



SECTOR CAPABILITY

AVIATION





Madrid Barajas
Spain



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CHALLENGES FOR AIRPORTS

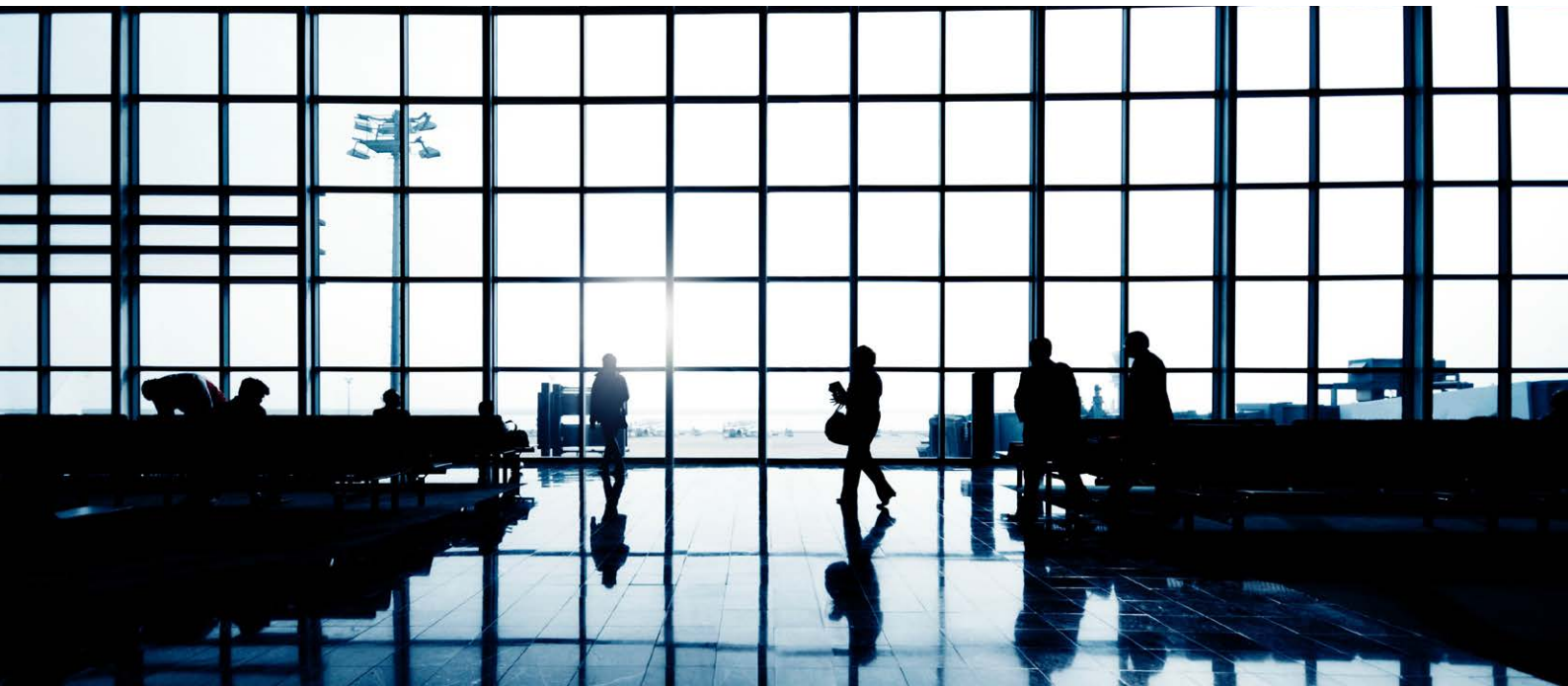
The International Air Transport Association (IATA) believes that, by 2035, air passenger numbers could increase by 100% above current levels. This would result in an additional 3.7 billion passengers worldwide. In Asia alone, passenger numbers are increasing at 9% per annum.

Airports need to prepare for these huge increases. According to IATA Director General and CEO Alexandre de Juniac, a broad range of initiatives need to be implemented; “Runways, terminals, security and baggage systems, air traffic control, and a whole raft of other elements need to be expanded,” said de Juniac. “This cannot be done by the industry alone. Planning for change [such as this] requires governments, communities and the industry working together in partnership.”

It is plain that collaboration is vital.

Another major factor for airport owners and operators is the speed at which change is occurring. New technology pervades all areas; from aircraft themselves through approach, runway and taxiway lighting, to tower-based traffic control systems and intelligent gate and docking automation, making investment decisions more difficult.

The challenge to both large and small airport operators is how to upgrade systems, facilities and efficiency while at the same time coping with an increase of pressure on costs and profitability from expanding throughput.



OUR APPROACH

The answer is to work smarter; use new technology, integrated systems and to devise new takes on old problems.

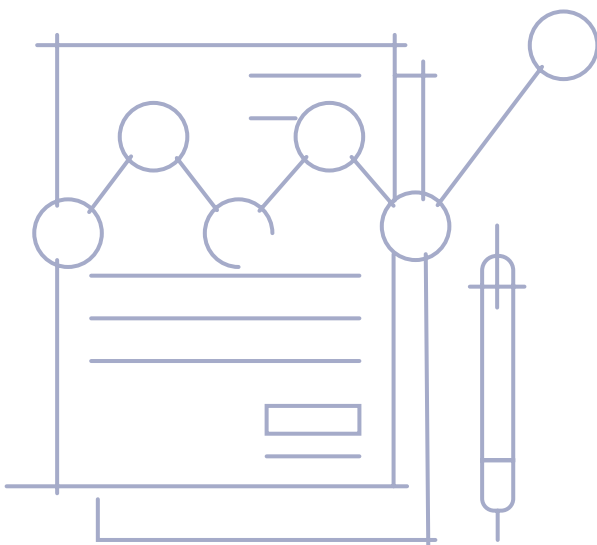
With airport projects, detailed planning is crucial so as not to risk significant negative consequences. Having a clear understanding of these factors enables us to contribute to the success of your project.

We have learned from our extensive experience that airport construction projects are typically subject to significant cost premiums due to a variety of factors.

As one of the world's leading professional aviation construction consulting firms, RLB understands the unique complexities of airport projects and the aviation industry. For more than 20 years we have lent our industry expertise to numerous international and regional airport developments.

Our comprehensive service offering is extensive and tailored to meet the requirements of each client which allows us to provide flexible options while responding to the local environment.

By combining our airport expertise, local knowledge, and dedicated cost professionals we are able to help our clients mitigate risk and deliver successful projects. Additionally, with our industry experience and in-depth knowledge, we have developed an extensive cost database which we are able to utilize to the benefit of our clients. Our ultimate goal is to ensure success for our clients and their projects.



BIM

RLB has embraced Building Information Modelling (BIM) and is working within a BIM environment across all of our service areas.

To support this change in our working environment, RLB has developed its own in-house software (ROSS 5D) which interfaces with BIM files created by the different software used by designers and consultants. ROSS 5D also dynamically links to our extensive cost database.

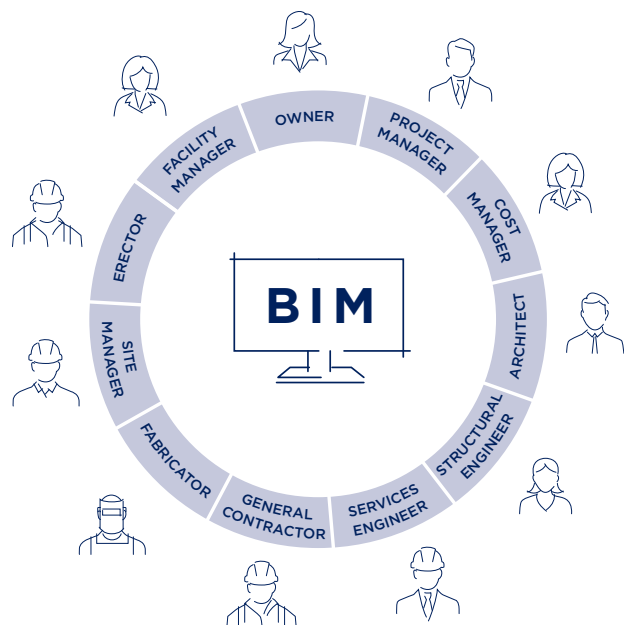
BIM represents a massive opportunity for our industry to improve the effectiveness and efficiency in various aspects of design, construction, operation and maintenance. RLB believes we are rapidly moving towards Integrated Project Delivery (IPD). This move will see further procurement benefits as all stakeholders collaborate and share risk / return to achieve optimised outcomes.

RLB has the skill sets and tools to realise the benefits of working in a collaborative BIM environment. Collaboration and a common understanding at the outset will allow us to work more efficiently, adding greater value to project outcomes.

