

DEVELOPING THE AIRPORT OF THE FUTURE TODAY



AIRPORTS



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— “As for the future, your task is not to foresee it but to enable it.”

Antoine de Saint Exupéry

FOREWORD

Air transport has encountered extraordinary growth over the past decades, while demonstrating its resilience to crisis. Nonetheless, the industry needs to reinvent itself continuously to respond to the expectations of nations, their societies and, above all, airport users. Airports remain powerful locomotives for their local economy, formidable job creation platforms. They are also expected to respond, as responsible economic players to the challenges of climate change. Small cities in themselves, highly visible in their local communities, airports are expected to take a leadership position in zero-carbon mobility. Faithful to its genes, the aviation sector has always been a pioneer in the advent of new technologies, which then spread across all sectors. Airports must play their role in this transforming journey.

Although airports may have enjoyed a rather monopolistic position in the past, today, they are increasingly in competition with one another to attract aircraft allocation to their destination. This decision lies in the hands of the airlines, which have themselves gone through extraordinary transformations in their marketplace: liberalization and open-sky policies, new entrants with the advent of the low-cost model and competing hub-based long-haul airlines, but also new cost burdens as a result of security obligations, the arrival of restrictive environmental policies and the challenges of the energy transition.

Consequently, the competitiveness of the economic offer to airlines of the airport becomes central.

The latest crisis has reminded us just how supply-driven this industry is; without any aircraft, the traffic growth cannot be fueled, even if the demand for travel is there. To respond to those challenges, Bouygues Construction Airports can rely on the strength and draw on the breadth of the know-how of the Bouygues Construction Group, a leader in the development of sustainable infrastructure. Our offering is underpinned by strong beliefs: an attractive proposition to airlines should be supported by a central processor-based terminal in order to rationalize operating costs, boost alternative commercial revenues and maximize flight interconnectivity, and therefore the number of routes offered. The development of integrated hub-terminals must follow a modular design approach to end the dilemma between over-investing in excessive immobilized capital and losing traffic market share due to lack of capacity in this increasingly competitive market. At all stages, we need to aim for energy efficiency; this approach has enabled all the airport development projects we have delivered to obtain high-level environmental certifications.

Regardless of all these transformations, people's aspiration to travel remains. The growth in per capita GDP allows new populations to achieve this aspiration.

Going through the airport contributes to the pleasure of the travel experience. We develop an airport around the passengers' journey, the aim being to enhance their experience and make them desire to fly again from it. The development of commercial services for passengers generates new revenues, thereby reducing pressure on airport fees charged to airlines, which themselves are becoming more competitive.

Overall, our approach creates a virtuous sustainable economic cycle beneficial to all stakeholders, so that boarding a flight, travelling in the air, continues to bring its share of dreams, something that Antoine de Saint Exupéry held so dear.



Eric Fleurisson,
Managing Director
Bouygues Construction Airports

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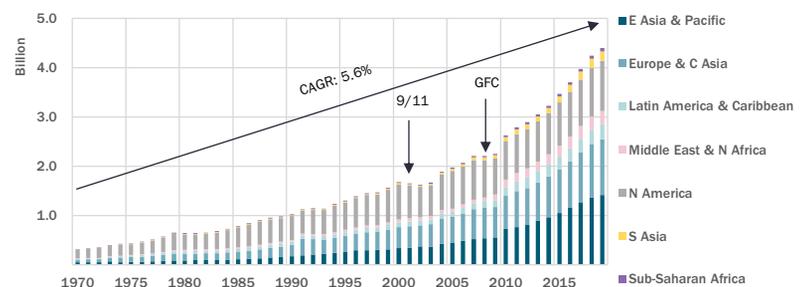
EDITORIAL: AIR TRANSPORT EXHIBITS RESILIENT POTENTIAL

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Resilient, long-term growth

The aviation industry has undergone a period of unprecedented development over the last decades, and the market landscape has been transformed. Most world regions have undergone spectacular levels of traffic growth, with traffic doubling worldwide between 2005 and 2019 (ICAO). Over the same period, a series of significant setbacks to development have occurred, with Covid 19 one of the latest. However, after exogenous shock events such as 9/11, the SARS outbreak, and the Global Financial Crisis (GFC), traffic has historically rebounded and returned to trend.

AIR PASSENGERS BY REGION, 1970-2019

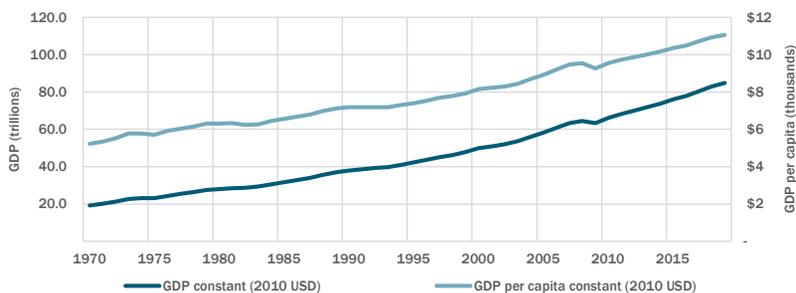


Source: World Bank

An untapped potential

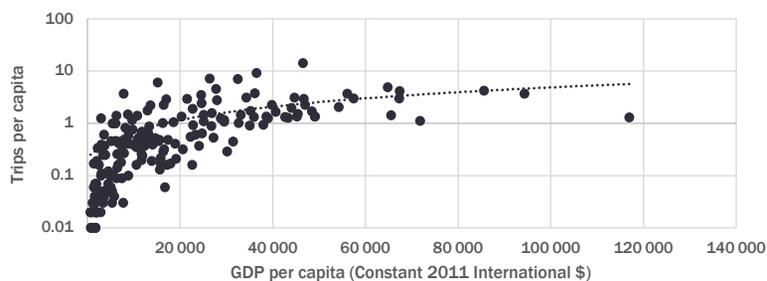
In all regions, traffic has grown at a significant multiple to GDP since 2000. In fact, in developing markets such as Asia, the Middle East and Africa, strong GDP growth has been compounded by high multipliers (and in Europe and North America lower GDP growth and multipliers have gone hand-in hand).

GLOBAL GDP AND GDP PER CAPITA, 1970-2019



This is indicative of a link between a greater potential for higher traffic growth in less mature economies; demand for air travel increases rapidly as GDP per capita increases from lower bases, as is illustrated by the chart below.

GLOBAL PROPENSITY TO FLY (2019)



Source: World Bank, Airbus

Why has air travel increased at a significant multiple to economic growth? There are several interlinked factors. Access to air travel is still in its infancy – Boeing estimates that only 20% of the global population has flown, increasing to over 80%* in the US. There is an insatiable demand for the freedom and opportunities that air travel grants, although there is a growing awareness from passengers of the carbon impact of their travel. The global middle class is growing rapidly – there has been substantial growth in Asia, where there is now an estimated 2 billion members of the middle class and membership is forecast to reach 3.5 billion by 2030**. A globalised world creates the need for air travel for business, leisure, and visiting friends and relatives.

* IATA

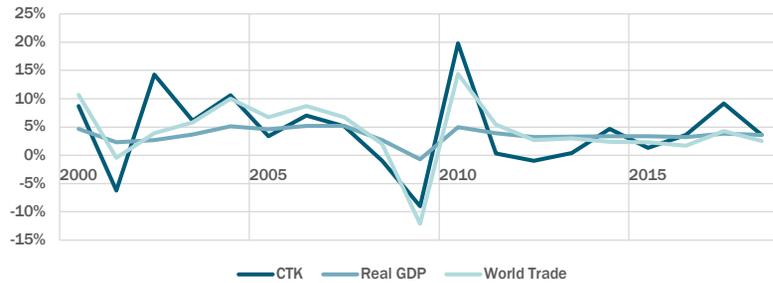
** World Economic Forum



The growth of air cargo

Alongside recent passenger growth, world trade has consistently grown faster than world GDP over the long term. This has benefitted air cargo, which has historically enjoyed strong, long-term growth.

HISTORICAL GROWTH OF AIR CARGO CTKS*, WORLD REAL GDP, AND WORLD TRADE

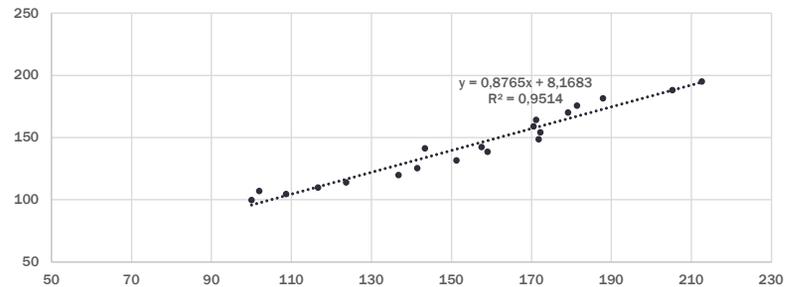


Source: ICAO, World Transport Organisation

* CTK = Cargo Tonne Kilometres, calculated by multiplying the tonnage of freight carried by the kilometres travelled

Air cargo transports more than \$6 trillion worth of goods every year, representing more than 35% of global trade by value. It is strongly correlated with GDP, fueled by e-trade and has proved again to be highly resilient in crises.

CORRELATION BETWEEN AIR CARGO AND GLOBAL REAL GDP (INDEX)

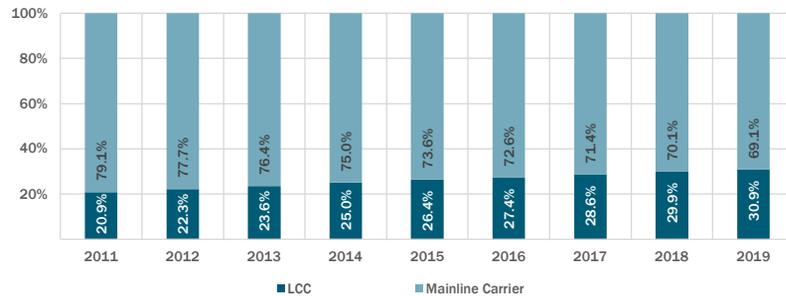


Source: ICAO, World Bank

Industry changing models

Supply side discontinuities are just **as important as demand** side transformations. Low-Cost Carriers (LCCs) have been a key contributor to the unprecedented growth of the aviation industry over the past 25 years, offering lower fares and opening new routes. LCCs now account for over 30% of global air travel capacity. With their disruptive model, **LCCs necessitate a specific approach to airport infrastructure.**

MARKET SHARE OF LOW-COST CARRIERS GLOBALLY (SEAT CAPACITY), 2011-2019



Source: Skylark Analysis, OAG Schedules

The development of LCCs has been uneven; in Africa, for instance, they accounted for 15% of seat capacity in 2019, compared to 27% in Asia, showing that there is untapped potential for LCC growth in less mature markets. This is positive as LCC growth has been proven to benefit traffic growth and diversify the offering to potential travellers.

Going hand-in-hand with the development of LCCs has been air liberalisation, leading to the opening of skies. Many States have abolished restrictive bi-lateral regimes limiting freedoms of the air. Open skies are a positive for aviation markets, enabling the development of inbound and outbound traffic, providing increased traffic (direct and connecting) for national airlines, reducing ticket prices for consumers, and increasing route networks. Yet, the global picture has been uneven – comprehensive open skies packages exist for Europe but often do not prevail in other regions, hampering beneficial growth.

A changing bargaining balance

The airline industry has seen a significant degree of consolidation – either through takeovers or ever-closer alliances and other groupings. For example, the US market has undergone significant consolidation since the deregulation of its market in 1978; in 2019, American Airlines, Delta Air Lines, United Airlines, and Southwest Airlines accounted for 75% of US passenger traffic*. In Europe, consolidation is an increasing trend, with Air France-KLM, Lufthansa Group, and IAG all having multiple subsidiary airlines. This has in some cases led to the negotiating power of airlines increasing to the detriment of airports, especially in periods of crisis as airports fight to handle a fewer number of aircraft movements before the sector has fully recovered.

