



DEFINING A NEW ERA OF AVIATION

Aviation



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WHO WE ARE

We're AtkinsRéalis, a world-class engineering services and nuclear organization. We connect people, data and technology to transform the world's infrastructure and energy systems.

Together, with our industry partners and clients, and our global team of consultants, designers, engineers and project managers, we can change the world and **engineer a better future for our planet and its people.**

In this brochure you'll find a snapshot of our expertise, services and experience in aviation. For further information visit: atkinsrealis.com/aviation



WHAT WE DO & WHY WE DO IT

The aviation sector is undergoing a transformation driven by the need to decarbonize and improve mobility. To meet this challenge, aviation must become more resilient, customer-centric, connected to other forms of transport, and sustainable. Our expertise remains constant as we define aviation's future.

We empower clients—including airport owners, airlines, governments, lenders, and construction companies worldwide—to lead air transport development.

Our clients value our technological, engineering, and regulatory proficiency, as well as our commercial and operational insights. We work on projects to make airports more efficient, develop alternative fuels, advanced aircraft materials, and future-ready infrastructure.

With deep subject-matter expertise in critical aviation skills and vast worldwide experience, we deliver global expertise with local knowledge. This is how we contribute to an efficient and resilient aviation future with connectivity for all.



INNOVATING RESILIENCE, TRANSFORMING AVIATION

We're busy pioneering a range of innovations to eradicate emissions and achieve sustainability in aviation. This includes the use of advanced materials and the optimization and adoption of alternative fuels such as hydrogen and sustainable aviation fuels (SAF). Yet no single technology will be the answer alone: a range of solutions, working in concert, will be needed for different types of journeys. While there are still huge industry-wide changes to come, we're already well underway on projects that are redefining this space.



EFFICIENT SOLUTIONS, SEAMLESS JOURNEYS

We're designing airports with passengers at the forefront, developing digital technologies that will make traveling through airports faster, more sustainable, and more enjoyable.

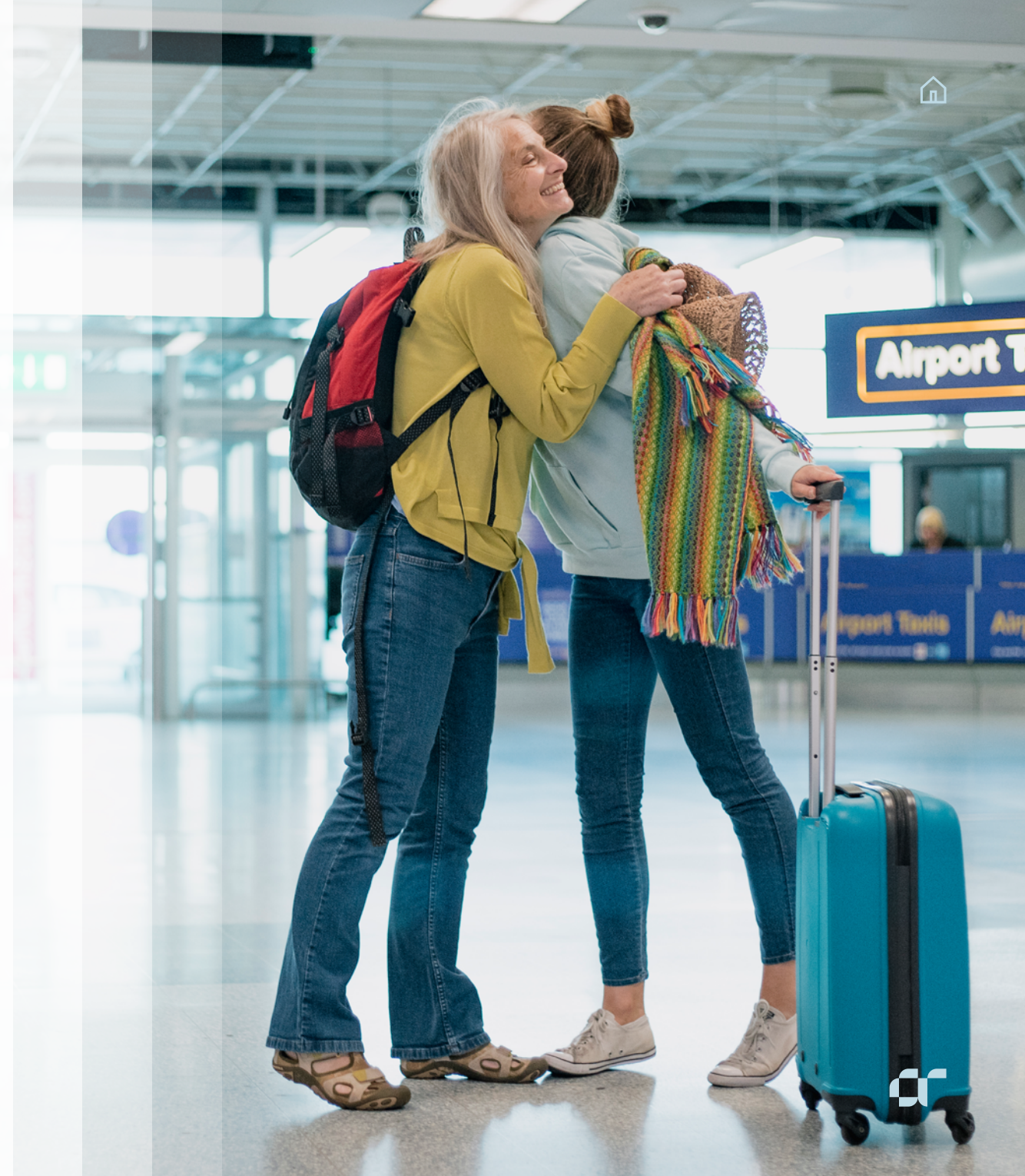
Our tailor-made Decarbonomics™ solution offers a data-driven approach to reduce carbon emissions from airport assets and ground fleets. We help future-proof infrastructure decisions by developing cost-effective and efficient net zero pathways, based on practical delivery experience and expertise.