- Efficiency – More efficient use of time with increased checking and co-ordination, providing greater accuracy, resulting in reduction in build costs
- Collaboration – The whole team works with common data
- Quality – Visualisation helps communication and allows greater coordination between all team members, adding value and reducing risk
- Clarity – 3D visualisation communicates design detail with greater accuracy to all team members and the client
- Accuracy – Better communication and clarity, increased accuracy and reduced reworking

OUR COLLABORATIVE APPROACH:

- RLB looks to be involved at the outset of any BIM project as a necessary way of meeting the project’s deliverables adequately and efficiently
- We work collaboratively with design teams and avoid the traditional approach where the cost consultant receives the design late in the process and produces their required output reactively as a ‘bolt-on’ service
- We understand the process undertaken to produce the design and utilise the data in the model from an early stage
- We work as part of the design team enabling them to produce commercially viable projects without stifling their creativity
- We highlight potential issues and solve them before they become a problem
- Joint decision making allows all viewpoints to be considered with speedier resolution
- We will spend time with your BIM teams to agree the information required for the agreed outputs, reducing unnecessary design work



COST DASHBOARD

- Clearly and graphically illustrates budget comparisons for infrastructure, permanent and temporary budgets
- Identifies headline costs & budget drivers and interdependencies
- Interactive Value Engineering opportunities
- Integrates key risks and opportunities
- Benchmarks against other projects, before and after VE
- Efficient analysis of design options and their effect on budget, program and value

KEY BENEFITS:

- Improves communication amongst design team
- Improves communication with the client
- Supports collaboration of the design team, client and key 'stakeholders'
- Dynamic interaction of cost, value and time to allow rapid analysis of 'What if' scenarios
- Reduces the impact of abortive design
- Aids decision making process
- Supports the definition of value and supports the drive to deliver VFM
- Integral with BIM
- Can be utilised at program and project level at all stages of the design process

Dynamic cost model example



WHOLE LIFE COST / LIFE CYCLE COST

Our approach to Whole Life Cost / Life Cycle Cost (WLC/LCC) is one which focuses on the business needs of the customer and aims to deliver a service which enables our customers to make informed decisions in relation to their property assets.

All aspects of the WLC/LCC role performed by RLB are carried out in accordance with our intranet-based operation system, Intelligence, which enables us to manage our project delivery from inception to completion and is the core of our quality assurance system. Whilst this sets parameters for the provision of the service, it also maintains flexibility to allow us to tailor our services to suit the requirements of individual clients should this be necessary.

We believe in a team approach where all those involved in the project have an equal opinion. We will work with you and not just for you. Our team will challenge the brief ensuring that you are delivered the right solution in terms of performance, whole life and, value for money.

We pride ourselves on our right first time culture and the accuracy in our modelling.

WEB-BASED DATABASE TOOLKIT

Rider Levett Bucknall have developed and refined a web-enabled database model, Total Cost Management (TCM) that integrates capital, energy, carbon and operation/life cycle replacement costs. This approach facilitates rapid development of a financial model to view the outcomes of various design options. It is based on a 'drill down' exercise from high-level review to individual component comparisons.

TCM is an ISO 15686-5 compliant software that exports its reports in MS Excel format and is therefore readily accepted and useable by all sectors. All data is held within the toolkit, which provides consistency and readily enables benchmarking. The data has been collected from various sources including industry-published data and our own internal data from previous and live projects. The toolkit has been developed, tested and improved over a period of ten years. This solution is ideal from initial feasibility through to financial close and operation. We also comply with relevant British and European directives. RLB were directly involved in providing consultation to develop the ISO15686-5 standard.

The majority of the WLC/LCC models are produced using TCM, however for some complex projects we create the models in MS Excel.



Independent,
privately owned
and managed

£260
Million

Global turnover

World leadership
and innovation in
sustainable
design and construction

20 Years
Airport
experience

4,500

staff worldwide
(Including RLB Euro Alliance)

123

Offices worldwide

ABOUT RIDER LEVETT BUCKNALL

With 4,500 staff worldwide (including the RLB Euro Alliance) Rider Levett Bucknall has a truly global reach, and with such scope can offer a local presence to its clients almost without exception.

We are committed to our core services and pride ourselves on our dedication to customer care and leading edge service provision.

FRESH PERSPECTIVE

We are an award winning leading independent consultancy providing our clients with some of the most comprehensive and forward-thinking advice available.

FLAWLESS EXECUTION

We offer a range of complementary cost consultancy, project management, building surveying, and advisory services from conception, through design and construction and operational performance of facilities to their eventual disposal or reuse.

We are committed to developing new services and techniques aimed at enhancing our clients' businesses in the long term.

INDEPENDENT ADVICE

Our clients have rapid access to the latest industry intelligence and innovations, which serve to enhance value and mitigate risk.

We provide expert management of the relationship between value, time and cost from inception to completion. We do this through our global and local team of experts, who possess a passion for both core services and innovation.

OUR GLOBAL OFFICE LOCATIONS



COST MANAGEMENT & QUANTITY SURVEYING

Our approach to cost management is one which focuses on the business needs of the customer and enables them to make informed decisions in relation to their property assets. Our skill in procurement enables us to develop a strategy that encompasses the most suitable techniques, contracts and risk analysis to deliver a service tailored to your needs.

In order for our estimates to be as accurate as possible, we have a comprehensive set of cost planning tools and an extensive database of cost information at our fingertips. Our cost managers have a sharp commercial edge and a sound understanding of business, honed by working on complex projects for demanding clients; forging lasting and profitable relationships.

Our range of services is enhanced by our sector expertise and appropriate experienced staff that will provide positive advice at the various stages of the project cycle.

PROJECT & PROGRAMME MANAGEMENT

RLB's construction project management team expertly steers developments from concept to completion, based on a thorough knowledge of project governance, project planning and scheduling, contract administration, financial and risk management and cross-disciplinary communication.

Our construction project managers balance the need to achieve project benefits within budget constraints, and attain desired quality, using a comprehensive approach that utilises advanced technology and clear reporting procedures, such as Building Information Modelling (BIM) and Government Soft Landings.

RLB delivers projects on time and on budget, without compromising quality.

BUILDING SURVEYING AND HEALTH & SAFETY (OFFERED IN SOME LOCATIONS)

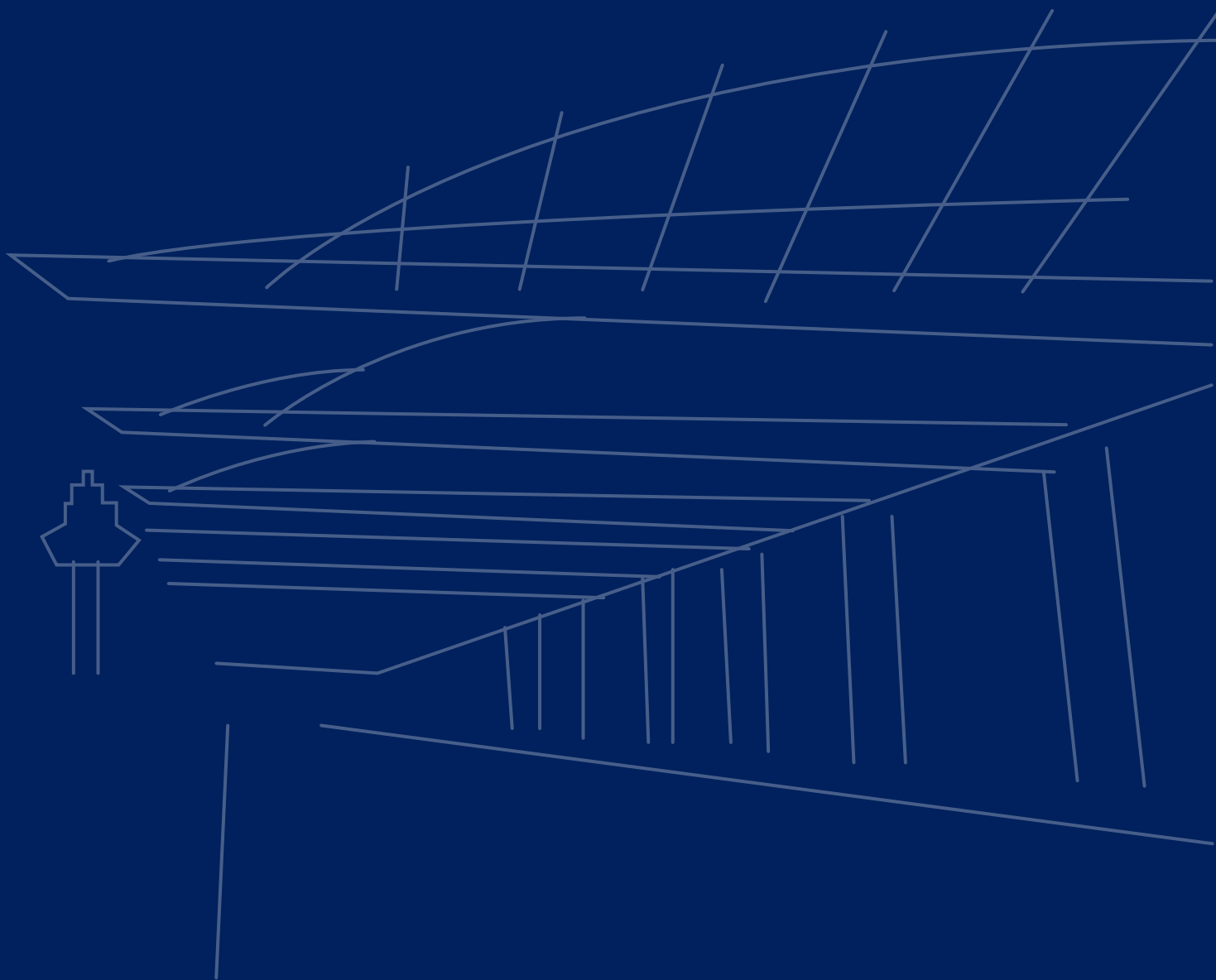
Our building surveying team will assess the efficiency and effectiveness of properties at any stage of their life. We have the expertise to enhance property performance through changes to lay-out, rationalisation of property portfolios, alternative uses of buildings, energy efficiency and carbon reduction. This process leads to significant cost savings, as operational and asset-based efficiencies are introduced. The team also has expertise in a range of advisory services including due diligence, asset condition surveys, dilapidations, party wall and Expert Witness services.