* DOT T-100 Data

As the negotiating power of airlines increases, **airport charges are pushed downwards**, reducing the revenue opportunities for airports. It is therefore all the more important that governments and authorities work with highly experienced airport developers such as Bouygues Construction Airports, who through its design and development expertise, can optimise commercial revenues, Opex, and Capex, **to create compensating value in the airport asset.**

Managing the uncertainty of high Capex investment

Airport investment can be risky where high capital mobilisation is often required at the outset. Airports are long-term businesses with long-life assets, such as terminals and runways. Developers must respond to a rapidly changing industry, while retaining the long-term planning integrity that airports require. For example, over the last ten years and accelerated by the LCC revolution, on-line check-in has become the norm, threatening to make large areas

of airport terminals redundant. Similarly, rapid changes in security norms, such as the introduction of ECAC Standard 3 in Europe, has necessitated major additional investments.

On the flip side, the sheer speed of growth can produce a 'capacity gap' where several factors conspire to leave airports struggling to keep pace with demand. As well as the length and complexity of planning processes, there is a more systemic issue of how capacity is paid for. This is both temporal – should today's passengers pay for tomorrow's capacity? – but also it is simply an issue of price level. Airlines and airports operate in a competitive world and downward pressure on airport charges follows downwards pressure on fares.

Overall, **airports**, far from being unitary entities, **represent a series of interlocking challenges and propositions.** In order to appropriately address these challenges holistically and to maximise the potential of airport assets, an experienced and dependable partner such as Bouygues Construction Airports is required.



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WHO
WE ARE





We deliver complex infrastructure projects around the world, developing greenfield airport projects from inception to full operation. Bouygues Construction Airports gives us extensive experience in airport business growth. We maximize the airport business model right from the design stage. **We are partners to public project owners, operators and funders.**

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The parent company of Bouygues Construction Airports, Bouygues Bâtiment International is the international building subsidiary of Bouygues Construction that has been **delivering complex infrastructure projects around the world** for more than 70 years. We are **a market-leading developer of greenfield airport projects**, conducting projects requiring the design and delivery of new airport infrastructure, **from inception to full operation**. Present on all five continents, we are supported by a strong and well-established local presence, as well as by the advanced expertise of our central engineering, and the financial engineering and project financing legal departments of the Bouygues Construction Group. This association enables us to offer our clients ever more global, innovative, sustainable solutions tailored to their needs.

Bouygues Construction Airports is the airport investment arm of Bouygues Bâtiment International, which gives us **vast expertise in airport asset development and airport business growth**, including traffic, commercial revenues, and land-side real estate developments.

Today, we are shareholder in six international airports, spanning three continents, and have been active at many more. Through our structured financing,

investment, design, and deliverability capability, airports have seen traffic growth, increased airline presence, and local job creation, leading to many international infrastructure financing and industry awards (as reported in Section 5). We are therefore **a unique hybrid provider to the airport industry and airport owners**, able to leverage our experienced understanding of the airport and airline industry to **maximize the business model from the initial design**. We are differentiated from airport constructors whose role is complete when the airport facility opens, and from operators whose expertise lies mainly in managing existing facilities.

We concentrate on our core business, to deliver airport infrastructure development projects for the benefit of the project

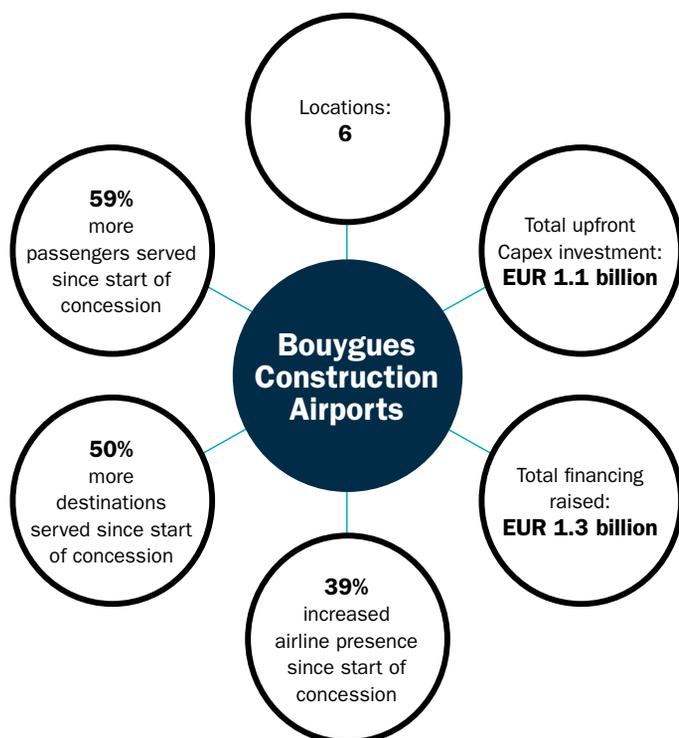
owner. Positioned as a key minority investor, avoiding controlling interests, **we are partner to public project owners, operators, and funders alike.**

As a world leader in the infrastructure construction business, we also consider that we have a major responsibility to future generations. One of our major beliefs is that the future we are helping to build will only make sense if it is underpinned by our values. They all revolve around one word: respect, respect for men and women, respect for territories with a strong commitment when it comes to social and economic development in the countries in which we operate, respect for the planet by constantly seeking to reduce the environmental and climate impact of the projects we undertake.

BOUYGUES BÂTIMENT INTERNATIONAL'S UNIQUE VALUE PROPOSITION

Provider	Financial Structuring	Airport Design	Delivery	Asset Development
Typical Airport Constructor		○	●	
Typical Operator				●
Bouygues Construction Airports & Bouygues Bâtiment International	●	●	●	●

OUR AIRPORT CONCESSION'S KEY PERFORMANCE INDICATORS



2019 passenger figures are used. Life cycle and heavy maintenance investments have been excluded from Capex figures. Passenger figures at Iqaluit are not included.

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BOUYGUES BÂTIMENT INTERNATIONAL'S AIRPORT CONCESSIONS

Airport	Shareholding	Notes
Cyprus (Paphos & Larnaca)	22%	As the largest shareholder in the airports, Bouygues Bâtiment International was the lead industrial sponsor of a finance, design, build, maintain and operate concession project for a new international terminal at each airport, with an upfront Capex of more than half a billion Euros.
Zagreb, Croatia	20.77%	Bouygues Bâtiment International was the lead industrial sponsor in structuring a finance, design, build, maintain and operate concession project for a new hub terminal with annual capacity of 5 million passengers, extendable to 8 million passengers.
Iqaluit, Canada	15%*	First airport PPP in North America; a unique availability payment-based airport PPP; Bouygues Bâtiment International was the lead industrial sponsor in structuring a finance, design, build and maintain project of a new terminal with full renovation of the airside, including the laying of a terminal on the permafrost of the Arctic Circle.
Madagascar (Antananarivo & Nosy Be)	20%**	Bouygues Bâtiment International was the lead industrial sponsor in structuring a design, build, finance, maintain and operate concession at Madagascar's two largest airports, upgrading the airports according to environmental standards, building a new international terminal, refurbishing the existing ones and fully renovating the two runways.

* Bouygues Group ownership, (10% Bouygues Bâtiment International, 5% Colas)

** Bouygues Group ownership, (10% Bouygues Bâtiment International, 10% Colas)

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A TAILOR-MADE
APPROACH
THROUGHOUT
THE WHOLE
VALUE CHAIN



Our expertise throughout the whole value chain results in projects where every aspect is fully integrated – where the initial financing structure **serves the long-term interests of passengers and users** and where the airport design is optimised for commercial revenues to the benefit of the competitiveness of the airport.

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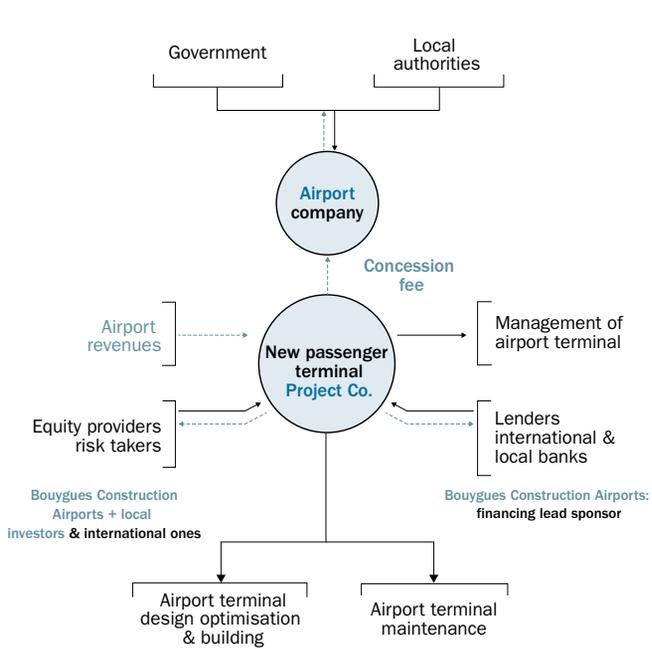


HIGHLY COMPETITIVE FINANCE STRUCTURING



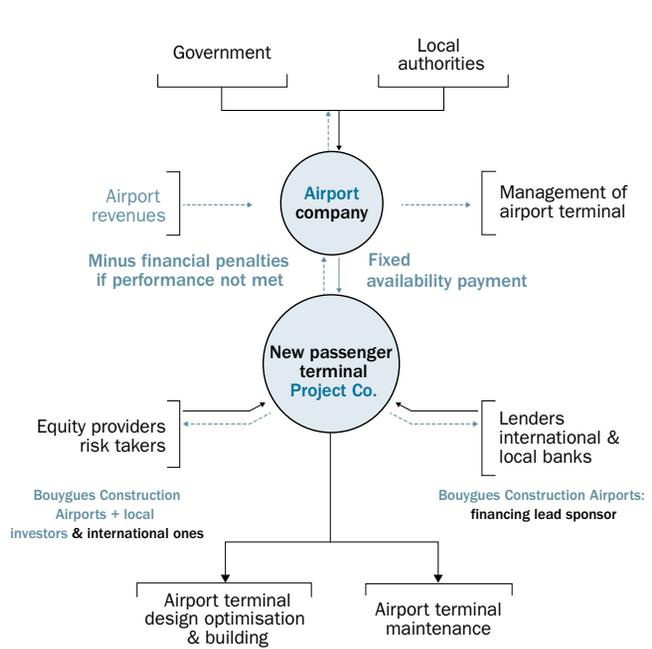
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PPP - Concession
(Transfer of traffic risk)



Bouygues Bâtiment International + local partners & international ones

PPP - Availability Payment based
(No transfer of traffic risk)



Bouygues Bâtiment International + local partners & international ones



- Over the past 15 years, Bouygues Construction has raised over **€20 billion of project financing**, both in debt and equity.

Many failed airport projects stem from an ambitious airport design that is subsequently found to be unfinanceable. Bouygues Construction Airports' projects are successful because **the question of financing is addressed upfront**. Finance for airport projects comes from several sources – users, Governments, tenants, but increasingly from structured project financing. Airport projects are particularly challenging in financing terms because of the large initial investment relative to future cash flows and because of the long gap in time between project inception on one side, and airport opening and resulting revenue ramp-up on the other side.

We address this in all of our projects. Our commitment is to provide a highly competitive and efficient financial structure underpinned by experience with top-tier global financial institutions, including international private banks, multilateral development institutions and infrastructure investment funds. Being a subsidiary of Bouygues Construction, a world leading developer of public infrastructure under structured financing, and the wider Bouygues Group, one of the leading French industrial groups, we are ideally placed to attract highly competitive financing.

