: to develop an architecture that captures the romance, technology and excitement of flight. We set out to create a theatre of aviation, with aircraft as the actors. 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 building was awarded an RIBA Award in 2006.

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 useable 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







Jersey Airport FBO and Hangar

3DReid were involved in the concept stages for a new hangar and FBO, for Gama Aviation, within Jersey Airport. This project was revised from a previous architect's submission to include an integrated curvaceous design which met the 6,000m² hangar floor area requirement from the client.



UK Search & Rescue *Multi-site UK*

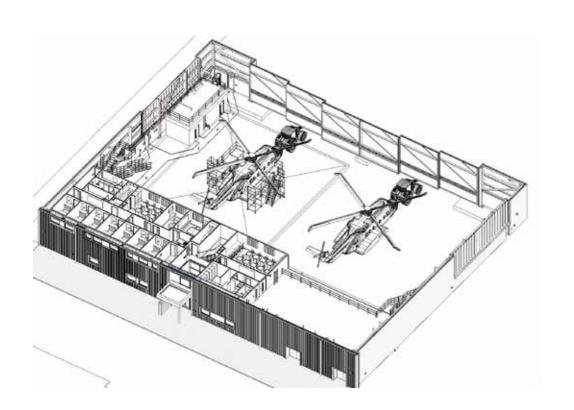
3DReid was appointed as part of Bristow's agreement to take over the UK's helicopter search and rescue operations, replacing the RAF/Royal Navy service. This is a blue light service operating 24 hours a day / 7 days a week /365 days a year.

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 inc. decontamination area, workshops and avionics, personnel support accommodation inc. sleeping and recreation areas, training briefing rooms.

Client: Bristows / Balfour Beatty



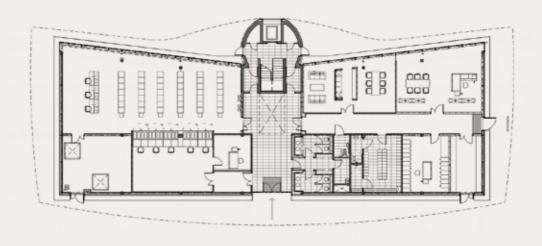






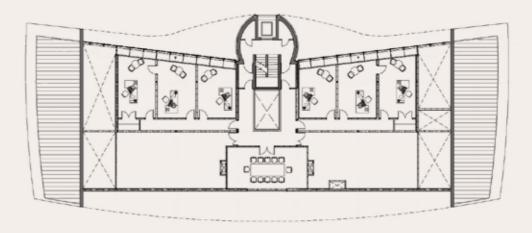
Farnborough Airport ATC

At Farnborough, the integration of the 35m tower and support building was resolved by using a seamless brushed aluminium skin as a cloak, and extruding it up the stem of the tower before flaring outwards to support the VCR.

















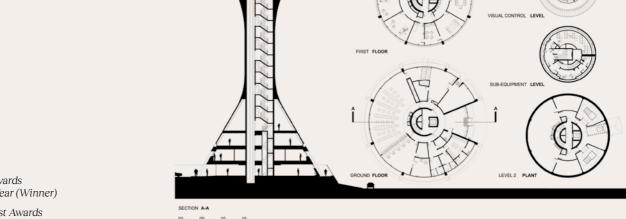
Edinburgh Airport ATC *Edinburgh*

An award winning landmark that announces the airport's location to passengers. The iconic 57m high tower design has been adopted by Edinburgh Airport as their logo. With 14.7 million passengers per year, Edinburgh Airport is Scotland's busiest Airport, and the 6th busiest airport in the UK.

The form of the Airport Traffic Control (ATC) Tower emerged from an in-depth design study developed using our experience of earlier projects such as Farnborough. The chosen arrangement minimises construction cost and maximise efficiency of operations by placing all technical equipment at the base and freeing up the observation spaces for movement and sightlines.

Unlike most ATCs that are often situated deep beyond the airside boundary, Edinburgh sits on edge of the approach road to the departures drop-off, therefore requiring a much higher quality finish and detailing. Diamond shaped aluminium shingles were selected as the cladding, allowing for a fluid form and creating valleys for rainwater dispersal.