We provide a comprehensive range of health and safety consultancy services. Our team of Health & Safety professionals provide our clients with advice and assistance, to help achieve compliance with their statutory duties under existing health and safety legislation, including management of Health & Safety Regulations 1999 and CDM 2015, for construction projects, maintenance and repair works.

ADVISORY

Our specialist consultancy services include: Design Management, Specification Consultancy, Strategic Facilities Management, Contract Advisory and Sustainability. Our commitment to our customers is based on our core strengths and passion for delivering quality projects, often operating behind the scenes providing services that protect and enhance the outcome of a Project, its Architect or End User. Our services have been developed, tailored and applied to many high profile projects across the globe working with some of the world's most prestigious customers and designers.

We can provide high level expert advice as well as more practical support with documentation, contractual matters, sustainability assessments, whole-life cost modelling, project or office wide design team set-up, hands on project administration, reporting, and planning.



RLB's international aviation experience spans many years and covers a broad spectrum of projects, including:

- Terminal buildings
- Ground transport interchanges
- Airport retail
- Hangars
- Fire training simulators
- Airline lounges
- Airside maintenance bases
- Surveillance radar
- Runways, taxiways, aprons
- Bulk fuel installations
- Concourses
- Gates
- Train stations
- Bridges
- Airfield systems
- Immigration halls
- Baggage hall
- Air bridges
- VIP areas
- Catering facilities
- In ground lighting
- Baggage handling systems
- FIDS & AIMS
- Control towers

OUR AIRPORT EXPERIENCE COVERAGE



OUR CAPABILITY

EUROPE



SCHIPHOL AIRPORT ▼

AMSTERDAM, NETHERLANDS

CLIENT	SCHIPHOL AIRPORT
ARCHITECT	VARIOUS
SERVICES	COST MANAGEMENT
COMPLETION	2019

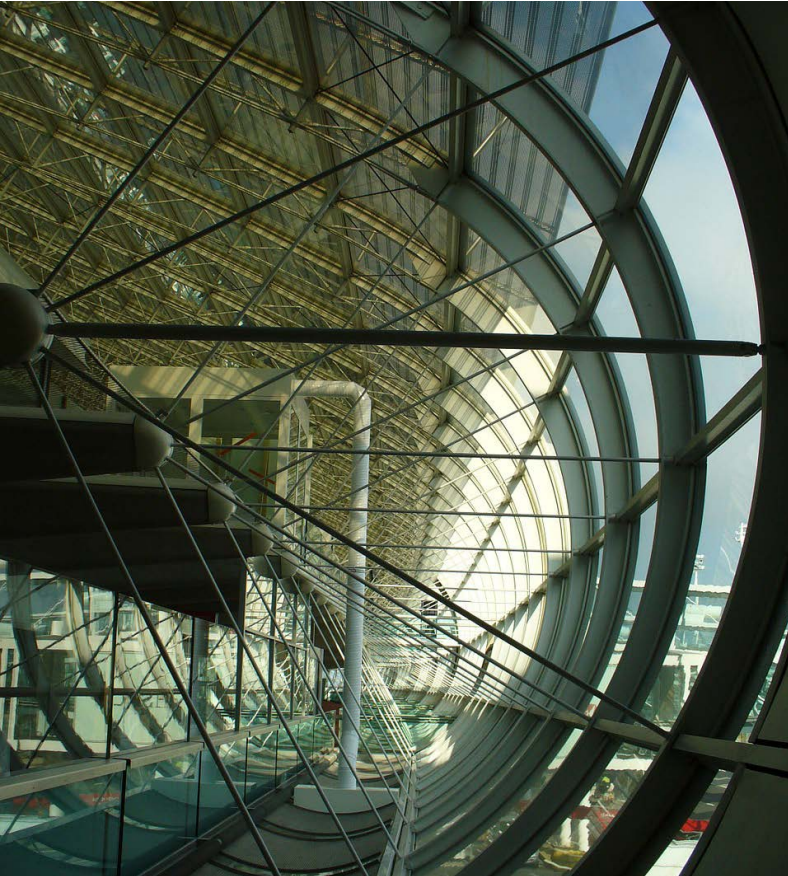
Amsterdam Airport has regularly appeared in Europe's top five airports list in terms of traffic and number of flights as the airport serves almost 50 million passengers per year.

There are many intercontinental airlines that operate from this airport. The airport also ranks as the 6th largest in terms of international traffic and has six runways.

RLB Euro Alliance supplied a number of services over multiple phases. These included

- Skyport office building Schiphol Airport - cost estimates for renovating the existing office building.
- Maintenance and renovation existing P1 parking garage - cost estimates during design and tender.
- KLM ICA lounge at Schiphol airport - cost management during design phases.
- Privium Lounge at Schiphol airport - cost management during design phases.





PARIS AIRPORT - SATELLITE 4 ◀

PARIS, FRANCE

CLIENT	AIRPORT OF PARIS
SERVICES	QUANTITY SURVEYING
COMPLETION	2012

Construction of the Satellite 4 in the airport Roissy Charles de Gaulle. RLB Euro Alliance helped provide

- Verification of the adequacy of the changes and adjustments made to the project during the work period in relation to the initial program of the operation.
- Assistance for the management of additional work consisting of the establishment of cost estimation of additional work.
- Assistance for the tracking of the cost of the works compared to the forecasts.

MANCHESTER AIRPORT | GTI ▶

MANCHESTER, UK

CLIENT	MANCHESTER AIRPORTS GROUP PLC (M.A.G)
SERVICES	QUANTITY SURVEYING AND RISK MANAGEMENT

This £45 million complex project brought together rail, bus, coach and Metrolink facilities in one location increasing passenger capacity and providing immediate passenger check-in. Its philosophy was driven by Manchester Airports target of 25% of all journeys to and from the airport being made by public transport by the year 2005, thus delivering improvements to the environment as a whole and a reduction in traffic on the local road networks.



OUR CAPABILITY

EUROPE



EUROPEAN REGIONAL AIRPORT ◀

PARIS, FRANCE

CLIENT	CONFIDENTIAL
SERVICES	COST MANAGEMENT

RLB worked as part of a dedicated aviation business unit which provides consulting & advisory, design and project management services to airport owners, operators and investors. RLB supported other aviation experts with cost information, enabling them to apply their global knowledge and experience, tailoring solutions to suit the client.