Bouygues Construction Airports frequently acts as lead sponsor; **over the past 15 years, the Bouygues Construction Group has raised over €20 billion of project financing**, both in debts and equity, in order to finance infrastructure projects across the globe.

Financing structures designed to be resilient

Each project is different in terms of its size, risk structure, and market context. We always examine the specific risk profile of each project and commit to developing the most efficient, flexible and low-cost financing structure for the specific project. Airport projects are subject to market shocks which can knock passenger volumes off course for several years; our financing and contractual structures are designed to be resilient to such events.

An in-house team of project finance specialists

To achieve this, we rely on **an in-house team of project finance specialists** who come with first-class financial and contractual expertise, including lawyers from our project finance legal desks, project finance engineers and risk insurance specialists. The team has built up strong, long-lasting relationships with key international players in airport project financing, international infrastructure funds and project financing lenders alike, and has **experience in working with multilateral financial institutions and development banks**, such as the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), the World Bank (IFC) and Export Credit Agencies (ECA), among others, but also with IATA Enhanced Financial Services to manage airport charge collections.

— More than 110 financed infrastructure projects.

Financing goes hand-in-hand with consideration of the best structure for the project. The key structural consideration is the degree of risk transfer from the Government to the project company in undertaking the project. Under traditional procurement structures (such as design, build, finance), the Government remains responsible for investment delivery and operation risks. Under PPP-type arrangements, more of the risk is transferred to the private sector. **The success of our projects is based on finding the right balance** between project structure, financing and risk transfer. We are able to implement different project financing schemes, depending on the most appropriate degree of risk transfer specific to each project environment, including its local context.

Bouygues Construction Airports does not aim to acquire airport assets outright nor any controlling interest. We instead concentrate on our core business: making airport infrastructure development projects work for the benefit of the project owner and their users. The purpose of equity investment, always on a minority basis, is to act as a catalyst for fundraising and to align interests.

Avoiding conflict of interest as a result, we are able to advise on the most suitable project implementation and financing structure.

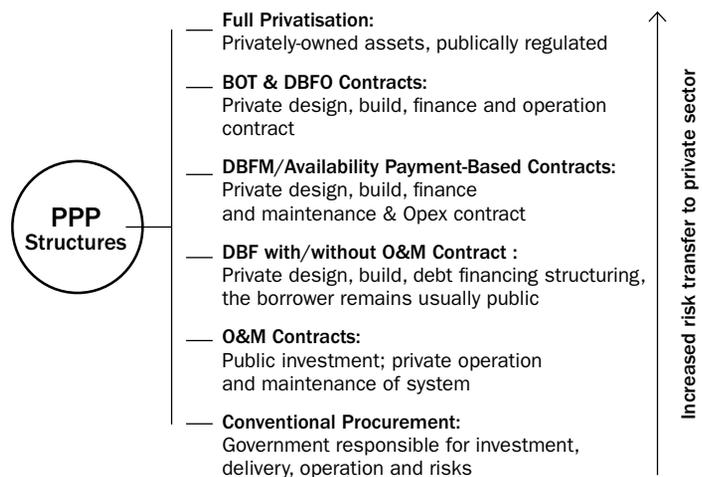
Bouygues Construction Airport draws on the project-structuring experience of the Bouygues Construction Group from having worked on more than 110 financed infrastructure projects over several decades.

In terms of different PPP structures, conventional procurement or O&M contracts often produce sub-optimal results. This is often because they create misalignments of interest – the entity contracted to build an airport facility with no further role has no incentive to avoid costly or over-designed assets, which are subsequently difficult to maintain, or inappropriate from the perspective of maximisation of commercial revenue. BOT, DBFO and DBFM structures address this problem by making the private entity responsible for the long-term operation of the facility, thus **aligning interests** between ‘build’, ‘maintain’ and ‘operate’. For example, the entity will be incentivised to select a design for the facility that maximises the potential for commercial revenue because the private entity’s financial success is dependent on that maximisation. It will consequently **reduce pressure on regulated revenues, making the airport more competitive in attracting airlines** and developing traffic, thereby **creating a virtuous cycle.**

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— PPP STRUCTURING SPECTRUM



PPP STRUCTURING OPTIONS

Conventional Procurement	<ul style="list-style-type: none"> • Typically lengthy processes with several public tenders. • Misalignment of interests between the different project contributors, with the risks of the final asset being expensive to build, maintain and operate, incurring lost revenues too, making it uncompetitive to airlines. • All risk lies with the public authority.
O&M Contracts	<ul style="list-style-type: none"> • Typically lengthy processes with several public tenders. • Misalignment of interests between the different project contributors. • Large public investment required.
DBF Contracts	<ul style="list-style-type: none"> • Speed of implementation: single point to procure altogether design, construction and financing. • Transfer of the design and asset deliverability risks, cost & time overrun, to the private sector, with alignment between design and construction costs. • Benefit from the private sector ability to negotiate with ECAs and lenders. • Completed with or without an O&M contract, but the operating risk remains with the public authorities.
DBFM/ Availability Payment-Based Contracts	<ul style="list-style-type: none"> • Key alignment of interests between design, cost of construction and cost of maintenance & Opex in the long-term. • The payment obligations are independent of traffic, suitable when there is an imbalance between the traffic potential and the amount of the required Capex. • The general public does not see any change in the 'ownership' of the airport and the operating company, thus limiting the erroneous image of a private appropriation on a key national asset and the social risks. • Return on private financing is typically lower, so any given project is less costly for the users than through a DBFO. • Require a mature PPP legal framework and a higher credit rating of the country. • Through transferring the funding obligation to the private SPV, the State can preserve its investment capability in other priority areas, such as healthcare and education.
BOT & DBFO Contracts	<ul style="list-style-type: none"> • Full alignment of interests between airport design and operations, including revenue generation. • Transfer of traffic risk to the SPV, so high incentive for the SPV to develop traffic, alternative sources of revenues to enhance attractiveness for airlines and improve passenger experiences. • Suitable structure when funders are prepared to take on more project risk (vs e.g. country risk) for a higher return.

Many airport PPPs are based on the principle of **transfer of traffic risk**. In other words, the private sector entity is remunerated on the basis of the usage of the airport – if traffic grows then so do the entity's revenues. This has the advantage of full alignment of the entity's interest with the successful development of the airport facility, but it **requires strong traffic potential**. Another issue with this approach is one of public perception, which can negatively link the model with an erroneous notion of 'privatisation', although the Authorities do strictly control the concessionaire through the Concession Agreement.

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A unique approach to airport financing

In this context, Bouygues Construction Airports is recognised for having implemented a unique approach to airport financing through Availability Payment-based PPP structures. Essentially, such structures establish a private entity that is responsible for financing, designing, building and maintaining the asset over the long-term. It is remunerated through availability payments that are not linked to traffic but are nonetheless at risk as they are subject to fulfilling KPIs related to the availability of the asset. Better suited for airports with a weaker traffic potential, this approach has the twin additional benefits of enabling the public authority to retain control over the airport revenues, including, for instance, the relationship

with a strategic airline, while externalising financing of the public budget and aligning the interests of the private entity with the rapid and cost-effective deployment of capital.

We have also acquired significant experience in the field of risk management of revenue collection. Bouygues Construction Airports sponsors the use of a dedicated Airport Infrastructure Development Charge (AIDC) that is ring-fenced for the financing of the new capacity. We make use of IATA Enhanced Financial Services to facilitate the collection of airport charges, reducing costly risks and increasing bankability.

We also deploy advanced LCOI methodology to set appropriate levels of airport charges in compliance with ICAO recommendations. This method **avoids overcharging the passengers of today for the capacity cost required for the passengers of tomorrow**. We further favour a single till approach where airport user charges are kept to as low a level as possible through cross-subsidy from the profits of commercial activities at the airport, thereby enhancing its ability to attract airlines.

EFFICIENT, SUSTAINABLE DESIGN TO REDUCE THE CARBON FOOTPRINT



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— Our objective is always to **optimise operations without oversizing facilities.**

Airport plans are often conceived with several mutually contradictory objectives. There is an understandable desire for the airport to have strong design values, and to capture the national spirit. Frequently, prestigious architects are engaged. On the other hand, over the 40 or more years of an airport terminal life there will inevitably be changes to airline operating patterns, safety and security regulations requiring pragmatic development. We employ a unique **modular approach to airport design** where capacity modules are deployed to match as closely as possible the demand trend, without damaging the operating capacity of the terminal during extension works. Bouygues Bâtiment International terminals nonetheless remain a lasting service landmark taking into account the cultural and architectural identity of the country, **giving the design a real sense of place.**

So that airports retain value throughout their lifetimes, we design flexibly to

keep pace with the times and to **allow the future expansion of the asset with minimal disturbance of the existing operations.** Our objective is always to optimise operations without oversizing facilities. Therefore, Bouygues Bâtiment International airports minimise exposure to traffic risks as well as costs. For example, Bouygues Bâtiment International airports safeguard land through master planning for potential terminal expansions from the outset to avoid piecemeal development.

From a functional point of view, we design airports as buildings required to channel large passenger flows quickly and smoothly. Flow management is essential for the airport to run properly, maximising commercial revenues and reducing operating costs. We have developed in-house simulation systems to plan each critical area. A critical aspect of this is the **deployment of a central processor** system with a central commercial plaza within terminals. Our experts analyse



transit areas, crossflows, level variations, walking distances and more, optimising airport design to ensure seamless operations. Through the maximisation of commercial revenues and the optimisation of costs, airport charges are able to remain competitive. Similarly, we leverage this approach to develop optimised integrated hub terminals able to **foster the development of locally based airlines and regional transit hubs.**

Bouygues Bâtiment International's modular design approach focuses on meeting and surpassing all current safety, security and environmental regulations. We have an in-depth understanding of all requirements and regulations applicable to the airports we build, including IATA, OACI and FAA regulations. We also work closely with government authorities to factor in local specific features in all countries where we work. Additionally, Bouygues Bâtiment International has an in-house, dedicated team to optimise energy balance and

usage throughout the construction, maintenance and operation cycles in order to minimise the carbon footprint of airport assets.

With our Airport of the Future initiative, we anticipate the transition to cleaner forms of energy scouting for new energy, and technological solutions such as H2-based energy storage and supply, leveraging on intakes from our sister company Bouygues Energy & Services.

Modern airports must also **acknowledge the wide variety of environmental and ecological concerns** during development, especially in areas with delicate ecosystems. Bouygues Bâtiment International has an in-house team dedicated to reducing carbon footprints and also provides sustainable solutions when presented with challenging local ecological conditions. For example, when developing airport assets in Madagascar, we developed various solutions to protect

the unique environment and biodiversity of the local region, such as building market-leading water treatment plants, developing the use of rainwater drainage systems with oil separators to minimise flooding and water pollution, and installing biodiversity conservation programmes. This led to us securing the EDGE certification (Excellence in Design for Greater Efficiency) - a bespoke green building certification from the World Bank, awarded for the first time to an airport asset.

As a durable shareholder of several international airports, our role at the forefront of the airport industry enables us to have excellent visibility of the needs of airport users, operational constraints, the long-term impact of our design choices, as well as future regulatory changes so as to anticipate them within our design framework and **develop the airport of the future today.**

CENTRAL PROCESSOR SYSTEM

When designing and developing airports, we deploy a central processor system in our terminals, with centralised functions and services that benefit all passengers, regardless of their departure or arrival gate. The combination of services for all gates in one central processor enables the maximisation of revenues and minimisation of Opex.