A number of low energy concepts have been integrated into the tower design including the use of free air cooling, rainwater harvesting and greywater recycling.



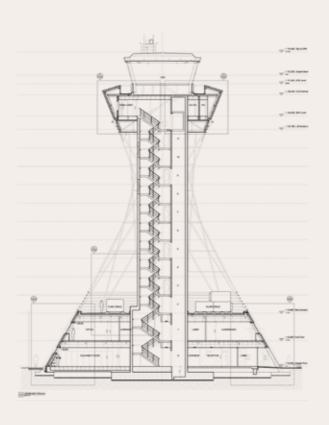
2006 Saltire Awards Project of the Year (Winner) 2006 Civic Trust Awards (Commendation)



Newcastle Airport ATC

46m high tower won in industry competition to replace the existing tower and improve site lines for controllers across the airfield.

The circular base-building geometry, compared with linear or square options, generated significant cost savings; VCR and sub-equipment rooms were prefabricated, allowing them to be lifted into position and secured safely in the minimum time.





Selected Projects



3DReid has led numerous airport masterplanning projects, both in the UK and abroad. We have a wide range of experience, from large developments for existing major airports to smaller executive aviation airfields.





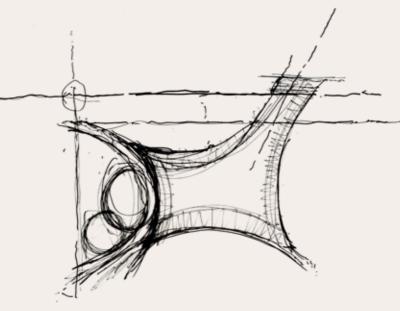
Gibraltar Airport

World-class facility with the famous Rock of Gibraltar as a backdrop

The Gibraltar Airport terminal is the first building visitors see when they enter Gibraltar by air, road or on foot. It is located immediately at the frontier and had to overcome a site with tight constraints on all sides with the frontier with Spain to the North, the existing airport runway to the South, RAF restrictions to the East and Winston Churchill Avenue to the West which intersects the airport runway.

Gibraltar Airport terminal interior is organised over two floors, with a double-height concourse for check-ins and arrivals. The departures lounge occupies the first floor and extends out onto a balcony terrace that spans the building and branches out to the west with views out across the water and to the rock itself.

The large over-sailing roof provides shelter from strong sunlight. The fully glazed façade and roof-lights maximise daylight, creating a bright and airy interior and reducing the need for artificial lighting, reducing running costs.



Concept sketch.



d Aviation

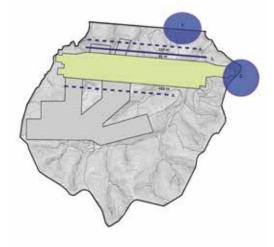


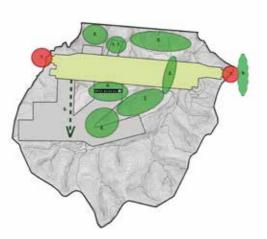
Sao Paulo Airport

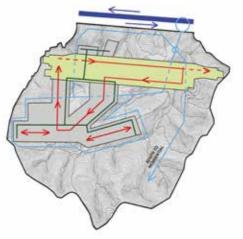
Aiming to be the first dedicated facility of its kind in Brazil, this private airport masterplan will comprise two runways, one for international flights and the other for domestic operations. In addition there will be the phased provision of apron accommodation, an international VIP terminal and integrated ATC tower, an international VVIP terminal, domestic fixed FBO, fire and rescue facilities, data centre and additional ancillary buildings.

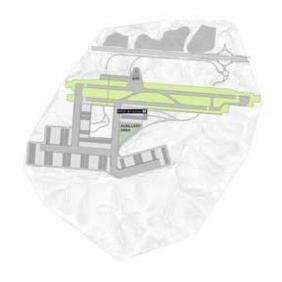
The scheme started on site in 2014.