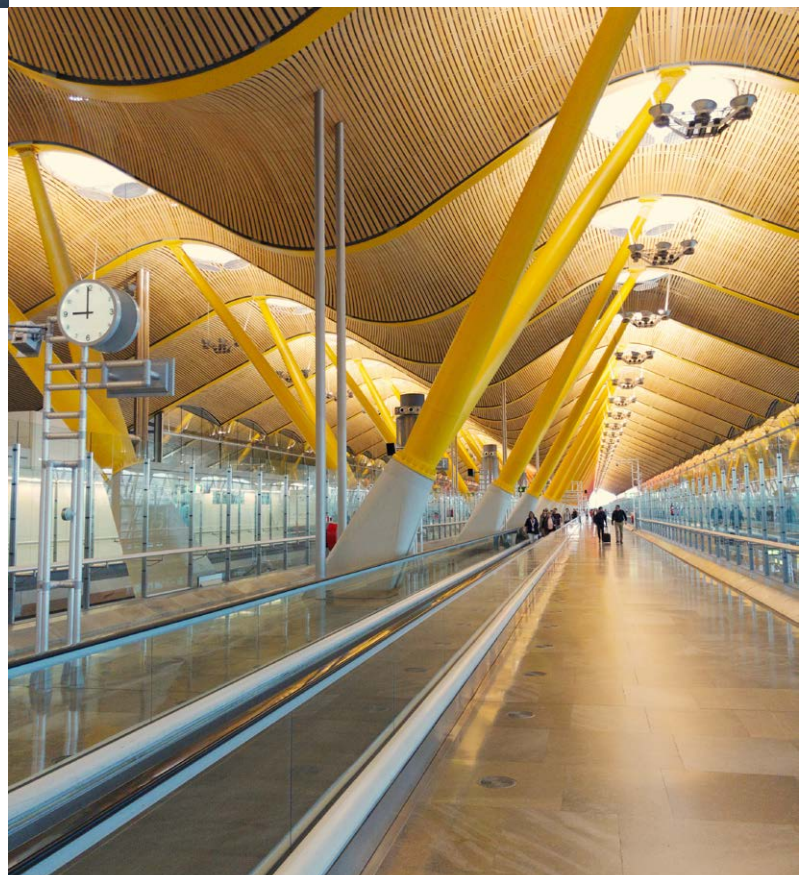
In this instance, CAPEX assessments were provided for both expansion and maintenance of future development requirements at this major European regional airport. The proposed masterplans focussed on airfields, car parking and terminal capacity. RLB then supported the client in preparation of the Due Diligence Business Plan Report.

MADRID BARAJAS ▶

MADRID, SPAIN

CLIENT	MADRID BARAJAS
ARCHITECT	ESTUDIO LAMELA + RICHARD ROGERS PARTNERSHIP
SERVICES	COST MANAGEMENT
COMPLETION	2005

APM Management, a member of the RLB Euro Alliance, managed specification and cost management for a 1 million m² Terminal 4 with a value of 720m Euro.





BRISTOL AIRPORT, EAST TERMINAL EXTENSION ◀

BRISTOL, UK

CLIENT	BRYMON AIRWAYS
SERVICES	COST CONSULTANCY

The construction of a 3,749m² 4 storey extension to the an existing check in hall at Bristol International Airport which is to envelope the existing checking hall, provide new departure lounges and retail facilities and extended under croft baggage handling systems. The works are being carried out whilst not interrupting the use the existing check in hall. The construction process will switch between airside and landside constantly during the currency of the programme.

INTERNATIONAL TERMINAL OF Khabarovsk ▶

Khabarovsk, RUSSIA

CLIENT	INTERNATIONAL AIRPORT Khabarovsk
SERVICES	PROJECT MANAGEMENT, COST MANAGEMENT, SITE TECHNICAL SUPERVISION, GENERAL DESIGNER SERVICES
COMPLETION	2019

A new air-terminal complex of the international airport in Khabarovsk. Located in Zheleznodorozhniy district, 10 km northeastwards from Khabarovsk.

- Domestic air-lines terminal, gross building area is over 26,000m²
- Planned airport capacity is up to 1,200 passengers per hour
- Planned annual passenger flow – 3,000,000



OUR CAPABILITY

EUROPE



STANSTED AIRPORT ◀

LONDON, UK

CLIENT	BAA LYNTON PLC
SERVICES	CLIENT REPRESENTATION AND COST MANAGEMENT

RLB acted from inception, assisting the Client with site location, risk allocation and selection of the procurement route through to design, construction and operation. The £1.5 million project was instructed and operational in 22 weeks with zero defects. Detailed knowledge of airside requirements and access to cleared staff delivered rapid start up and minimal learning curve.

BRISTOL AIRPORT, FIRE TRAINING SIMULATOR ▶

BRISTOL, UK

CLIENT	BRISTOL AIRPORT
SERVICES	COST MANAGEMENT

The Fire training simulator, comprising a villa, helicopter and aircraft fuselage was completed within seven months of Contract award.

The design, supply, installation, testing, commissioning, verification and training project was completed under the FIDIC Conditions of Contract using a negotiated collaborative approach.





HANGAR FOR AIRCRAFT EQUIPMENT ◀

RUSSIA

CLIENT	CONFIDENTIAL
SERVICES	PROJECT MANAGEMENT
COMPLETION	2019

The hangar building is intended for storing aircraft (airplanes and helicopters).

The newly built complex is located inside the controlled zone of the airport located on the South of Russia.

AIRPORT BELGRADE ▶

SERBIA

CLIENT	INTERNATIONAL AIRPORT "BELGRADE", SERBIA
SERVICES	INVESTMENT CAPEX ESTIMATION
COMPLETION	2017

Airport infrastructure reconstruction, existing terminal reconstruction, new terminal construction



OUR CAPABILITY

EUROPE



AIRPORT RETAIL & AIRLINE LOUNGES ◀

ENGLAND & IRELAND

CLIENT	LUXOTTICA UK
SERVICES	QUANTITY SURVEYING, PROJECT MANAGEMENT, BUILDING SURVEYING, CDMC SERVICES
COMPLETION	ONGOING

RLB have been providing Luxottica UK and Dublin with professional services since 2012 to act on their behalf to oversee the airport fit out of at Gatwick, Heathrow, Stansted and Dublin Airports, as well as their flagship store on Oxford Street.

The majority of these projects are either complete fit outs of new units or refreshes of existing stores. Initially, RLB worked with Luxottica to develop a design guide which we then tailored, to ensuring a consistent and strong brand for the customer at each of the stores.

DIXONS TRAVEL STORES ▶

EUROPE

CLIENT	DIXONS TRAVEL
SERVICES	INVESTMENT CAPEX ESTIMATION
COMPLETION	ONGOING

RLB has provided a 'one stop shop' including design, programme, cost and health and safety management for the fit-out of a number of Dixon Travel Stores across Europe including all UK airports, Milan, Rome, Copenhagen, Brussels and Dublin Airports. Typical value is approximately £200k to £1m per store.



COPENHAGEN AIRPORT ▼ **COPENHAGEN, DENMARK**

CLIENT COPENHAGEN AIRPORT

COMPLETION 2018

Assistance in tendering design team for designing 4.000m² new shopping area (land-side, but extending the building into air-side-area) followed by assistance in tendering and contracting general contractor for construction works.



OUR CAPABILITY

EUROPE



AIRPORT RETAIL & AIRLINE LOUNGES ◀

ENGLAND & IRELAND

CLIENT LUXOTTICA UK
SERVICES QUANTITY SURVEYING, PROJECT MANAGEMENT, BUILDING SURVEYING, CDMC SERVICES
COMPLETION ONGOING



DUBLIN AIRPORT CENTRAL ◀

DUBLIN, IRELAND

CLIENT DUBLIN AIRPORT AUTHORITY (DAA)
SERVICES QUANTITY SURVEYING
COMPLETION ONGOING



DIXONS TRAVEL STORES ◀

EUROPE

CLIENT DIXONS TRAVEL
SERVICES INVESTMENT CAPEX ESTIMATION
COMPLETION ONGOING



AIRPORT OF LUXEMBOURG ◀

LUXEMBOURG

CLIENT	SSP
SERVICES	QUANTITY SURVEYING, PROJECT MANAGEMENT
COMPLETION	2016



AIRPORT OF BEAUVAIS ◀

BEAUVAIS, FRANCE

CLIENT	SAGEB (AIRPORT OF BEAUVAIS)
SERVICES	DUE DILIGENCE
COMPLETION	2018



COMMERCIAL ZONE OF MARSEILLE PROVENCE AIRPORT ◀

MARSEILLE, FRANCE

CLIENT	CHAMBERS OF COMMERCE AND INDUSTRY OF MARSEILLE PROVENCE
ARCHITECT	CHAPMAN TAYLOR FRANCE
SERVICES	QUANTITY SURVEYING
COMPLETION	2006