Through implementing a central walkthrough with access to the full commercial offer that is accessible to all

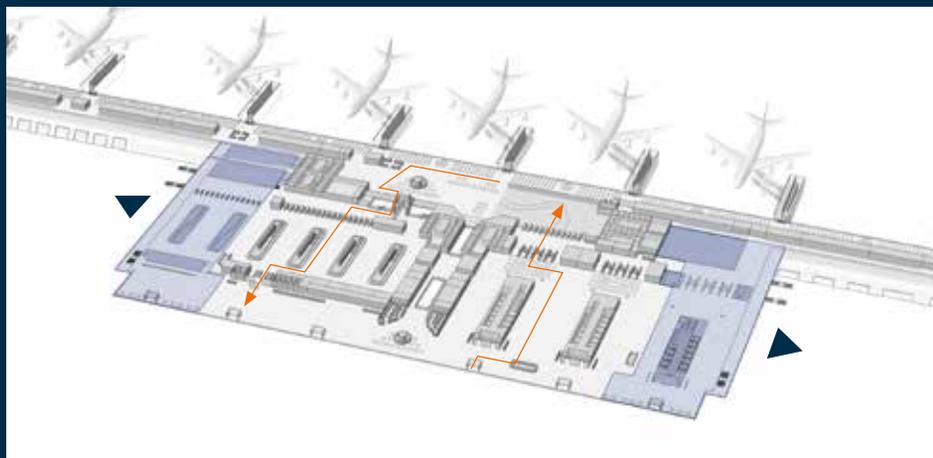
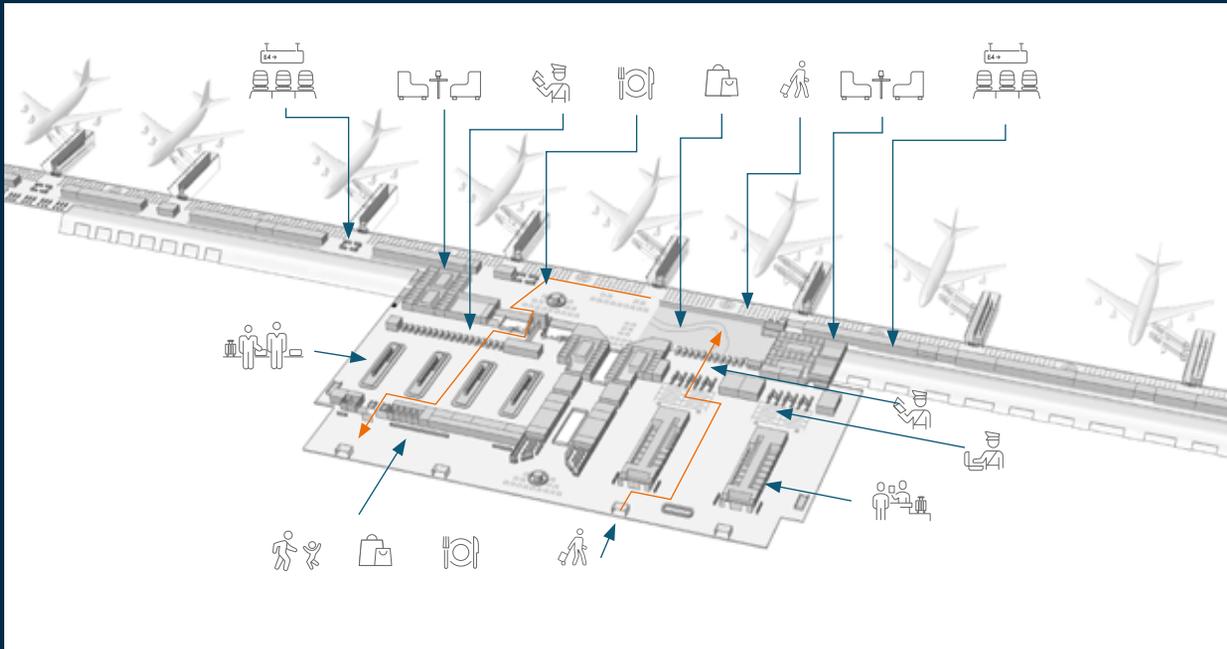
passengers, whatever their gate, including those in transit, Bouygues Bâtiment International's design provides a strong basis for commercial revenue growth due to the increased footfall and passenger exposure.

Central processors also offer operational improvements. The design leads to cost efficiencies, as more cost-effective design and pooling resources common to all gates result in a substantial reduction of costs. The central processor design also reduces

connection time and leads to efficient increases in airport capacity, as well as in route offer.

As all of the key passenger processing functions are included in the central processor, capacity extensions can be constructed on the outskirts of the central processor, enabling the smooth continuation of operations and revenue generation over the construction period.

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Further capacity extensions on the side without disturbing the existing facility operations

ENERGY TRANSITION SOLUTIONS



Bouygues Energy & Services, Bouygues Bâtiment International's sister company, supports sustainable energy transitions and provides a range of services based on green energy resources. We are able to leverage the international knowledge and expertise of our sister company to provide green solutions in our airport design and development.

Bouygues Bâtiment International supports the use of green, hydrogen-powered generators to replace polluting, diesel-powered back-up generators in our airport design and development.

Bouygues Energy & Services invested in PowiDian, a specialist in green hydrogen solutions, to broaden its range of green, hydrogen-based solutions and address its customers' energy challenges effectively. PowiDian primarily develops 100% renewable power generation solutions, creating generators that work with all types of renewable energy. Bouygues Bâtiment International is able to use these solar-to-hydrogen power2power generators as back-up generators or as a remote energy supply for isolated airport infrastructure.

TRUSTWORTHY DELIVERABILITY



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- An established global partner based on its reputation for **fulfilling very advanced clients' specifications and deadlines.**

Ensuring the deliverability of sophisticated assets, such as airports, is the core business of Bouygues Bâtiment International. As well as airports, Bouygues Bâtiment International has successfully delivered iconic high-rise buildings, such as the two tallest in Bangkok, luxury resorts and hotels, advanced hospital centres under PPP structures, the world's largest sports complex PPP in Singapore and integrated mix-used new city districts, including reinvented shopping centre concepts. We are an established global partner based on our reputation for fulfilling very advanced clients' specifications and deadlines.

We do business all around the world, from the Arctic Circle to the Southern Indian Ocean, and have learnt to



cope with locations associated with highly demanding logistical or financial challenges. We are used to tackling such issues every day. Backed by our expertise and our worldwide presence, we assume the most critical risk associated with airport projects. Through **fixed-price, date-certain design and build contracts**, Bouygues Bâtiment International assumes the Capex, cost and time risk associated with each project, **securing that risk away from the public grantor, the investors and lenders** alike. Compliance with planned deadlines and budgets is contractually pledged. Bouygues Bâtiment International's role through Bouygues Construction Airports as a shareholder provides durable alignment with the project.

Bouygues Bâtiment International always teams with local partners, investors, contractors, service providers or engineering firms to ensure that our project value is shared with the local community and economy, and to combine international best practices and expertise with local knowledge and capability.

Our quest for the highest standards also underpins our selection of suppliers and manufacturing partners. We hire the best technology-driven companies in the industry for areas such as airport equipment, information systems or contactless solutions. **Our worldwide procurement and logistics network** ensures the best project costs through efficient procurement.

LONG-TERM COMMITMENT THROUGHOUT THE OPERATION PERIOD



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We remain **committed to the airport into the operating phase**. It brings us a deep understanding of the airport asset, gained through long-term equity interests in several international airports to bear on optimizing airport developments, existing and future ones. Whether it is by being an active member of the airport Board of Directors or by seconding highly-skilled personnel, we work with management and other stakeholders to maximise the asset's potential – operationally, financially, and, above all, in terms of serving airport users and the local economy and community.

— As airport shareholders, we experience the **long-term impact of our design choices**.

Creating long-term value

Our airports have all experienced above-trend traffic and therefore revenue growth. This has enhanced the profitability of the airport and contributed to national public finances through concession fee payments and revenue shares. Resources are transferred back to the local communities and economy, as the airport development continues to increase local employment.

To achieve this growth and exploit the full potential of the airport, we anticipate the needs of all airport stakeholders and users, including ground handlers, security agents, sub-concessionaires operating retail, food and beverage, and advertising facilities within the airport, and government services key for smooth operation and growth. Running an airport requires a detailed grasp of the entire airport system and its interactions. For example, planning and managing a comprehensive and efficient passenger security function helps to ensure that passengers are confident

in the safety of the airport and are in a relaxed state of mind with ample time ahead to spend in the airport commercial area before boarding. Setting the right targets and supporting facilities for ground handlers ensures that airport on-time performance is not compromised and that airlines can achieve their turn-around time objectives to run efficiently and profitably from the airport. Airport management's key function is to coordinate, manage and set the appropriate incentive framework for the agencies operating on an airport, and Bouygues Bâtiment International plays a key role in facilitating this through the planning and delivery of the proper corresponding facilities.

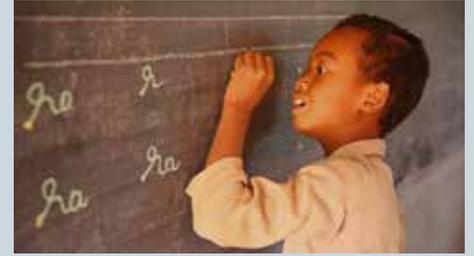
Because we see airport projects through from inception to operation and, **as airport shareholders, we experience the long-term impact of our design choices**, it brings the understanding of practical operation to bear on design principles. Our airports have excellent records in achieving commercial successes due to designing central processors where all airside passengers, including those in transit, can dwell, eat and shop while waiting for their



Working together with local communities

Whether in Madagascar, northern Canada, the Balkans or Cyprus, Bouygues Bâtiment International-sponsored airports, or Bouygues Bâtiment International itself as design and build contractor on the project, frequently develop support programmes for local communities. Bouygues Bâtiment International implements durable projects, demonstrating **solidarity with the communities**, especially in times of difficulty, such as natural disasters or health crises.

Bouygues Bâtiment International, through the Group's Terre Plurielle Foundation, has worked since 2008 to promote education, employment, opportunities, and healthcare in communities local to its assets. For example, in order to promote youth education and development in local



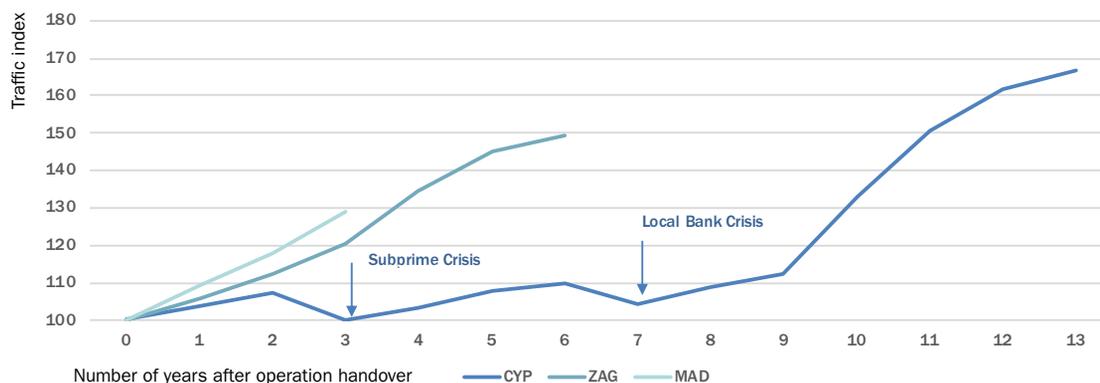
communities in Madagascar, we supported a full renovation of the local city school. A 200 sqm reception centre was constructed to cater for 40 children, providing an area to support local children from school age right through to finding a job. The centre also provides an area for local children to receive free meals and to use washrooms, something of vital importance to the often poor local communities. The expertise for the project was provided by the construction staff of the new airport infrastructure, who gave their time freely to aid the project.

boarding time rather than, as at too many airports, being directed early to departure gates. We optimise this key aspect of the modern airport from design to passenger management.