The airport acts as a catalyst for the wider commercial development of the area to include housing, educational campuses and commercial offices.

















Male International Airport Maldives

Full 25 year masterplan and new terminal design for this existing airport facility in the Maldives. The masterplan aimed to maximise the efficiency of this constrained coastal site, whilst allowing for future flexibility.

The design had to touch the earth lightly in both form and materials and using passive methods of design, in keeping with the idyllic setting and large tourism based traffic.

The design achieved a high LEED rating. Simple planning allowed for focus to be applied on the finishes and lapping waves roof, making the terminal a real gateway to the island.

Beyond the Airport

Selected Projects



Aviation drives business, and there is a strong focus from many airport operators on commercial and real estate development.

3DReid has been at the forefront of office and workplace design for over twenty years and has also worked on a broad range of airport hotel projects. Aviation



West Village break out area with short stay workspace.

Business Facilities

We have built both large headquarters and smaller business centres.

FBO Airport clientele have a wide choice of airports to fly to. The ability to continue working, book meetings and conferences and use the airport as a base can reduce commuting time for people with busy lives. The FBO Airport can be a hub for International businesses to meet.



Meeting space at Hotel Indogo, Manchester.



Cargo 777

Project Caesar Heathrow Airport

Air cargo perishable transit facility, including food testing laboratories.

Innovations & Added Value 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.



Cargo 777

Heathrow Airport

high quality finish offices on 3 levels.

Speculative Development 2004.

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

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

Royal Mail, Site 520 Heathrow Airport

Two sites located strategically on the Heathrow airport boundary with direct airside acess and adjacent to the airport's existing cargo area and the British Airways World Cargo Centre. The first building of the 13,000m² development was pre-let to Royal Mail.





Royal Mail, Site 520



Hazel Bar & Restaurant, AC Marriott Glasgow.

Hotels & Accommodation

Whether a hotel room for a short stay, serviced apartments for longer visits, suites to facilitate a conference or rooms for pilots and operational staff, an airport often has a requirement for accommodation.

A hotel can be a source of revenue and support the airport's functions. With the opportunity to integrate restaurants, bar, cafe, lounges, spa facilities, meeting and conference rooms, a hotel offer can enhance the passenger experience and increase the airport's income.



 ${\it The Arkwright Room, Hotel Indigo Manchester.}$



Hotel Indigo Manchester.

AC by Marriott Glasgow

Set just off George Square in Glasgow City Centre, our interiors team designed the public areas for this hotel within the existing historic building and the adjacent new build. Using brand guidelines and adding our own unique design influences to the scheme, we developed the concept for reception area, bar, lounge, restaurant, meeting spaces and main stair. Materiality is key to this project and we spent alot of time refining the finishes, both in terms of the built elements and the furniture packages.



Village Hotel casual dining.

Hotel Indigo *Manchester*

Hotel Indigo Manchester is a 187-guestroom five star boutique hotel that forms part of the IHG portfolio, designed and delivered by 3DReid.

The Hotel embraces a fusion of two very different types of building – the historic existing Grade II listed building connected at each level to the new build 14 storey extension. The design connects these two buildings, not too traditional nor contemporary and there is a seamless flow between them.



AC by Marriott public spaces.

Village Hotel Portsmouth

3DReid has worked with Village Hotels for over 10 years designing and developing new architectural and interior design concepts for the Village portfolio of properties, across the UK.

The interiors offer all the style, comfort and facilities expected in a Village Hotel on a compact footprint including vibrant guestrooms, casual dining spaces, restaurant, Village V Works and Village Health and Wellness Suite with pool, gym and fitness studios.

Client: KSL / Village Hotels



Competition entry for Museum of Flight, East Fortune, Scotland



3DReid was successfully shortlisted for the Phase 3 development of the National Museum of Flight, concerning the formation of a new building to serve as an arrival gateway to the wider site, in addition to housing an exhibition centred around commercial flight, featuring Concorde.

Situated on the edge of the East Fortune airfield, a former WW1 and WW2 air base and designated Scheduled Monument, our proposals seek to use this as a key touchstone in respect to the development of an architectural language that is also sensitive to the wider rural area, in which the museum is sited.