OUR CAPABILITY

EUROPE



AIRPORT PULKOVO - AIRSIDE MAINTENANCE BASE ◀

ST. PETERSBURG, RUSSIA

CLIENT NORTHERN CAPITAL GATEWAY
SERVICES COST ESTIMATION



PRIMARY SURVEILLANCE RADAR ◀

BRISTOL, UNITED KINGDOM

CLIENT BRISTOL AIRPORT
SERVICES COST CONSULTANCY, CHANGE CONTROL MANAGEMENT



SÁRMEλλÉK AIRPORT TERMINAL ◀

SÁRMEλλÉK, HUNGARY

CLIENT CAPECLEAR AVIATION KFT.
SERVICES PROJECT MANAGEMENT, COST MANAGEMENT, SITE TECHNICAL SUPERVISION
COMPLETION 2006



AIRPORT PULKOVO - DUTY FREE ◀

ST. PETERSBURG, RUSSIA

CLIENT THE NUANCE GROUP
SERVICES PROJECT MANAGEMENT, COST MANAGEMENT, SITE TECHNICAL SUPERVISION



BRISTOL AIRPORT ◀
BRISTOL, UNITED KINGDOM

CLIENT BRYMON AIRWAYS
SERVICES COST CONSULTANCY



AIRPORT GELENDZHIK ◀
GELENDZHIK, RUSSIA

CLIENT AIRPORT GELENDZHIK
SERVICES PROJECT MANAGEMENT, TECHNICAL CLIENT
COMPLETION 2020



**AIRFIELD PAVEMENTS, BRIZE
NORTON ◀**
UNITED KINGDOM

CLIENT DEFENCE ESTATES/RAF BRIZE NORTON
SERVICES PROJECT MANAGEMENT, QUANTITY
SURVEYING, PLANNING SUPERVISOR

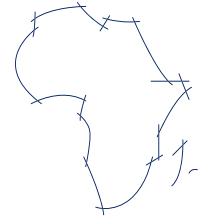


AIRPORT PULKOVO ◀
ST. PETERSBURG, RUSSIA

CLIENT NORTHERN CAPITAL GATEWAY
SERVICES COST ESTIMATION

OUR CAPABILITY

AFRICA



O.R. TAMBO INTERNATIONAL AIRPORT ▼

SOUTH AFRICA

CLIENT AIRPORTS COMPANY SOUTH AFRICA (ACSA)
SERVICES COST MANAGEMENT

ACSA appointed RLB as part of the consortium on the O.R. Tambo International Airport: Central Terminal Building upgrade of the international arrival and departures terminal.

As the key port of entry for visitors to the country, the CTB was expertly designed to be aesthetically striking, while also efficient for luggage collection and passenger movement. The design features a wide concourse, 75 check-in counters, 33 lifts, 34 escalators and two 90m-long baggage carousels. The CTB also boasts extensive retail space and restaurants, as well as a duty-free mall for international passengers.



ST HELENA INTERNATIONAL AIRPORT ▼

ST HELENA

CLIENT	BASIL READ CONSTRUCTION
SERVICES	QUANTITY SURVEYING, BILLS OF QUANTITIES
COMPLETION	2016

The airport holds significant economic potential, providing greater access to the island for tourism and for transporting goods.

The project includes a 1,850m concrete runway with a taxiway and apron to cater for aircraft up to the size of an Airbus & Boeing 737-900; and airport terminal building of 3,500 m² and support infrastructure; air traffic control and safety; bulk fuel installation and a 14km access road with all related logistics.



OUR CAPABILITY

AMERICAS



SKY HARBOR INTERNATIONAL AIRPORT, TERMINAL 3 MODERNIZATION ▼

PHOENIX, ARIZONA

CLIENT	CITY OF PHOENIX
ARCHITECT	DWL ARCHITECTS + PLANNERS
SERVICES	CHANGE ORDER REVIEWS, FEE PROPOSAL VERIFICATIONS, INDEPENDENT ESTIMATING

The city's new T3 Modernization plan provides flexibility through incremental development, improves customer service for the traveling public, and provides more efficient operations for airlines. The project was developed using current passenger forecasts and all cost estimates are provided in current dollars. The overall project budget includes the T3 Modernization with three phases and the decommissioning and/or demolition of Terminal 2.





DENVER INTERNATIONAL AIRPORT ▼

DENVER, COLORADO

CLIENT DENVER INTERNATIONAL AIRPORT
SERVICES COST CONSULTANCY

The Concourse C West Expansion project provides five new mainline gates and reconfigures four other gates to provide DIA and its major tenant an efficient and state-of-the-art facility.

Southwest Airlines now operates entirely at Concourse C. The 48,000 SF gate expansion added 12 structural bays, passenger waiting areas, concession spaces, customer service stations, airline operations areas and restrooms.

BARNSTABLE MUNICIPAL AIRPORT ◀

HYANNIS, MASSACHUSETTS

CLIENT BARNSTABLE MUNICIPAL AIRPORT
SERVICES COST ESTIMATING, CONSTRUCTION
COST AUDITING, VALUE ENGINEERING,
FEASIBILITY STUDY

This project involved the addition of a new 35,000 SF terminal and 85 foot-tall air traffic control tower at the Barnstable Airport. Associated upgrades included aircraft apron improvements and a new 3/4-mile vehicle access road. Sustainable elements incorporated into the design of the terminal included a white roof to reduce the heat island effect, bioswales and retention ponds for stormwater management, and high-efficiency mechanical equipment and lighting.



OUR CAPABILITY

AMERICAS



PDX PORT OF PORTLAND HEADQUARTERS/ LONG-TERM PARKING GARAGE ◀

PORTLAND, OREGON

CLIENT	PORT OF PORTLAND
ARCHITECT	ZGF ARCHITECTS LLP
SERVICES	COST ESTIMATING, PEER REVIEW ESTIMATES
COMPLETION	2010

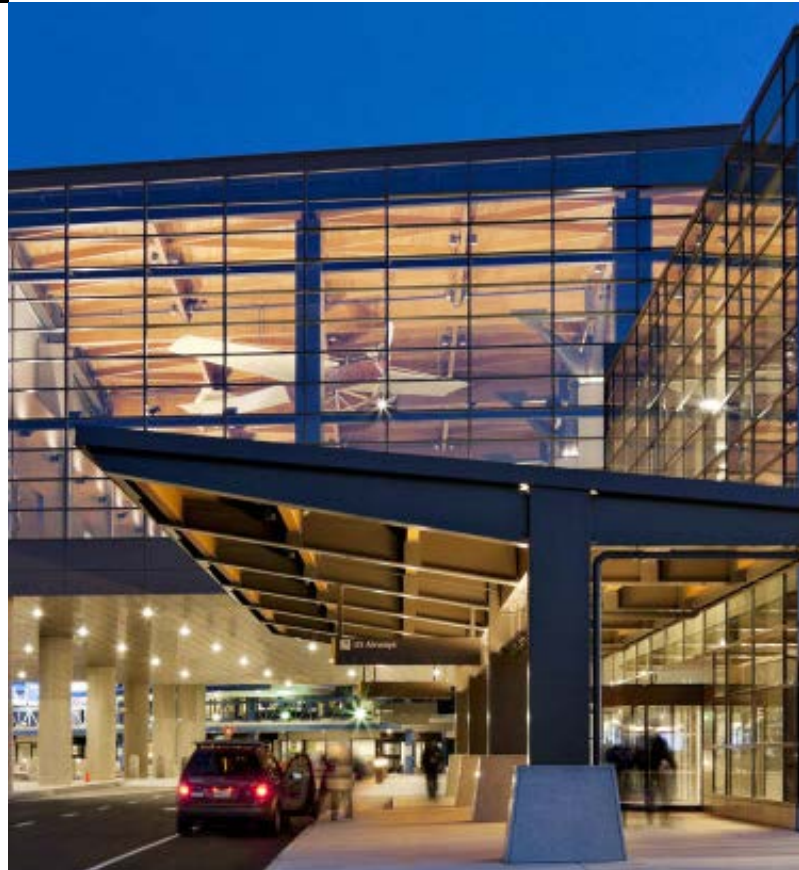
Completed in 2010, the Port of Portland headquarters consolidated all major port departments into one, 205,000 SF building. The structure consists of three floors of office space atop seven floors of public airport parking. The garage has a total of 3,500 parking spaces and features pedestrian and utility tunnels, elevators, walkways, and utilities.

PORTLAND INTERNATIONAL AIRPORT

PORTLAND, MAINE

CLIENT	GENSLER
SERVICES	COST ESTIMATING

The new terminal expansion was designed to demonstrate that a publicly owned building can be sustainable, energy efficient, and beautiful. The facility includes new aircraft gates, ticketing hall, baggage handling area, security screening checkpoints, departure lounges, concession and food court. The airport was the second airport in the U.S. to achieve LEED Gold certification.





SKY HARBOR INTERNATIONAL AIRPORT SKY TRAIN PHASE 1A ◀
PHOENIX, ARIZONA

CLIENT CITY OF PHOENIX
SERVICES COST ESTIMATING

The Phoenix Sky Train features a 100-foot-tall bridge over Taxiway R, one of three which connect the north and south runways. This is the first location in the world where a rail system of any kind crosses over an active taxiway. The bridge is tall enough to accommodate a Boeing 747.



BEVERLY REGIONAL AIRPORT ◀
BEVERLY, MASSACHUSETTS, NORTH AMERICA

CLIENT FENNICK MCCREDIE ARCHITECTS LTD.
SERVICES COST MANAGEMENT & QUANTITY SURVEYING

As the third-busiest small airport in the state, Beverly Regional Airport welcomed a new and improved 4,500 SF administration building. This project is part of the Massachusetts DOT statewide master planning effort to improve the quality of general aviation airports across Massachusetts. The building is based off a prototype, each customized to its airport's location, micro climate, and building operations.