An airport is a dynamic entity and frequently parts of the infrastructure must be renewed, extended or enhanced. Too often this is done in a piecemeal

way. Bouygues Bâtiment International, on the basis of its responsibility for the project at the outset, anticipates those changes through its master planning and modular design approach to ensure long-term flexibility. It safeguards stress-free adjustments to a changing world while ensuring continuity of operation and revenue generation. We avoid the risk of over-designing, with the associated

burden of over-mobilisation of Capex, or of under-designing, with the risk of loss of passengers, reduced competitiveness and loss of revenues. Bouygues Bâtiment International's modular and flexible design also allows operation costs to be adapted to the traffic levels.



Source: Bouygues Construction Airports

_ 4

OUR VISION:
TOMORROW'S
AIRPORT IS
DESIGNED TODAY





Tomorrow's airport must offer a unique and seamless customer experience while **being part of a sustainable and virtuous economic cycle**. In addition, it must not only **respond to global climate challenges** but also to local economic concerns. To achieve this, our expertise lies in **a modular design approach with at its heart a central processor-based terminal**. We strongly advocate that the airport of the future must be sustainable, passenger-centric, flexible and efficient.



A GREENER AIRPORT



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With the global adoption of the Paris Agreement, most world economies are set on the course of achieving net zero carbon emissions. Although aviation is a relatively small contributor to global emissions (2.8% of total human-induced CO₂ emissions in 2018), as a fast-growing sector of the economy and one that is significantly carbon-dependent, the challenge to build a low-carbon future has become a key one for the industry.

As seen in the chart on the following page, due to increasing aircraft efficiencies and more focused environmental policies within the aviation industry, the share of global CO₂ emissions produced by the aviation industry has not increased materially since 2000, although it has increased as a whole with the growth in traffic. Despite the increase in global passenger numbers during this period, CO₂ emissions per RPK* has decreased materially since 1990. However, airports must continue to play their part in decreasing emissions while being highly visible assets. It is essential that **the environmental impact of**

an airport is prioritised during the design and build process.

Sustainable airports must be innovative in finding ways to reduce or minimise their environmental impact. We have placed this issue at the heart of the way we design, build and manage airports. Furthermore, the Bouygues Construction Group has committed to reducing its overall carbon emissions by 30% by 2030.

Bouygues Bâtiment International has an in-house dedicated and accredited team that works to optimise energy balance and reduce carbon footprints through its design choices and during construction, maintenance and operations. Through these environmentally positive policies, **we always fulfil the green requirements of financing providers**, capital providers, and lenders alike, including the demanding multilateral International Financial Institutions (IFIs), for their airport projects.

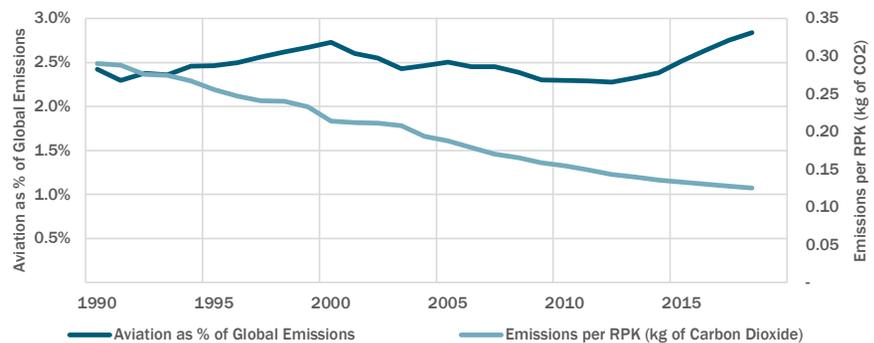
* RPK: Revenue Passenger Kilometres. RPKs shows the number of kilometres travelled by paying passengers.



We are at the forefront of corporate and social responsibility and have achieved significant results through considering the operating constraints of all stakeholders at airports. For example, in Madagascar's capital city airport terminal, Bouygues Bâtiment International has achieved a 33% saving in energy consumption, 49% in water and a 37% reduction in embodied energy in materials through its green design development. Bouygues Bâtiment International intends to make the most of renewable energy sources, such as geothermal, solar and H2-based Power2Power, to replace carbon-based fuel usage proactively, but pragmatically. Aside from the aircraft themselves, a significant proportion of emissions at airports are from ground handling equipment and operational vehicles. We support the transition of airport users from fossil to electrical power, the growing use of SAF biofuel, and anticipate alternative short-haul mobility through eVTOL vehicles, as well as the growing transition to H2 fuel.

AVIATION & CO2 EMISSIONS*

Source: Our World In Data



We are pleased by the fact that **all of our airports have achieved high-level environmental accreditation** from relevant bodies. This, and international measures such as the Carbon Offsetting and Reduction Scheme for International Aviation, can play a role in growing carbon neutrality through providing the necessity for airlines to purchase carbon offsets to cover emissions above 2020 levels from 2021.



*Aviation CO2 emissions are exclusive of land use charge. When land use charge is included, aviation was responsible for 2.5% of global CO2 emissions in 2018.

A MORE PASSENGER-CENTRIC AIRPORT



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Airports contain a significant number of revenue-generating areas, the majority of which are passenger focused and oriented. We recognise that passenger behaviours have shifted over the course of the last decades and that modern airports must be developed, designed and built differently to cater to these emerging trends. Through appropriately optimising their commercial offer for their passenger base, embracing contactless technology and facilitating self-connecting passengers, airports can increase revenue opportunities, create operational efficiencies and develop a returning passenger base.

— Embracing contactless technology and facilitating self-connecting passengers.

Commercial revenue opportunities

At modern airports, commercial revenues frequently account for 40-60% of total airport revenues, depending on the level of airport charges. While facing the pressure on regulated revenues, accelerated by the appropriation of the medium haul market by LCCs (Low-Cost Carriers), which are now also moving into the long haul market, airports globally have attempted to diversify and optimise commercial revenue streams through retail and duty free, food and beverage, parking, car rental, advertising and real estate.

Many of these traditional commercial revenue streams are being placed under increasing pressure from market trends outside of the aviation industry and changing global consumer habits, such as the move towards digitalisation, e-commerce and environmentally-friendly practices. However, through embracing these changing habits and creating more passenger-centric airports, commercial revenues can continue to grow. Our in-depth understanding of passenger-related revenue drivers and experience of designing market-leading passenger experiences enable successful commercial operations at our airports.

For example, a core element of Bouygues Bâtiment International's airport design is the implementation of a central processor within the terminal, with centralised functions that benefit all passengers. Our passenger-centric terminal design provides a strong basis for commercial revenue growth, as the commercial offers are optimised around the passenger experience and pathway, through the implementation of **a commercial walkthrough** with access to the full commercial offer. In a central processor design, **this comprehensive commercial offer is accessible to all passengers, including those in transit, regardless of where their departing gate is.** Through this approach, the traditional backbones of commercial revenues, airport retail and duty free, can be optimised to fit the changing dynamics of modern passengers. Additionally, central processors offer operational cost efficiencies through pooling resources and more cost-effective design.

Through understanding passenger profiles, how to structure commercial space, how to maximise dwell time, and by leveraging our Group's experience in cutting-edge shopping malls, we are able to design complex commercial systems



that provide market-leading services to passengers, that increase commercial revenues and consequently reduce pressure on regulated airport charges in a single-till approach to cover the costs of operation. This **fosters a virtuous circle** which increases the **attractiveness of the airport to airlines** over competing airports and its **attractiveness to passengers** over competing destinations or competing transit hubs.

Contactless technology

To create an optimal passenger experience, modern airports must interact digitally and virtually with passengers by creating contactless experiences. Contactless technology is being implemented across other industries, increasing customer engagement and operational efficiencies. We believe airports should embrace this revolution. **Airports need quicker turnarounds, increased efficiencies and increased commercial revenue opportunities, but also higher sanitary safety.** Contactless technology provides an opportunity for airports to achieve these goals.

There is a growing appetite from passengers for increased digitalisation across all touch points of the customer experience in an airport, and the manner in which passengers expect to interact with airports has significantly changed over the last decade.

Passengers value speed and ease of an airport journey. In many major airports, biometric pathways are used to remove the need to show passports and boarding passes; IATA estimates that 70% of passengers would support increased implementation of biometric pathways in airports. Contactless technology such as biometric pathways with face recognition, digital ticket scanners, and digital security enables airports to increase passenger turnarounds and passenger dwell time in commercial areas, increasing revenue opportunities, and also develop more appealing passenger experiences, **increasing the likelihood of return customers.**

Contactless technology and processes offer smoother, sanitary safe, passenger security screening; as security control standards increase, contactless solutions can resolve bottlenecks and stress that are detrimental to the commercial passenger experience.

The increased digitalisation of the retail industry has, in some markets, led to an increased desire from passengers to purchase items from airport retail and duty free online, book car parking online and organise the entire airport journey in a contactless manner. Airports that can provide online experiences will increase their commercial revenues and likely **again generate more returning customers.**

Due to the importance of commercial revenues and the potential of contactless technology, passenger-centric airports must be designed to a market-leading standard. We are an established airport innovator and design world-class airports based around the passenger journey that embrace the importance of commercial revenues, digitalisation and increasing environmental awareness. We can also **leverage the Group's experience and understanding of nextgen shopping malls, smart cities and smart mobility business lines.** Our deep understanding of passenger journeys and how to optimise space enables our airports to maximise their revenue potential and provide optimal passenger experiences.

A MORE EFFICIENT AIRPORT



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Airports are large, sophisticated assets with a large, fixed cost base; as a result, it is easy for costly inefficiencies to form. Designing a market-leading, efficient airport must take into account the type of airport - for example, hub or point-to-point airports - the airline client base and passenger trends. Bouygues Bâtiment International is experienced in designing and building efficient airports for their client airlines and for their passenger base, in turn enhancing client and passenger experiences and increasing revenue opportunities.

Hub airports

Hub airports are created when an airport receives a large number of point-to-point flights from different origins and destinations, the timing of which can be combined to create a number of new routing offers, from one incoming origin to an outgoing destination, for transferring and transiting passengers. Hubs work by pooling regional demand from leisure passengers, international transfer passengers and

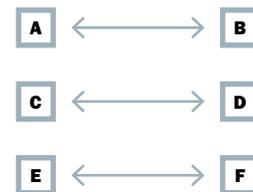
freight to make more routes and regular flights available. Efficient traffic planning is vital at a hub to ensure that inbound and outbound flights can effectively connect in time and that the airport can manage peakiness.

Hubs can create inefficiencies within an airport as they require more runway space than is necessarily needed for point-to-point traffic. It is important for efficient airport hubs to create economies of scale by combining demand for destinations and regular flights. This is achieved when the infrastructure is built effectively to meet traffic waves.

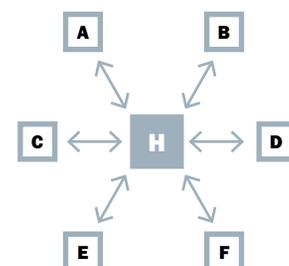
A hub's most significant benefit is the ability to increase market coverage and the number of city pair markets an airline can serve. A hub will consolidate various different traffic flows together and can therefore offer an efficient means of relating supply to demand. A hub-and-spoke system allows airlines to grow rapidly in size, increase traffic demand and maximise connections.

COMPARISON OF POINT-TO-POINT AND HUB & SPOKE SYSTEMS

POINT-TO-POINT



HUB & SPOKE





It is therefore essential for hub airports to design specific infrastructure that optimises the travel process and **reduces the transit time**, for passengers **as well as their luggage**. Bouygues Bâtiment International plays a pivotal role in designing and assisting hub airports, through our integrated hub terminal design. To compete effectively as a hub for transfer traffic, airports need to have an attractive minimum connect time. Through design of a singular, central processor-based hub terminal, including an efficient baggage handling system with automatic baggage sorting, Bouygues Bâtiment International is able to reduce connection times in comparison to traditional multi-terminal airports with slow connection times. As a result, Bouygues Bâtiment International is able to increase connectivity, maximise commercial revenue opportunities with passengers, improve passenger experience, reduce operating costs and decrease pressure on regulated charges billed to the airlines, creating **a virtuous circle particularly beneficial for the locally based airlines**.