We're investing in computational design and AI to help tackle real-world aviation challenges. We have expertise in electric, hydrogen, and hybrid propulsion technologies and the certification of novel systems.

We also specialize in helping airports become future fuel ready - offering the tools to analyze supply, demand, and impact, and build first-class infrastructure and ESG strategies.

We're conscious that airports need to be accessible to and inclusive of all passengers. We speak the same language as our clients on this, as well as on other critical topics such as resilience, security, sustainability, and connectivity. With 50+ years of providing world-class engineering services behind us, we understand aviation's complexity and interconnectedness, and excel at using a systems-thinking approach to enhance passenger journeys. No matter what we're doing, we do it in a way that considers each of the adjacent parts.

Our clients, who include some of the busiest airports and aerospace companies worldwide, call on us to help them make informed investment decisions at every project and program stage. We are helping to create an efficient and resilient aviation future in which connectivity is available to all.





OUR SERVICES AND CAPABILITIES

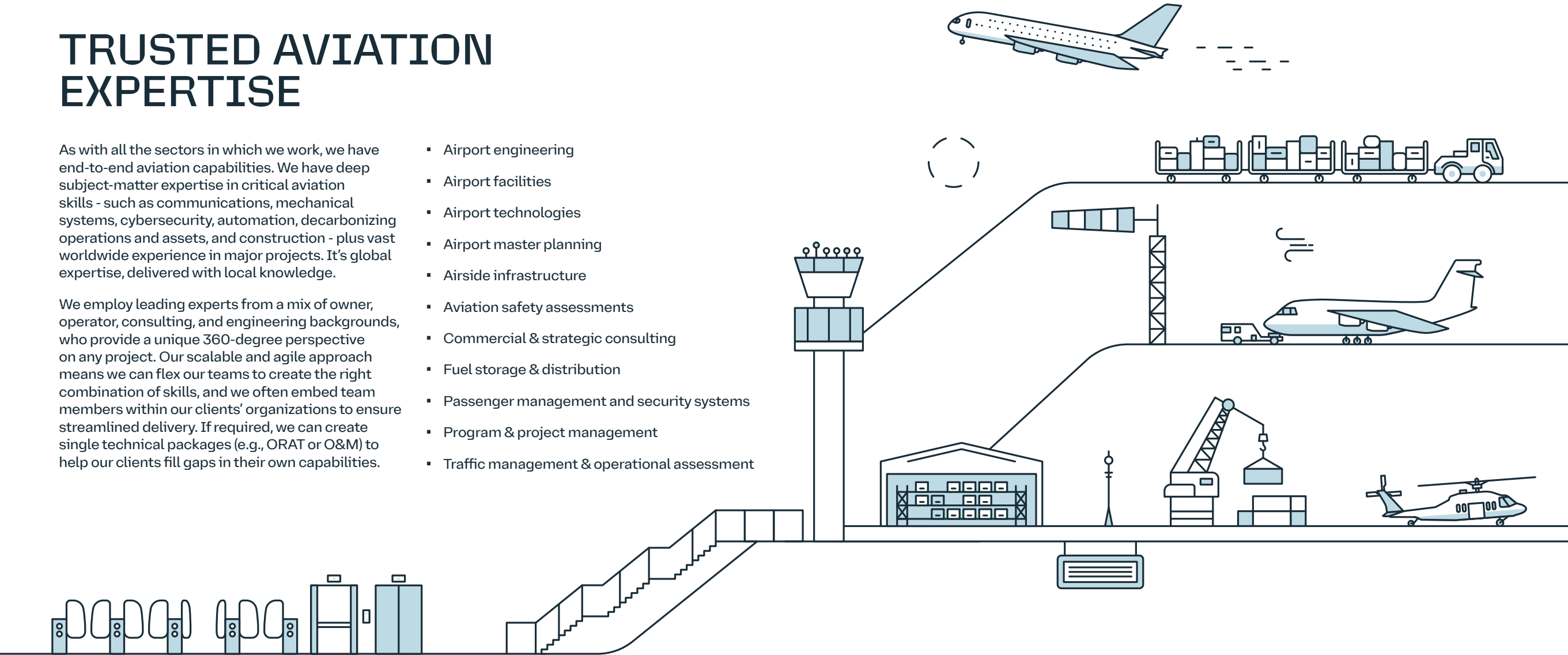


TRUSTED AVIATION EXPERTISE

As with all the sectors in which we work, we have end-to-end aviation capabilities. We have deep subject-matter expertise in critical aviation skills - such as communications, mechanical systems, cybersecurity, automation, decarbonizing operations and assets, and construction - plus vast worldwide experience in major projects. It's global expertise, delivered with local knowledge.

We employ leading experts from a mix of owner, operator, consulting, and engineering backgrounds, who provide a unique 360-degree perspective on any project. Our scalable and agile approach means we can flex our teams to create the right combination of skills, and we often embed team members within our clients' organizations to ensure streamlined delivery. If required, we can create single technical packages (e.g., ORAT or O&M) to help our clients fill gaps in their own capabilities.