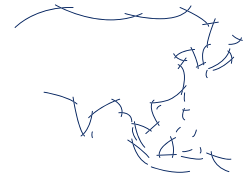
NEWARK LIBERTY INTERNATIONAL AIRPORT ▶
NEWARK, NEW JERSEY

CLIENT NEWARK LIBERTY INTERNATIONAL AIRPORTS
ARCHITECT PGAL
SERVICES COST MANAGEMENT

The 1,000,000 square foot Terminal Building, will provide 33 new domestic aircraft gates together with curbside check-in as well as a complete range of check-in options in the ticketing lobby, including self-service kiosks with self-tag and self-drop for baggage, staffed full service check-in podiums, and dedicated premium passenger check-in areas.

OUR CAPABILITY

ASIA



HONG KONG INTERNATIONAL AIRPORT, TERMINAL 2 EXPANSION ▼

HONG KONG

CLIENT	AIRPORT AUTHORITY HONG KONG
SERVICES	FULL QUANTITY SURVEYING SERVICE
ARCHITECT	AECOM / AEDAS
COMPLETION	2024

The project covers the expansion and conversion of the existing terminal into a full processing terminal providing arrivals, departures and full-fledged passenger services complete with facilities, systems and an automated people mover interchange station with direct access to the Airport Express Link train station and an entirely new road network.

Terminal 2 will have a construction floor area of 474,000 m². The Project is designed to handle an extra 30 million people per annum when it opens in 2024.





BULACAN AIRPORT ◀

BULAKAN, PHILIPPINES

CLIENT	MEINHARDT PHILIPPINES
SERVICES	QUANTITY SURVEYING
COMPLETION	2018

RLB provided quantity surveying services to the construction of Bulacan Airport on a 2,500-hectare seaside area in Bulacan, north of Manila. It will have four parallel runways and a terminal that can accommodate 100 million passengers yearly. The said airport project is being positioned as an alternative and eventual replacement of Manila's Ninoy Aquino International Airport.

HONG KONG INTERNATIONAL AIRPORT, VIRGIN ATLANTIC CLUBHOUSE ▶

HONG KONG

CLIENT	VIRGIN ATLANTIC AIRLINES
SERVICES	FULL QUANTITY SURVEYING SERVICES
ARCHITECT	COLLABORATE LTD.

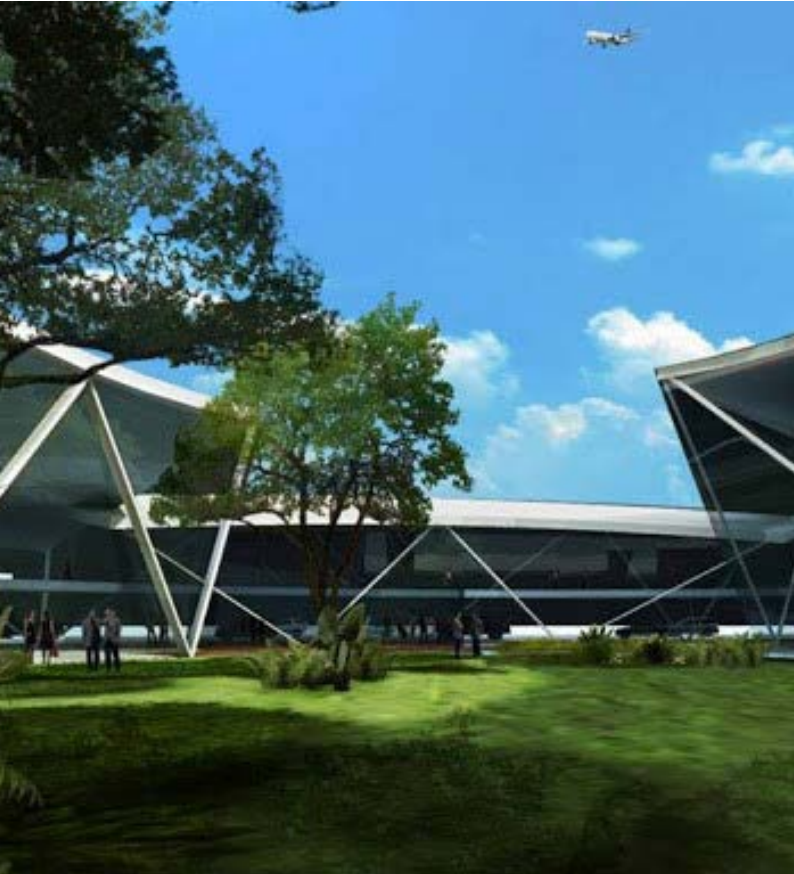
The Clubhouse is positioned on the upper level of the Terminal. It is split into two distinct areas, an open balcony and an interior cabin space.

The centrepiece of the lounge is the bar positioned within the enclosed area. A contrast to the balcony, the bar area is comforting and intimate with warm glowing tones, the combination of using local material detailed with a contemporary twist reinforces the regional theme. Within the cabin, there is a range of seating to suit any mood from dining chairs to relaxing sofa's plus a TV, games and internet browsing area.



OUR CAPABILITY

ASIA



NAIA 1 RETROFITTING ◀

PHILIPPINES

CLIENT NINOY AQUINO INTERNATIONAL AIRPORT

SERVICES COST MANAGEMENT

COMPLETION 2021

RLB has been assisting in the budget estimates of the structural retrofitting project of Ninoy Aquino International Airport (NAIA) Terminal 1. The said terminal is currently used by major international airlines flying to Manila. It has a design capacity of 4.5 million passengers per year and further expanded to accommodate 6 million passengers. The improvements in 2013 included the architectural upgrading of the parapet walls, eaves, and elevated roadway. Comfort rooms were likewise renovated to provide optimum personal convenience to airport users.

HYDERABAD AIRPORT ▶

INDIA

CLIENT MR HYDERABAD INTERNATIONAL AIRPORT LTD

SERVICES COST MANAGEMENT

The passenger terminal building comprises a five-level reinforced concrete frame supported on pad foundations, covered with a structural steelwork roof with spans up to 45 meters in length. A lightweight fabric roof structure covers the pick-up and drop-off areas along the frontage access to the airport. The design has provided flexibility to enable future expansion that will ultimately cater for a capacity of over 40 million passengers annually.





AIRPORT PASSENGER TERMINAL BUILDING AT HONG KONG INTERNATIONAL AIRPORT ◀

HONG KONG

CLIENT	HONG KONG AIRPORT AUTHORITY (HKAA)
SERVICES	CONSULTANCY SERVICES FOR DISPUTE RESOLUTION, VARIATION ASSESSMENT AND FINAL ACCOUNT NEGOTIATION AND SETTLEMENT

RLB assisted in the resolution of disputes and claims with the Contractor. Scope of service included comprehensive Delay Impact Analysis; determining Cause, Effect and Liability; critical review and analysis of the most significant Claims and Variations; and carrying out contractual negotiations with the Contractor to arrive at a realistic basis for Mediation. RLB completely fulfilled all the client's expectations for their largest and most complex project in helping to unravel the complexities inherent in the contractor's claims strategy.

HONG KONG INTERNATIONAL AIRPORT, HACTL SUPERTERMINAL 1 ▶

HONG KONG

CLIENT	HONG KONG AIR CARGO TERMINAL LIMITED (HACTL)
SERVICES	FULL QUANTITY SURVEYING SERVICES
ARCHITECT	FOSTER + PARTNERS

The HACTL SuperTerminal 1, with a capacity of 2.6 million tonnes of cargo annually, is the largest air freight handling centre in the world. It comprises a six - storey main building and a two-storey Express Centre. The SuperTerminal has seven airside interfaces for faster airside transfer, over 3,500 container storage positions, and an automated Box Distribution System that distributes 10,000 bulk storage boxes. The Express Centre is designed to handle up to 200,000 tonnes of air cargo annually, while the specialized Valuable Cargo Handling Centre can secure 26 armoured vehicles simultaneously.



OUR CAPABILITY

ASIA



NAIA 2 REHABILITATION OF ◀

PASAY CITY PHILIPPINES

CLIENT MANILA INTERNATIONAL AIRPORT AUTHORITY

SERVICES QUANTITY SURVEYING, COST ESTIMATE

COMPLETION 2018

Works are required to support the substantial volume of travel activity and design capacity of the said airport. The rehabilitation project included the replacement of power cables, lighting fixtures; upgrade of conveyors; construction of rapid exit taxiway; rehabilitation of arrival extension; detailed engineering design and construction management supervision.

The NAIA Terminal 2 rehabilitation project is being developed into a world-class facility and a regional transport hub.

CATICLAN AIRPORT EXPANSION ▶

MALAY, AKLAN

CLIENT MEINHARDT PHILIPPINES

SERVICES QUANTITY SURVEYING

COMPLETION 2018

RLB provided limited quantity surveying services to the expansion and modernization of Caticlan Airport located in Malay, Aklan. Caticlan Airport, being one of the Philippines' most popular tourist destinations, is expanded its apron areas and upgraded its airport facilities and air traffic control aids to accommodate the increasing capacity of aircrafts as well as the volume of passengers.