Client airlines and the LCC paradigm

Efficiency at airports is also tied to providing adequate and appropriate facilities for their airline clients. Whilst typically airports have been designed to provide services for full-service carriers - flag carriers and legacy airlines - it is becoming increasingly important to cater to Low-Cost Carriers (LCC), which are taking over the medium haul segment and expanding into the long haul segment.

In many regions of the world, the low-cost airline revolution has matured. Globally, some 30% of the world's capacity is now provided by low-cost airlines. But the adoption by full-service carriers of low-cost airline operating practices in terms of product and fares, particularly for short-haul services, is still underway. For airports, this transformation has very significant consequences. Although many airlines continue to require 'traditional' quality facilities from an airport, such as surplus runway capacity to operate 'waves' of operations, space for airline

administration, VIP and business lounges, and the ability to run their own ground handling operation, low-cost airlines, or airlines operating de facto low-cost, have different airport criteria.

First and foremost, LCC airlines require simpler and cheaper facilities at airports, together with simple and efficient terminal design. Where jet bridges are more expensive, low-cost airlines will often opt for remote stands with pre- and self-boarding. Check-in facilities are often being superseded by self-check-in due to often lower luggage requirements per passenger. Low-cost airlines tend to operate single aircraft fleets, typically the single aisle A320 or 737 series, avoiding the need for Class D/E stands.

For low-cost airlines, the role of the airport as a hub is relatively unimportant: few low-cost airlines rely on transfer traffic, emphasising maximisation of point-to-point opportunities. For this reason, infrastructure associated with hubbing – baggage transfer, transfer lounges and airside connections between terminals – often has little value in an LCC based airport.



Through Bouygues Construction Airports, Bouygues Bâtiment International has an acute understanding of the LCC business model that enables us to develop low-cost facilities that are simple, modular, and which promote quick turnarounds. Through simplifying the handling process, providing gates allowing pre- and remote boarding, and minimising passenger turnaround times, Bouygues Bâtiment International provides attractive terminal propositions for LCCs.

Low-Cost Carriers also require low airport charges and often have no specific loyalty to individual airports, switching between geographically disparate airports on

the basis of maximising yield per seat. Furthermore, low-cost passengers can be lower spenders in airport retail, although higher consumers of food and beverage, complicating the financial equation for airport commercial management. Bouygues Bâtiment International is able to provide airport charges appealing to low-cost airlines through low costs of operation and maximised commercial revenues, with its modular terminal design and central processors providing the required flexibility to adapt to changing passenger profiles.

We recognise that national airlines are important to national economies and that full-service carriers still represent a significant proportion of global traffic. **Bouygues Bâtiment International has expertise in facilitating airports where low-cost airlines operate alongside full-service carriers**, offering bespoke solutions that accommodate both airline types. These can include the provision of dedicated low-cost facilities, with dedicated piers for remote or false contact gates, alongside full-service terminals.

- Bouygues Bâtiment International has expertise in facilitating airports **where low-cost airlines operate alongside full-service carriers.**



Self-connecting passengers

There is a growing trend towards self-connecting flights amongst modern passengers. Self-connecting passengers are those that purchase two independent tickets to reach a destination that is not available through a direct flight or an available transfer using a single airline or two airline partners in the same alliance. The self-connecting airport is the airport at which these self-connections are made.

OAG estimate that 92% of travellers worldwide are willing to self-connect under the right circumstances while 40% of US travellers are beginning to self-connect. This trend has also been prominent for a while within European travellers, with the self-connection market growing by 200% in the 18 months leading up to the end of 2019, but more and more travellers worldwide are beginning to embrace the strategy.

It is becoming increasingly important for airports to offer a bespoke service for self-connecting passengers. Without this, airports risk losing passenger numbers, non-aeronautical revenue opportunities, and air service development opportunities. In order to appropriately meet the demands and desires of self-connecting passengers, airports need to find innovative solutions for passengers that function outside of typical airport design. Airports can play a critical role in facilitating self-connections by providing both physical and digital infrastructure specifically catering to this passenger market.

For example, airports can create a more seamless airport experience for self-connecting passengers by developing systems that can check bags through multiple airlines, providing digital booking systems that aid the connection booking process, creating one-stop self-check-in areas that serve all airlines, and limiting the need for passengers to go landside, only to return to airside afterwards.

Processes such as these need to be anticipated in the original design planning. Bouygues Bâtiment International can leverage its integrated hub terminal design experience to respond to the self-connecting airport trend. Our central processor approach and design around the passenger journey and experience offers the perfect match to accommodate increased transfer or self-connecting passengers.

Through our extensive experience in airport operation and design, we understand how to accommodate the growing trend in self-connecting passengers and, in turn, drive passenger numbers, increased passenger satisfaction leading to increased non-aeronautical revenues, and ease regulated airport charges, thereby enabling the development of a wider route network through attracting more airlines.

LONG-TERM AIRPORT INVESTMENT AND PLANNING



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— Building trust for the future.

As with other forms of infrastructure, capital investment at an airport is a long-term process, with similarly long paybacks. Airport assets are long-lived and detailed business plans must treat them as such. However, as airports face competing destinations and compete for aircraft allocation to their own destination when airlines have a finite number of aircraft, traffic bases can be unstable, and therefore assurances of remunerating investment can be uncertain. As a result, two items of higher importance tend to emerge in order to produce successful investment.

Firstly, the **airport design needs to create trust in the long-term** ability of the airport to cope with those uncertainties, given the significant size of the initial investment. Secondly, if it is essential for airports to recoup this investment through airport charges, it is also important that these airport charges remain competitive and attractive for airlines and subsequently passengers.

Bouygues Bâtiment International, through its modular design and approach to airport charges, is able to provide solutions to both of these fundamental issues.

— Modular design

We believe that to maintain both efficient Capex and Opex, investments must be modular so that they fit the future growth profile of the airport by adding new capacity modules without disturbing operations and revenue generation. Naturally, anticipating the details of investment, such as the timing and quantity of investment, is not simple.

Bouygues Bâtiment International, in its work as a globally recognised airport designer and developer, has extensive experience in modulating airport investment and creating detailed Capex plans across the lifetime of an airport asset. Bouygues Bâtiment International has developed a specific approach to **providing flexible modular terminals, the 'ByAir' concept**.

This modular approach avoids the risk of initial over-investment with the cost of unnecessary immobilised capital, without risking a potential loss of revenues through being unable to promptly respond to traffic growth.

THE MODULAR AIRPORT TERMINAL



1 - 3 MILLION PAX / YEAR



4 - 6 MILLION PAX / YEAR



3 - 4 MILLION PAX / YEAR



6 - 8 MILLION PAX / YEAR



It also avoids the potential of large-scale and costly disturbances in operations during capacity extension works, which would threaten the revenue streams of the airport, hence the ability to serve the existing financing facilities or to raise a new one to fund future investments.

The principle of flexible modules that we have developed has been presented to IATA to review and assess the level of service. The design principles developed for these modules are constantly used and adapted in the design of our airports.

Through modular design and investment, our design approach creates confidence in the future of the airport asset, despite the risk of the initial investment size.

Recovery of costs through airport charges

In both regulated and unregulated markets, the costs of Capex plans are typically recovered to some degree through airport charges. However, caution must be

exercised when setting a framework for charges and a balance must be struck. Charges that are too high may discourage airlines, typically LCCs, from operating at the airport, while charges that are too low will not sufficiently cover the cost of a long-term airport asset.

Bouygues Construction Airports has extensive experience developing airport charges as part of our airport design and development approach and is able to balance the multitude of interests to find an optimal outcome that enables recovery of Capex. We utilise the usage-based LCOI methodology, compliant with ICAO and EU directives, to set airport charges. Through this, we ensure the setting of appropriate airport charges, avoiding a scenario where the passengers of today pay for the investments necessary for the passengers of tomorrow.

When considering expansion, development, or design of airports, flexibility must be built into the plans. Airports, as long-term assets, will naturally encounter changing industry forces, consumer behaviours, and space requirements with ever changing regulations and norms, for instance,

on security, health, or environmental obligations. In order to stay effective and able to adapt to changing market dynamics, flexibility is a key part of airport design. As market-leading airport designers regularly facing those changes, we have the capability and industry knowledge to develop airports that are adaptable for future market shifts, **building trust for the future** in the face of what remains a significant investment decision.

AIRPORTS THAT ARE ACTIVE CONTRIBUTORS TO THEIR SURROUNDING ECONOMY



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Airports are highly visible assets and can have significant social and environmental impacts. Airport developers must take into account the impact that large infrastructure developments will have on the local areas.

As a result, Bouygues Bâtiment International's corporate mission extends beyond the construction of the airport assets and seeks to make tangible, beneficial impacts on local communities, economies and environments.

One of our core beliefs is that any airport development must have a beneficial impact on the local community and economy. Many airports globally are constructed in similar fashions and do not take into account local architectural norms or heritage. When designing airport projects, our process design takes into the account the cultural and architectural identity of the country to **create a real sense of place** reflecting the individual heritage of the country and local area, **making the airport a showcase gateway for the country.**

In addition, we seek to deliver long-lasting economic benefit to the local people surrounding the airport asset. During construction, Bouygues Bâtiment International

is keen to **partner with local contractors**, bringing their local know-how while we transfer international best practices in construction techniques and safety and environmental standards. Following construction and through their resulting growth, our airport concessions have all increased local employment while taking over all willing previous employees operating the airport, delivering sustainable benefits to the local community. We are keen on a **socially responsible approach**, respectful of the employees and their benefits, favouring their personal development through training, empowering, and the offering of new development opportunities.

Bouygues Bâtiment International also provides **support to local communities**, responds to affirmative job action programmes targeting native populations, and acts in compliance with ESG international standards and the rights of individuals when inhabitants may need to be relocated as a result of works.

Through our corporate mission, we seek to develop airports that are respectful of their local area, environment, economy and population.



Airports as a community of businesses

Airports are significant communities of businesses. As well as the direct business of operating the runway and terminals, **the airport campus** hosts a variety of other aviation and non-aviation related activities. More direct activities include provision of security (both passenger and perimeter), immigration, emigration, and customs processes, air traffic control, and air cargo handling and storage. More indirect activities include in-flight catering, freight forwarding, airline support functions, such as administration and maintenance and hotels.

A significant trend over the last few years has been for airport managements to outsource many activities. Aircraft handling, for example, is frequently provided by independent operators. In many regions, handling as the responsibility of the airport is a rarity – revenue accrued by independent operators in Europe has increased from 22% to 54% over the period 2005 – 2015.

The same pattern can be seen for activities such as terminal navigation, security, and in-flight catering. Through this outsourcing trend, airport management is able to reduce costs by effect of scale and to focus on core areas of expertise, such as operation and facility provision and, above all, route development.

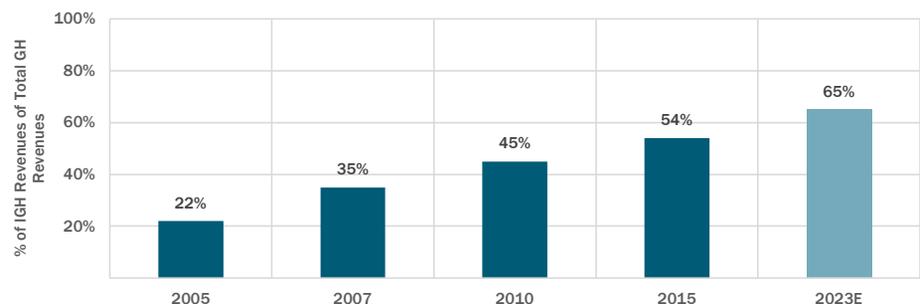
However, there are related risks in this approach – a significant proportion of delays to schedules occur because of miscommunication and lack of co-ordination between different airport players. A particular issue is caused in the ground handling process as a result of poor communication

between the various stakeholders resulting in delays. Where security is outsourced, there can be a mismatch between the incentive structure for the outsourced provider and the interests of maintaining a secure airport.