- Airport engineering
- Airport facilities
- Airport technologies
- Airport master planning
- Airside infrastructure
- Aviation safety assessments
- Commercial & strategic consulting
- Fuel storage & distribution
- Passenger management and security systems
- Program & project management
- Traffic management & operational assessment





We care about the big issues facing the planet and are committed to engineering a better future for its people.

[Find out more](#)





OUR EXPERIENCE

We deliver innovative engineering solutions on projects across the globe.

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Advanced Air Mobility, UK

Building the world's first advanced electric flight ecosystem

AtkinsRéalis is leading a significant project to develop the UK's first advanced air mobility (AAM) ecosystem. The Advanced Mobility Ecosystem Consortium brings together aviation pioneers Vertical Aerospace, Skyports, and NATS, along with Connected Places Catapult and leading academic institutions Cranfield University and the University of Warwick.

The project, backed by the Government's Future Flight Challenge, aims to demonstrate the commercial and operational viability of electric vertical take-off and landing (eVTOL) aircraft, or "air taxis", in the UK. It has involved testing new technologies in aircraft electrification, airspace management, ground infrastructure, and operational procedures. The goal is to create a new, sustainable model for aerial passenger transport, boosting connectivity in congested urban areas and across regions. Demonstration flights are planned between London Heathrow and a living lab 'vertiport' facility in Oxfordshire. The introduction of AAM services is expected to boost the UK's GDP by 1.8% by 2030 and support the government's Net Zero agendas.