CHANGI AIRPORT TERMINAL 4 DESIGN COMPETITION ◀

SINGAPORE

CLIENT CHANGI AIRPORT GROUP (CAG)

SERVICES COST ESTIMATING

COMPLETION 2012

RLB assisted in providing the estimated cost of the design proposal by RSP & MSA Architects who were participating in RFP for the Multi-Disciplinary Consultancy Services for Terminal 4. The GFA of the Terminal Building was 130,000m². The estimate comprised the Terminal Building, Pier/Boarding Facilities and Fixed Gangway, Tertiary Areas (Office Areas and Back of House), Ancillary Building (M&E Block, Sub-Station), Multi-storey Carpark, Linkways and Underpass and Vehicular Roadways and Bridges and External Works.

SIA AND SIAEC BUILDINGS & FACILITIES, SINGAPORE ◀

SINGAPORE

CLIENT CHANGI AIRPORT GROUP (CAG)

SERVICES REPLACEMENT COST ASSESSMENT

COMPLETION 2012

RLB was appointed as Cost Consultant to provide Replacement Cost Assessment for a cluster of SIA and SIA Engineering Company facilities, such as hangars, engine overhaul facilities, airline house, group services equipment maintenance and SIA Supplies Centre (CCB, STC, SSC, ALH, AULD, GSEM, SIAB, PTB1, PTB2, H2, EOF).



OUR CAPABILITY

ASIA



QANTAS/BRITISH AIRWAYS VIP LOUNGE FIT-OUT WORKS AT CHANGI AIRPORT ◀

SINGAPORE

CLIENT BRITISH AIRWAYS
 SERVICES QUANTITY SURVEYING
 COMPLETION 1999



SINGAPORE INTERNATIONAL AIRLINES (SIA) BUILDING ◀

SINGAPORE

CLIENT SINGAPORE AIRLINES LIMITED
 SERVICES QUANTITY SURVEYING
 COMPLETION 1997



P1302 MACTAN CEBU INTERNATIONAL AIRPORT ◀

CEBU, PHILIPPINES

CLIENT LEIGHTON CONTRACTORS (PHILS), INC.
 SERVICES LIMITED QUANTITY SURVEYING SERVICES
 COMPLETION 2013



REPLACEMENT OF FIXED GANGWAYS AT TERMINALS 1, 2 AND 3 ◀

SINGAPORE

CLIENT CHANGI AIRPORT GROUP (CAG)
SERVICES QUANTITY SURVEYING
COMPLETION 2020



REPLACEMENT OF FIXED GANGWAYS AND PASSENGER LOADING BRIDGES AT TERMINAL 1 EXTENSION PIERS ◀

SINGAPORE

CLIENT CHANGI AIRPORT GROUP (CAG)
SERVICES QUANTITY SURVEYING
COMPLETION 2019



SELETAR AIRPORT ◀

SINGAPORE

CLIENT CHANGI AIRPORT GROUP (CAG)
SERVICES CAPITAL COST ANALYSIS
COMPLETION 2015

OUR CAPABILITY

MIDDLE EAST



ABU DHABI MIDFIELD TERMINAL F&B ▼

UAE

CLIENT SSP EMIRATES LLC
SERVICES PROJECT AND COST MANAGEMENT

Abu Dhabi Airports is undertaking a multi-billion dollar capital development programme to expand its facilities. The centerpiece of this programme is the state of the art Midfield Terminal Building which includes associated aircraft parking stands and support facilities, retail and food and beverage outlets catering to a total capacity of 30.2 million annual passengers.

SSP Emirates LLC will operate a number of Food and Beverage Units in the new Midfield Terminal Building which approximate to 40% of total space allocated for Food and Beverage areas and includes four units in the main international departures lounge; Premium Seafood Bar (175m²), Luxury Concept (125m²), Local theme concept (60m²), Local Casual Dining-Cafe concept (585m²), World Of Food, International Food Court (2,561m²).

This project will meet the new Estidama building standards, a sustainable development program that includes cultural and social factors alongside the environmental and economic sustainability criteria. RLB is providing Project Management and Cost Management on the F&B Units in this new terminal.





ETIHAD AIRWAYS RESORT - PREMIUM SPACES ◀

UAE

CLIENT ETIHAD AIRWAYS

SERVICES PROJECT & COST MANAGEMENT

Situated in the new Midfield terminal, Abu Dhabi, the Etihad Resort, Premium Spaces comprises approximately 23 spaces providing a range of arrival & departure lounges and check in areas for VIP, First, Business and Frequent Flyer customers with each space envisaged to be similar in nature to a high quality 5 star hospitality fit-out.

ETIHAD AIRWAYS CATERING FACILITY ▶

UAE

CLIENT ETIHAD AIRWAYS

SERVICES PROJECT & COST MANAGEMENT

With the ambitious Abu Dhabi airport project, further renovations of the south-side catering facilities are being carried out. As part of the expansion, RLB is ensuring the facility is compliant and built on time, within budget and to an acceptable Authority Standard.



OUR CAPABILITY

MIDDLE EAST



SALAM PROJECT ◀

KSA

CLIENT BAE SYSTEMS
SERVICES PROJECT MANAGEMENT, COST MANAGEMENT, ADVISORY

With the supply of Typhoon Aircraft, new facilities are required to accommodate at FdAB Taif and KAAB Dhahran. A series of work packages are being let covering the initial upgrading of existing facilities and the eventual construction of new facilities.

The range of facilities includes:

- Simulator Training
- Squadron Head Quarters
- Maintenance Hangars
- Corrosion Control
- Sun Shelters and Hardened Shelters
- Taxiways
- C3 Communications
- Infrastructure

SAUDI BRITISH DEFENCE COOPERATION PROGRAMME ▶

KSA

CLIENT BAE SYSTEMS
SERVICES PROJECT MANAGEMENT, COST MANAGEMENT AND ADVISORY

This on-going Programme supports all the aircraft and hardware supplied to the RSAF and includes Operation & Maintenance and Upgrading of facilities. New and upgraded facilities will be launched in eight different locations and will include:

- Simulator Training
- Squadron Head Quarters
- Maintenance Hangars
- Corrosion Control
- Sun Shelters and Hardened Shelters
- Taxiways
- C3 Communications
- Infrastructure



OUR CAPABILITY

OCEANIA



GOLD COAST AIRPORT REDEVELOPMENT ▼

GOLD COAST, AUSTRALIA

CLIENT	QUEENSLAND AIRPORTS
ARCHITECT	HASSELL
SERVICES	FULL COST CONSULTANCY
COMPLETION	CIVIL WORKS COMPLETE IN 2018, NEW TERMINAL IN 2021, AND EXISTING REFURBISHMENT IN 2022

The Gold Coast Airport Redevelopment includes a number of airfield and terminal expansion projects, including:

Civil Works and Airfield Upgrades:

- New site stormwater diversion channels
- Bulk earthworks
- New parking positions for dual code aircraft
- Taxiway interface works
- GSE and Tug access roads
- All associated in-ground services including electrical, communications and associated JUHI interfaces for new MARS configurations

Terminal Expansion & Redevelopment:

A Terminal Expansion comprising of a new 3 storey terminal structure of approx. 30,000m² including Arrivals Hall, Extended Baggage Hall, Departures Concourse, Boarding Links and Aerobridges, Inbound and Outbound Processing, LAGS, Government Agency Areas, Engineering & Ramp Offices, Departures Lounge and Duty Free Areas.





PERTH AIRPORT TERMINAL 1 DOMESTIC PIER AND INTERNATIONAL DEPARTURES EXPANSION ◀

PERTH, AUSTRALIA

CLIENT	PERTH AIRPORT
SERVICES	COST PLANNING, BILL OF QUANTITIES, POST CONTRACT SERVICES
COMPLETION	2016

RLB has been providing cost planning, bills of quantities and post contract services to Perth Airport for the recently completed T1 International Departures Expansion and Domestic Pier.

The delivery of the \$300M facility was split into four discrete projects, three early works projects being the Service Corridor Project, Pier Forward Works Project, and the Combined Logistics Facility project.

BRISBANE INTERNATIONAL TERMINAL EXPANSION ▶

BRISBANE, AUSTRALIA

CLIENT	LENLEASE
ARCHITECT	BLIGH VOILER
SERVICES	COST PLANNING, VALUE MANAGEMENT, BILL OF QUANTITIES
COMPLETION	2011

The airport expansion extends the existing four-level terminal building by 60 metres to the south (approximately 60%), extending the Northern Concourse and incorporating a new major plant room north of the terminal, major renovations of the existing terminal fitout, two new fixed links for aircraft docking and extensive external alterations for car parking.