Bouygues Bâtiment International has been at the forefront of facilitating **effective community airports** through its master planning and functional design approach. We work with governments, airport management, and other agencies to ensure the right framework and the right facilities are provided for smooth operation.

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MARKET SHARE OF INDEPENDENT GROUND HANDLERS IN EUROPE, 2005 – 2023E



Source: Proprietary Data



Airport City

It is becoming an increasing priority for airports to provide economic and social benefits for the local community over and above a typical airport, while diversifying the sources of revenues. One popular method of achieving this is through the airport city.

The concept of airport cities was pioneered by academics such as John D. Kasarda, who believed that while traditionally cities have been the driving force behind the location of airports, in the future airports will drive the location of cities.

Airport cities therefore leverage the availability of excellent land transport access infrastructure and extensive land reserve to facilitate associated infrastructure, such as

hotels, retail parks, business centres, convention and exhibition centres, offices and transport links. Together, the airport and the associated infrastructure constitute the city of the future, having beneficial impacts on the local economy and community.

The Bouygues Construction Group has played a vital part in facilitating transport links between airports and cities, a key component of airport city concepts. For example, the Group has developed, under a PPP structure, the subway line connecting Sydney International Airport and the fast Gautrain connecting Johannesburg International Airport, both examples of transport integration between cities and their airports.

Bouygues Bâtiment International can leverage on its vast portfolio of business lines, such as Smart Cities and Smart Mobility, and also on its property and real estate development capacity to provide market-leading airport city design and development in appropriate markets. Bouygues Bâtiment International's experience in this regard enables it to deliver Airport City projects that maximise the potential of integrated airport cities through similar design, build, finance, maintain and operate approaches as for airport terminal facilities.



CASE STUDY: HONG KONG INTERNATIONAL AIRPORT (HKG)

As many airports, HKG offers a natural multimodal transportation interchange, interconnecting ground transportation - rail & road - with air and ferry. Combined with a land reserve so well connected to the rest of the city, it creates the opportunity to build an ecosystem of diversified revenue sources based on real estate developments not necessarily directly related to air transportation.

Under a PPP/Project Financing structure, Bouygues Bâtiment International has developed landmark Airport City projects:

ASIAWORLD EXPO

HK's largest multi-purpose exhibition, convention and entertainment venue facing the main terminal, connected to the subway and ferries, able to accommodate 10,000-delegates on 132,000-sqm, a € 258 million landside investment for which Bouygues Bâtiment International has structured the financing while being minority investor, a real showcase hosting large events, such as ITU Telecom World or the Oasis concert.

SKYCITY

On the airport's prime landside premises, directly connected to AsiaWorld Expo and the ferry piers, a 658-key, 42,000-sqm, 13-floor Marriott hotel with a 2-storey convention centre featuring 640-sqm of board & meeting rooms and a 650-sqm ballroom, plus sport & spa facilities, a € 85 million investment that Bouygues Bâtiment International has structured as developer and minority shareholder.

In addition, business offices & headquarters, benefitting from the ground transportation system for non-flying personnel:

CAA HEADQUARTERS AND ATC CENTRE

An HK-Beam Platinum, 63,000-sqm complex awarded the highest level of environmental certification, through the use of solar and wind-produced energy, low-energy building systems, green walling & roofing, a green landmark on the airport premises.

CATHAY CITY

Featuring a 73,000-sqm head office, a crew hotel, a 18,500-sqm training facility accommodating 14 flight simulators, and the Cathay aviation museum.

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OUR SUCCESSES: CHALLENGING COMPLEXITY



Bouygues Construction Airports is an experienced, market-leading airport developer that works on complex airport projects in challenging financial, environmental, geographical and regulatory environments. With Bouygues Bâtiment International's team, we have a wealth of expertise and knowledge, including experts in airport design, engineering, financing, legal structuring and risk assurance, allowing us to complete challenging projects with a market-leading degree of quality.

Hereafter are case studies in which we have overcome significant challenges and complexity to deliver award-winning airport projects.



ZAGREB INTERNATIONAL AIRPORT - HUB TERMINAL FOR CROATIA AIRLINES



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Bouygues Construction Airports is one of the three leading shareholders in the concession company operating Zagreb Airport in Croatia, while Bouygues Bâtiment International completed, concomitantly with the country's adhesion to the EU, a design and build project for a new **integrated hub-terminal** as part of the concession obligations. Financing for this project was a challenging prospect, following the sovereign debt crisis in Europe. However, Bouygues Bâtiment International's experience and relationships made it possible to raise €300 million in financing, both in debt (50% IFIs, 50% private commercial banks) and equity, to implement a €245 million Capex programme. This, in effect, **reopened the senior debt market for traffic risk-based concessions in Europe** following the sub-prime crisis. The financial engineering excellence driven by Bouygues Bâtiment International as lead industrial sponsor was acknowledged through several

internationally renowned awards, including Project Finance Deal of the Year 2013 in London and the Sponsor of the Year award for Bouygues Bâtiment International at the London 2014 Infrastructure Journal Awards.

As part of the new terminal works, which were constructed between 2013 and 2016, 66,000-sqm of space was created, to which 100,000-sqm of taxiways, 8-boarding gates, 30-check-in desks, and 1,195-parking spaces were added. The new terminal has a capacity that will be able to reach 8 million passengers per annum. Supported by this new terminal, which was opened to operations in 2017, traffic grew to 3.4 million passengers in 2019, up from 2.3 million in 2012 before the airport's handover to the concession. This resulted in the addition of 12 new airlines to Zagreb, and 17 new destinations in that time period. Since 2019, Ryanair has also based two aircrafts at Zagreb, with a

third aircraft planned, and has opened new routes to 24 additional destinations.

Our new **central processor-based terminal** provides the required **hub capacity for the national airline**, Croatia Airlines, to be able to smoothly perform three hub rotations per day. Zagreb Airport continues its impressive growth profile, whilst also achieving ACI Airport Carbon Accreditation and ASQ excellence.

In addition, the new terminal has led to increased commercial revenue generation. **Commercial revenue yields per passenger have doubled** since the concession company took over operations, and overall operating yield has increased by 80%.

Using low energy design, Bouygues Bâtiment International has obtained **LEED Silver green certification** for this new landmark asset.



AWARDS



2020 / 2019 / 2018

- ACI/ASQ: Best Airport in Europe (2-5 million passengers)
- ASQ: Customer Experience Award

2017

- ACI/ASQ: Most Improved Airport

2014

- Infrastructure Journal Award: Bouygues Bâtiment International Sponsor of the Year

2013

- Project Finance: Deal of the Year
- EMEA Finance: Project Finance Award



INFRASTRUCTURE
JOURNAL AWARDS 2014
Recognising the achievements of 2013



The main solutions developed to achieve this certification were, among others:

- High-level energy efficiency and improved exterior insulation,
- Efficient handling units,
- LED lighting and lighting control management,
- Reduction of water consumption through the use of low-consumption fittings and re-use of rainwater for irrigation.

As part of its **social responsibility** programmes, we undertook large-scale local employment during the building process. Between 2013 and 2016, approximately 1,000 local tradespersons were employed for the construction works. In addition, the airport concession had generated 1,704 local jobs as of 2019, a large increase from the 1,018 local employees that the concessionaire took over and maintained the benefits of during the handover in 2013.

The improvement that Bouygues Bâtiment International has enabled at Zagreb Airport through the new terminal delivery has been recognised by a number of awards; most notably, Zagreb Airport won **Most Improved Airport** in the ACI/ASQ survey in 2017, the first year of operation of the new terminal, before winning ACI/ASQ's **Best Airport in Europe** in its category (for 2 – 5 million passengers) **every year between 2018 and 2020**.

SUSTAINABLE CERTIFICATIONS

US Green Building Council: LEED Silver

ACI: Airport Carbon Accreditation

ACI: Airport Health Accreditation



TWO AIRPORTS IN MADAGASCAR



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Bouygues Bâtiment International, in collaboration with ADP, Meridiam, and Colas (Bouygues Group), has developed a design, build, finance and operate concession for the airports in Antananarivo, the capital city of the country, and Nosy Be, the most popular tourist destination; this was the first design, build, finance and operate airport concession of its kind in Sub-Saharan Africa with such upfront Capex obligations integrated within the concession perimeter.

— A design, build, finance and operate concession for the airports.

Bouygues Bâtiment International, in association with its sister company Colas for ground infrastructure, was responsible for the design and construction of:

Antananarivo:

- A new 17,500-sqm international terminal based on low energy design, fitted with the first contact positions in the country, bringing the airport capacity to 2.5 million passengers,
- Renovation and conversion of the existing terminal into a domestic terminal
- Full runway resurfacing,
- Upgrade of the facilities to meet technical and environmental compliance;

Nosy Be:

- Full refurbishment of the runway, including resurfacing and implementation of surface drainage,
- Full refurbishment of the existing terminal,
- Technical and environmental compliance of facilities.

The financing for the fixed investment programme was finalised in June 2017, with a consortium of five international development banks in addition to the capital contributed by the shareholders of the concession. We were the lead industrial sponsor in structuring a €210 million financing facility.

In this **economically challenging environment**, every identified risk was addressed with **proper mitigation measures to ensure bankability**, including foreign exchange regimes, charge collection, cost coverage, environmental and social impacts, investment risk, and the appropriate setting of airport charges to preserve the growth potential of the airports.

Bouygues Bâtiment International completed work on the new terminal in late 2019. The Covid pandemic delayed the opening to passengers to 2021. Since the handover of the airports to the concession, passenger numbers have already grown



AWARDS

2019

- Route Africa Awards - Category for airports under 4 Mpax - Recognising excellence in airport marketing
- ACI Africa: 1st place in the Human Resources Excellence Award (medium-sized airport)

2018

- Partnership Awards: Gold Award Winner, Best Transport Project
- Africa Investment Awards: Best Infrastructure Project with Special Distinction

2017

- Thomson Reuter Project Finance International Awards: Deal of the Year Transport MEA
- Infrastructure Journal Global Awards: African Airport Deal of the Year
- GAD World: Deal of the Year
- Global Transport Finance: Deal of the Year Transport MEA
- Project Finance International: Deal of the Year Transport MEA



30% in less than 3 years, while the number of airlines and destinations served have grown by 23% and 22% respectively.

The concession has also undertaken a significant **social and environmental responsibility** programme in relation to the Madagascan project. Given the unique nature and biodiversity found in Madagascar, it is essential to ensure that any construction works protect the delicate environmental balance on the island. For example, special measures have been put in place to **foster the reproduction of rare species of birds** in Nosy Be.

In addition, we have committed to supporting the local people of Madagascar, renovating the local community school for the children of the district of the work site. The concession has also been committed to the safe, **ethical relocation of vulnerable populations** living near both airports, in compliance with international standards and the rights of individuals.

Under Bouygues Bâtiment International's design leadership and environmental commitments, the new terminal was **the first airport project to secure EDGE certification** from the World Bank for Excellence in Design for Greater Efficiency, with a 33% saving in energy consumption, 49% in water, and a 37% reduction in embodied energy in materials.

The **sophisticated risk management structure** which enabled this project under private project financing was acknowledged through **seven prestigious international awards**, including Gold Award Winner, Best Transport Project at the 2018 Partnership Awards in London, Best Infrastructure Project with Special Distinction at the 2018 Africa Investment Awards in Paris, and Deal of the Year in the MEA Transport category at the Thomson Reuter Project Finance International Awards 2017 in London.