1.8%	100 miles	£9.5 million	Zero	150mph
Boost to UK's GDP by 2030 due to AAM	Range of Vertical Aerospace VX4	Grant from the UK Government	Carbon emission aircraft	Top speed of the VX4

Contract value: £9.5m

Collaborators: Vertical Aerospace, Skyports, Virgin Atlantic, Heathrow Airport, London City Airport, Bristol Airport, NATS, Cranfield University, The University of Warwick Manufacturing Group (WMG), Connected Places Catapult, with support from EVE Air Mobility.



AtkinsRéalis leads the consortium and is also responsible for systems architecture and developing a digital passenger journey management tool to facilitate a seamless transition from AAM concepts to practical implementation.

[Find out more](#)



Design advice to AERALIS, UK

Jets for the next generation of combat pilots

AERALIS is a UK-based aircraft developer focused on creating modular training jets for fast-jet pilot training. The project includes two aircraft types, a Basic Trainer and an Advanced Trainer, both sharing a common fuselage. This modular approach allows for customization with different wings and engines, reducing training time and cutting lifecycle costs by 30%. Trainees progress through a unified cockpit architecture, enhancing skill development and decision-making abilities. Beyond training, AERALIS aims to develop versatile derivatives, including light combat aircraft and carrier-based jets.

Our role is to advise on the design of the jets, exploring fuselage concepts and interchangeable components. We handle design, structures, systems, and integration work, and the development of a digital twin using advanced digital engineering tools. This virtual representation allows us to assess and modify the aircraft before production, saving time, cost, and reducing risk.

30%

Lifestyle cost of training

Digital Twin

Developed to assess and modify designs

First full UK jet design

in the UK since 1980s

Completion date: Ongoing

Client: AERALIS



The modular concept will allow AERALIS to develop World-beating, cost-effective derivatives for emerging needs, such as a light combat aircraft and a version that can be used on a Navy Aircraft Carrier.

[Find out more](#)





Hong Kong International Airport, Hong Kong

Airfield infrastructure design for three-runway system

Hong Kong International Airport (HKIA) is expanding from a two-runway system to a three-runway system (3RS) to meet growing air traffic demand. Once completed, the 3RS will increase capacity by 30 million passengers annually, improve operational efficiency, and support sustainable development. Construction began in 2016, involving the reclamation of 650 hectares of land, with 40% of it sitting on contaminated mud pits. To minimize environmental impact, Deep Cement Mixing (DCM) was used to treat the contaminated mud, protecting nearby marine life, including the Chinese White Dolphin.

AtkinsRéalis has been providing scheme design, detailed design, and construction support for reclamation and airfield facilities. We also helped divert two aviation fuel pipelines using a world-record 5.1km Horizontal Directional Drill (HDD) to avoid disturbing marine life. With the third runway commissioned in 2022, our role continues with support for the Centre Runway reconfiguration and Terminal 2 Concourse Apron works, ensuring timely, on-budget completion.

30 million passengers

Annually

650 hectares

Land reclaimed

Completion date: 2024

Client: Airport Authority Hong Kong



[Find out more](#)



Heathrow Airport, UK

Connecting the world with sustainable, secure, and smarter solutions

Heathrow Airport is a vital UK hub, creating over 80,000 jobs and contributing £12 billion annually. It connects to 239 destinations, boosting trade and regional growth. The airport engages with local communities and fosters cultural exchange. Committed to sustainability, Heathrow focuses on reducing carbon emissions and improving air quality.

Since 2010, we've played a crucial role at Heathrow, developing long-term strategies to future-proof its airport infrastructure and technology. Our role has included asset management, IT and technology services, cyber security, and passenger journey automation. We've also supported the Sustainable Expansion Programme, planning for a new runway to increase capacity.

80,000	239	£12b	£6b	400+
Jobs created	Destinations	Annual economic contribution	Overall budget across all programs	Our staff working on all projects

Completion date: Ongoing

Client: Heathrow Airport Ltd.