A simple overarching shell ensures that the proposed exhibits remain the primary point of visual interest. Within this, a secondary architecture, drawing its

inspiration from the structures of the former airship hangars that once graced the site, guides visitors through the exhibition, culminating in a tower that facilitates views across the wider historic airfield, recognising the site as a museum piece. This new architectural language also suggests a device via which future wayfinding and interpretation can be introduced around the airfield, as the museum continues to develop.

Client: National Museums Scotland









Euston Train Station *London*

The new HS2 line will terminate at Euston train station. Built in 1968, Euston is the sixth busiest railway station in Britain, the southern terminus of the West Coast Mainline and the busiest passenger route in Britain. Euston train station serves over 71 million people each year, it's a gateway from London to popular destinations like Birmingham, Manchester, Edinburgh and Glasgow.

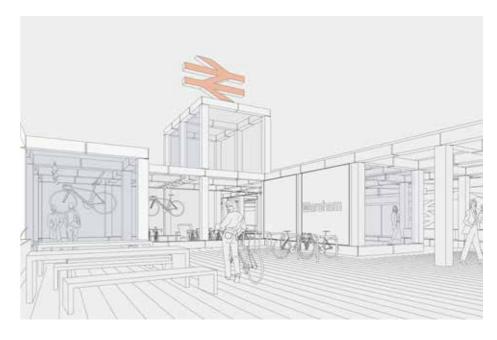
The HS2 terminus will be built to the west of the existing station. Two existing platforms have been taken out of service to accommodate the new station. This will exacerbate a congestion currently experienced at Euston Station during peak times and periods of disruption. 3DReid has been appointed by Skanska to investigate and propose a number of interventions required to keep the existing station safe and operational.

We have delivered a newly configured London Underground entrance/exit to ease passenger flow, improve congestion and enhance the concourse retail and F&B offers. Alongside this we have been working on a number of interventions to improve the passenger flow and experience.









Station Alphabet uses a three metre module. A wide range of spatial arrangements is possible, ranging from open spaces such as arrival courtyards to fully enclosed support spaces (passenger WCs, railway staff welfare).

Some existing stations on the UK network successfully incorporate complementary uses. For example, Wareham in Dorset has a bicycle shop, and Corrour station house in the Highland region is a popular inn for ramblers.

Station Alphabet lends itself to layouts that facilitate complementary uses: for example, a bicycle cafe and repair shop. The module easily extends to enclose adjacent outdoor spaces and promotes natural surveillance.

Network Rail Competition

Competition led by the RIBA to redesign Network Rail Stations. Our proposal was for a simple, modular, robust, and sustainable design language for small to medium sized railway stations across the UK. It is adaptable to and sympathetic with a wide range of urban and landscape contexts, and with existing buildings.

The proposed language also extends Britain's rail design heritage. In the early 1960s, Jock Kinneir and Margaret Calvert developed a new typeface for Britain's railways: Rail Alphabet. In the same period, the consultancy Design Research Unit developed a new graphic identity and introduced the 'double arrow' logo, still in use at stations. 3DReid's proposal provides the three-dimensional counterpart to the Kinneir and Calvert typeface and to the graphic

identity that featured it: we've called it a Station Alphabet.

Station Alphabet is essentially modular—a 'kit of parts'—and uses timber (a low embodied carbon material) as its primary structural material. Where modules connect to form longer spans, engineered timber is used. A range of shelter types is possible, from full enclosure to canopies and wind break walls. The module can be in-filled to become solid using a material with local significance (for example: flint or brick). The module can also be in-filled with a three-dimensional version of the 'double arrow' logo.



Spaces that work, beautifully. 103 Colmore Row B3 3AG T +44 (0)345 271 6200 36 North Castle Street EH2 3BN T +44 (0)345 271 6300 45 West Nile Street G1 2PT T +44 (0)345 271 6350 1 Hills Place T +44 (0)345 271 6100 26 Cross Street M2 7AQ T +44 (0)345 271 6250 3DReid