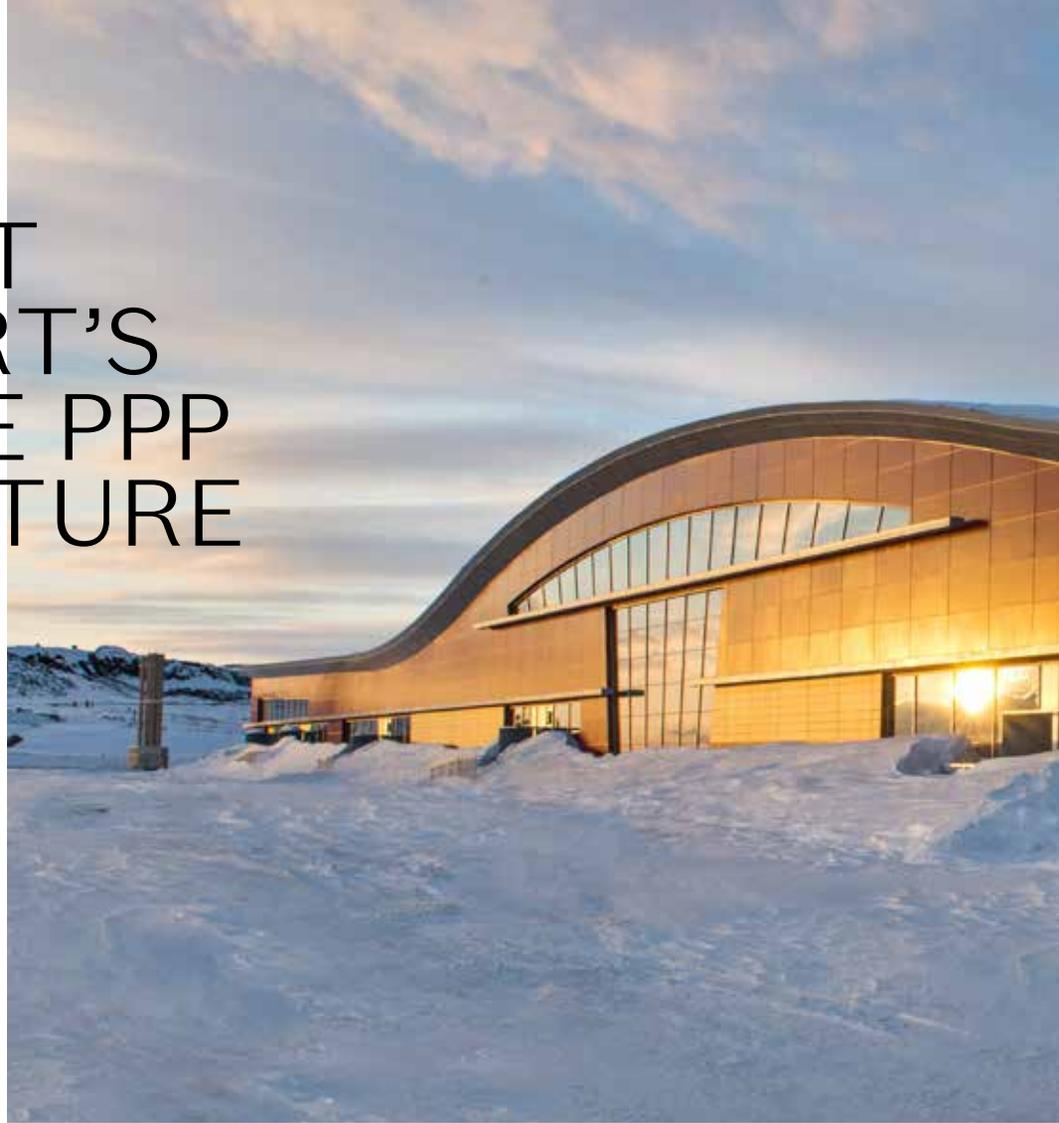
SUSTAINABLE CERTIFICATIONS

World Bank: Edge Certification

ACI: Airport Health Accreditation



IQALUIT AIRPORT'S UNIQUE PPP STRUCTURE



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Bouygues Bâtiment International is a key shareholder in the PPP company of Iqaluit Airport in Canada and completed a finance, design, build, maintain and operate project at the airport for a new international passenger terminal. This was not only the first full-fledged airport PPP in North America, but also the **first airport availability payment-based airport PPP globally**.

Bouygues Bâtiment International was the lead industrial sponsor of an availability payment-based PPP, financed through an upfront investment subsidy and \$165 million of private bond placements. Through a \$230 million Capex programme, Bouygues Bâtiment International's works at the airport included designing and building a 10,000-sqm terminal and a new combined service building of 4,500-sqm, while its sister company Colas extended and refurbished around 400,000-sqm of runways and apron, **all facilities built on the permafrost**.

Given the location of the airport **within the Arctic Circle**, this project naturally represented a **technological and logistical challenge**. In order to combat the impact of the heat of the building, a key issue in developing the new terminal, we built one of the **largest systems of thermosiphons** in the world. This system limits the impact of heat on the permafrost below the terminal, ground which has been permanently frozen for thousands of years and is now jeopardised by global warming.

As a result of this innovative cooling system and environmental management design, the new airport terminal was granted **LEED Silver** accreditation by the Canadian Building Council, a notoriously difficult accreditation to achieve in this region of the world.

The terminal design is responsive to the extreme and changing environment of



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the Arctic, but also commensurate with Inuit community values. Bouygues worked largely **with local Inuit communities**, in line with its approach to subcontract local companies and train local people on international projects. For example, we formed and trained a dedicated team of native carpenters, not only for the development of the airport, but also for the benefit of local communities in a location where all resources are scarce.

As a result of the innovation and work at Iqaluit Airport, the project was awarded the National Award for an Engineering project by Engineers Canada (2018) and **the Gold Award in infrastructure for innovation and excellence in PPP** by the Canadian Council for PPP (2017), while Bouygues Bâtiment International was awarded the Sponsor of the Year award by the Infrastructure Journal Global Awards (2014).

SUSTAINABLE CERTIFICATIONS

Canada Green Building Council:
LEED Silver

Sustainable Construction:
Cogeneration



AWARDS

2018

- Canadian Engineering Society: National Award for an Engineering project

2017

- The Canadian Council for PPP: Gold Award in Infrastructure for innovation and excellence in PPP

2014

- Infrastructure Journal Global Awards: Sponsor of the Year



THE RESILIENT CYPRUS AIRPORTS CONCESSION

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Through Bouygues Construction Airports, Bouygues Bâtiment International has remained the largest shareholder in the concession company operating Paphos and Larnaca Airports in Cyprus, since its closing in 2006. Bouygues Bâtiment International completed a DBFMO project for **two new terminals** at the airports for which it was the lead industrial sponsor in raising **a private financing facility of €612 million to fund an upfront Capex investment of more than half a billion Euros**. As part of the concession, Bouygues Bâtiment International constructed a new terminal at Larnaca International Airport and a new charter/LCC terminal at Paphos International Airport for an overall capacity of more than 13 million passengers.

Bouygues Bâtiment International's new terminals have had a substantial impact on operations at the two airports and have enabled significant growth in several key KPIs between 2006 and 2019:



- Traffic has grown by 67%,
- The number of airlines present has increased by 28%,
- The number of destinations served has increased by 46%,
- Commercial revenue yields have increased by 35% since the beginning of the concession.

Benefitting from the investments of the concession, Cyprus has continued on its trajectory to become a major European tourist destination. The concession contract has proven to be **robust in the face of a number of crises** that have affected Europe since the beginning of the concession operations, including regional crises, the eruption of the Eyjafjallajökull volcano in Iceland and pandemic outbreaks.

Bouygues Bâtiment International has been firmly committed to high standards in health, safety and environmental management in its work in Cyprus.



AWARDS

2020

- ACI Europe Best Airport Awards: Highly Commended in 5-10 million passenger category (Larnaca)

2019

- Cyprus Competition in Corporate Social Responsibility: Best Practice in Sustainability & CSR Strategy
- ACI Europe: HR Excellence Award
- Investors in People: Platinum Certification

2018

- ACI Europe: Most Accessible Airport (Paphos)

2017

- ACI Europe: Most Accessible Airport (Larnaca)

2013

- World Finance - PPP Awards - Best Transport Project

2010

- DFNI Global Awards for Travel Retail Excellence: Best New Shop Opening (CTC ARI)

2009

- TUI - Best Resort Airport Experience

2007

- Public Private Finance Award

2006

- Euromoney Project Finance: Deal of the Year



Following hard work and efficient airport planning and design, both airports with their new infrastructure have received ISO 50001 accreditation. In addition, both airports have been accredited with ACA Level 3+ Neutrality, for achieving net zero carbon emissions, and ACI's Airport Health Accreditation.

For its achievements, the project has been recognised with several international awards and numerous commendations, including the 2006 Euromoney Project Finance Deal of the Year, the ACI Europe Most Accessible Airport Award in 2017 and 2018, and the Award for Collaboration and Outstanding Performance at the Business4Climate & Energy Efficiency Network Awards in 2019.

SUSTAINABLE CERTIFICATIONS

ISO 50001

2020 - ACI: Airport Health Accreditation

2019 - ACA: Level 3+ Neutrality

2019 - Business4Climate & Energy Efficiency Network: Award for Collaboration & Award for Outstanding Performance



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OUR STRENGTH: OUR GROUP



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Bouygues Bâtiment International, parent company of Bouygues Construction Airports, is the international building subsidiary of Bouygues Construction, itself part of the Bouygues Group.

Created in 1952, Bouygues is a large diversified French industrial group listed among the 40 largest companies making the leading Paris stock market index, the CAC 40. The Group occupies leading market positions in infrastructure development, construction, property development, media and telecoms.

Present in over 80 countries, it employs more than 124,600 staff with a turnover of €37.6 billion, including €27.9 billion in the construction business. With a stable shareholder base, a strong and original business culture, a market position that offers long-term development potential and a very healthy financial structure, Bouygues has recorded solid performance figures over the last ten years. Combined with the chairmanship of the funding

Bouygues family, and the equity position of the employees as the second largest shareholder, this gives the Group **a strong sense of purpose and accountability**.

Bouygues Construction is the historical core entity of the Bouygues Group. For 70 years, it has been a global player in infrastructure development, construction and energy services, with operations in more than 80 countries. It designs, structures the financing, builds and operates projects in the sectors of infrastructure, building and industry. As a responsible and committed leader in sustainable construction, Bouygues Construction sees innovation as its primary source of added value: this **'shared innovation'** benefits its clients at the same time as improving its productivity and the working conditions of its employees. As a very concrete step, Bouygues Construction has pledged to cut its greenhouse gas emissions by 30% by 2030 and offers its customers a

wide range of low-carbon or carbon-free solutions, including in energy production and usages.

As part of both Bouygues Construction and the wider Bouygues Group, Bouygues Bâtiment International and Bouygues Construction Airports are able to draw on an international network of procurement, local teams and expert knowledge along all the Group's business lines, supported by a central pool of engineering, legal and financial expertise. We are therefore perfectly placed to complete airport projects that benefit the local economy and ecosystem in a long-lasting and sustainable fashion, as we combine the expertise of a major international Group with its strength and knowledge of the airport industry, and local companies who understand the particular challenges and focal points of the local area. As a result, we are able to provide innovative, sustainable and tailored solutions to customers, regardless of geography, challenges or social environment.



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Our trademark? We can provide greater dependability on our ability to **deliver projects on-time and on-budget, while reducing their carbon imprint.** We are able to attract highly competitive financing and to leverage resources from our large internal base across all types of assets to fulfil our contractual objective. We are also able to take advantage of Bouygues' large international supply chain and staff base established on all continents.

Our beliefs? We treat every project as an opportunity to support local areas and **bring sustainable social, community and environmental benefits.** Since every project and every local area is different, we have teams that work every day alongside our partners to imagine and build ambitious solutions for sustainable development. We share, uphold and contribute significantly to those values.



3

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- 1 - MAHANAKHON TOWER, BANGKOK
 - 2 - SPORTSHUB PPP, SINGAPORE
 - 3 - KAI TAK CRUISE TERMINAL, HONG KONG





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