OUR CAPABILITY

OCEANIA



CAIRNS INTERNATIONAL AIRPORT TERMINAL ◀

CAIRNS, AUSTRALIA

CLIENT CAIRNS PORT AUTHORITY
SERVICES COST PLANNING, BILLS OF QUANTITIES, CONSTRUCTION ADMINISTRATION
COMPLETION 2010

The upgrade featured the addition of a new building for baggage screening and handling, widening of the existing concourse for additional gates, refurbishment of the existing baggage reclaim hall, new central services building and new remote loading dock facility.

ADELAIDE AIRPORT ▶

ADELAIDE, AUSTRALIA

CLIENT ADELAIDE AIRPORT LTD
SERVICES COST MANAGEMENT
COMPLETION 2010

The New Terminal for International Domestic and Regional passengers comprises approximately 77,000m² GFA building including baggage handling, FIDS and AIMS systems, airside aprons and taxiways with 14 glass sided aerobridges, serving 5 code E or 14 code C aircraft, apron parking for 11 code B aircraft, landside elevated road, car parking and site infrastructure and an underground fuel hydrant pipeline from the existing fuel storage facility. Client Benefits included provision of a modern gateway to Adelaide and South Australia and catalyst for future development on airport land.





SYDNEY AIRPORT UPGRADE AND EXPANSION ◀

SYDNEY, AUSTRALIA

CLIENT SYDNEY AIRPORT CORPORATION LIMITED (SACL)

SERVICES COST MANAGEMENT

COMPLETION 2006

The project encompasses upgrading Sydney Airport to accommodate the Airbus A380 aircraft. Civil works comprising extension to and strengthening of runways, taxiways and parking aprons infrastructure as well as improvement of terminal facilities.

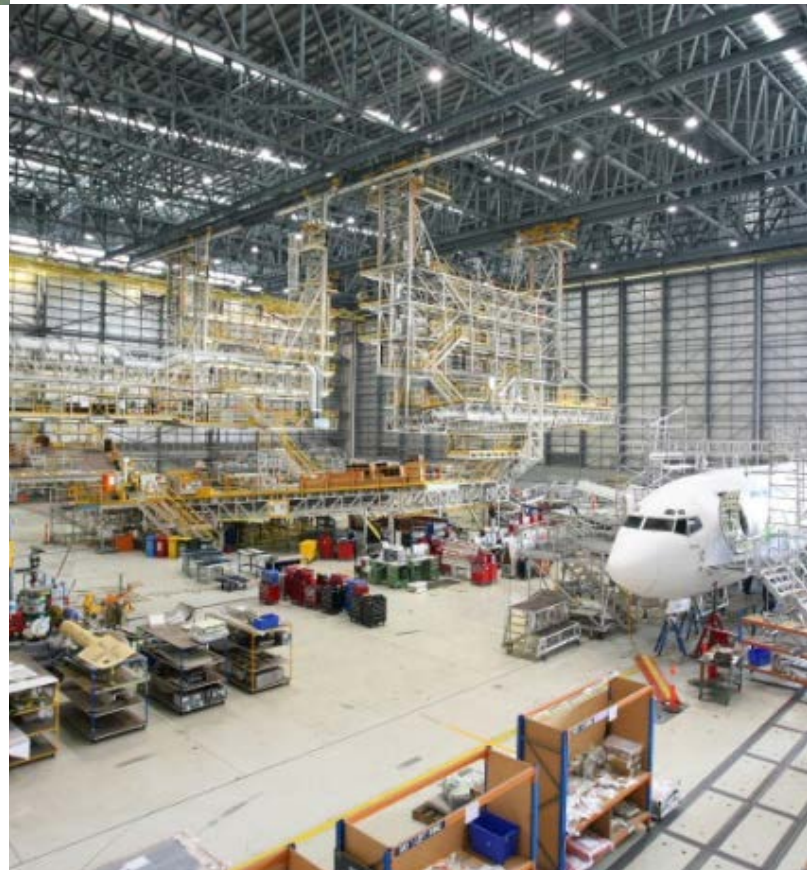
QANTAS HEAVY MAINTENANCE HANGAR ▶

BRISBANE, AUSTRALIA

CLIENT QANTAS AIRWAYS LTD

SERVICES COST PLANNING, TENDER ANALYSIS, CONSTRUCTION ADMINISTRATION

This building is approximately 28,800 m² included mezzanine stores, workshops and working platforms. The facility also included hangar cranes and monorails, apron slabs and services.



OUR CAPABILITY

OCEANIA



RAAF AMBERLEY STAGE 2 ◀

BRISBANE, AUSTRALIA

CLIENT DEPARTMENT OF DEFENCE
SERVICES COST PLANNING, ESTIMATING,
LIFECYCLE COST ANALYSIS
COMPLETION 2008

Base infrastructure upgrade for the new operational facilities at Amberley Airbase, including roads, aprons, sewerage, stormwater including stormwater treatment, electrical and communications.

AUCKLAND INTERNATIONAL AIRPORT, NEW ZEALAND ▶

AUCKLAND, NEW ZEALAND

CLIENT AUCKLAND INTERNATIONAL AIRPORT
SERVICES PROJECT MANAGEMENT

RLB has an ongoing role in the development of Auckland International Airport's master plan, the planning vision for the airport defining how the runways, terminals, property precincts and transport linkages will develop in the future to cater for increasing demand. RLB has also managed the Auckland Airport Retail Redevelopment comprising an extensive upgrade to the retail precinct, landscaping and car parks within an operational airport environment.





WELLINGTON INTERNATIONAL AIRPORT PASSENGER TERMINAL ◀

WELLINGTON, NEW ZEALAND

CLIENT	WELLINGTON INTERNATIONAL AIRPORT LTD
ARCHITECT	STUDIO PACIFIC ARCHITECTURE
SERVICES	FULL COST CONSULTANCY
COMPLETION	2010

The exterior of the building is clad in copper over waterproof membrane and randomly shaped plywood plinths forming the structure's unique 'rock' shape. The interior follows these same contours and is lined internally with hoop pine panels, again each and every one a unique size and shape. Glazed atriums separate the two rocks from the main terminal building providing natural light and a physical separation from the two contrasting architectural styles. The extensive estimating and cost planning during preliminary developed and detailed design ensured this exciting and challenging project remained within the approved budget.

PERTH AIRPORT INTERNATIONAL TERMINAL UPGRADE ▶

PERTH, AUSTRALIA

CLIENT	PERTH AIRPORT
SERVICES	COST PLANNING

RLB provided cost planning to Perth Airport for the International Terminal Upgrade Project.

The project includes the construction of a new international terminal building providing new baggage handling areas, contact gates, airline departure lounges, retail areas and the associated apron and taxiway infrastructure necessary to accommodate the new facility.



CAPABILITY



MELBOURNE AIRPORT TULLAMARINE ◀ MELBOURNE, AUSTRALIA

CLIENT MELBOURNE AIRPORT TULLAMARINE
SERVICES QUANTITY SURVEYING, COST MANAGEMENT
COMPLETION 2011

Works including a new international terminal, main terminal, buildings and infrastructure upgrades, supply store and administration, Ansett Airlines Terminal and Australian Airlines Facilities.

AIR SERVICES AUSTRALIA SOUTHERN APRON EXPANSION ▶ AUSTRALIA

CLIENT AIR SERVICES AUSTRALIA (ASA)
ARCHITECT ARCHITECT NAME
SERVICES COST MANAGEMENT
COMPLETION YEAR

ASA identified 17 Control Towers throughout Australia which required life extension, upgrading or replacement. Initially Control Tower Complexes (CTCs) at Coolangatta, Tamworth, Perth, Jandakot, Sydney and Karratha will be upgraded. Other upgrades are programmed for CTCs in Archerfield, Mackay, Hobart, Parafield, Cairns, Brisbane, Coffs Harbour, Albury, Moorabbin, Alice Springs and Camden. The works included updating technology and revitalising infrastructure to improve functionality and give the towers a further 20 years life period.





BUSSELTON MARGARET RIVER AIRPORT, INTERNATIONAL TERMINAL UPGRADE ◀

BUSSELTON, WESTERN AUSTRALIA

CLIENT CITY OF BUSSELTON
SERVICES COST PLANNING, POST CONTRACT SERVICES

RLB provided cost planning, and post contract services to the City of Busseton for the upgrading of the airport facility. The project includes the extension and upgrading of the runway and construction of new apron to a Code 4C Aerodrome. It also includes upgrading landside roads and carpark infrastructure works to accommodate the new terminal facility capable of accommodating regional, interstate and international passengers.

PORT HEDLAND INTERNATIONAL AIRPORT ◀

PORT HEDLAND , WESTERN AUSTRALIA

CLIENT PORT HEDLAND INTERNATIONAL AIRPORT
SERVICES COST PLANNING, POST CONTRACT SERVICES

RLB provided cost planning, and post contract services to Port Hedland International Airport for the upgrading of the airport facility. The project includes the upgrading of the existing terminal and associated landside roads and carpark infrastructure works to accommodate the increased passenger numbers.



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