[Find out more](#)





London Gatwick Taxiway, UK

Design to help reduce delays and emissions

AtkinsRéalis has been working with London Gatwick, part of VINCI Airports' network, to deliver an infrastructure project aimed at reducing delays and go-arounds, as well as supporting the airport's sustainability targets.

London Gatwick's new Rapid Exit Taxiway enables arriving aircraft to leave the runway more efficiently, increasing resilience, reducing delays, and limiting carbon and noise emissions.

Our work included collaborating with the airport and other partners to optimize the design, which encompassed geometric and structural pavement design, drainage, airfield ground lighting design, and all the ancillaries around existing services and earthworks.

By achieving a more efficient exit, the airport's runway will perform more consistently, supporting all pilots, particularly those less familiar with London Gatwick.

Air Traffic Controllers can therefore be more confident in the performance of landing aircraft, reducing delays, the likelihood of go-arounds, and holding times for aircraft waiting to depart – all helping to limit emissions and noise.

10%

Cut in construction emissions

Completion date: 2023

Client: VINCI Airports

Collaborators: Gatwick & PJHeggarty



The project plays a key role in enabling the operators of London Gatwick to meet its sustainability targets by reducing aircraft emissions.

[Find out more](#)



Louis Armstrong New Orleans International Airport, US

A multi-phase project hailed as the city's most transformative project since the Superdome

In 2012, the Louis Armstrong New Orleans International Airport (MSY) faced significant challenges. Despite recovering from underutilization post-Hurricane Katrina, critical sections of the terminal and support facilities, over 60 years old, were outdated and needed replacement. The resurgence of passenger traffic to pre-Katrina levels exposed the airport's long-term infrastructure deficiencies, necessitating a shift in focus to resilience, sustainability, and future growth opportunities.

As part of a joint venture, we were selected to oversee the airport's return to a world-class terminal. We provided a full range of planning, engineering and architectural services for the airport's long-term development.

The new airport has prepared New Orleans for increasing levels of tourism. Its state-of-the-art design supports the emergence of New Orleans as a destination city, while its durability and engineering advancements ensure that it can remain resilient in the face of future weather events.

\$1B	972k	35	5th
Terminal	Square feet	Gates	Fastest growing airport in the US

Completion date: 2019

Client: City of New Orleans, New Orleans Aviation Board



The airport, along with the design team, encouraged all concessionaires to break away from typical concession standards and materials and to use richer, higher-quality opulent finishes central to New Orleans' cultural trends.

[Find out more](#)





Marco Island Executive Airport Terminal Facility, US

Designing a state-of-the-art general aviation terminal

Located in Naples, Florida, Marco Island Executive Airport is a vital general aviation hub in Southwest Florida's Paradise Coast. Serving corporate and executive class recreational/sport aircraft, the airport's original 1970s terminal was outdated and non-compliant with Federal Aviation Authority (FAA) regulations. Recent upgrades include a new two-story terminal and expanded apron space, modernizing the facility to meet FAA standards and address safety and capacity issues. The 16,000-square-foot terminal, offers amenities such as offices, flight schools, car rentals, and a pilots lounge. As lead designer, we managed the project, ensuring environmental compliance and developing a stormwater treatment system. The upgraded airport now stands as a premier gateway to the region.

16,000-square-foot

Terminal

Completion date: 2021

Client: Collier County Airport Authority



The interior of the terminal incorporates the area's low-key, warm, "old Florida" architecture that conveys a sense of sophistication typical of a tropical destination.

[Find out more](#)





Miami International Airport, US

Design services to enhance runway safety

Miami International Airport (MIA) is the largest US gateway to Latin America and the Caribbean and is among the busiest international passenger and freight airports worldwide. It serves as a crucial hub for American Airlines and offers more flights to Latin America and the Caribbean than any other US airport.

In 2023, MIA encountered a significant issue with the geometry of its taxiways, which posed safety risks for pilots. To address this, the Miami-Dade Aviation Department (MDAD) hired AtkinsRéalis to provide design services for Runway Incursion Mitigation. Through a six-year, \$11.5 million contract, we will reconfigure taxiway connectors, build new exit and crossover taxiways, and adjust existing ones to improve safety and meet FAA standards.

This project continues our tradition of enhancing air travel safety and efficiency while supporting MIA's operations and future growth.

\$11.5M

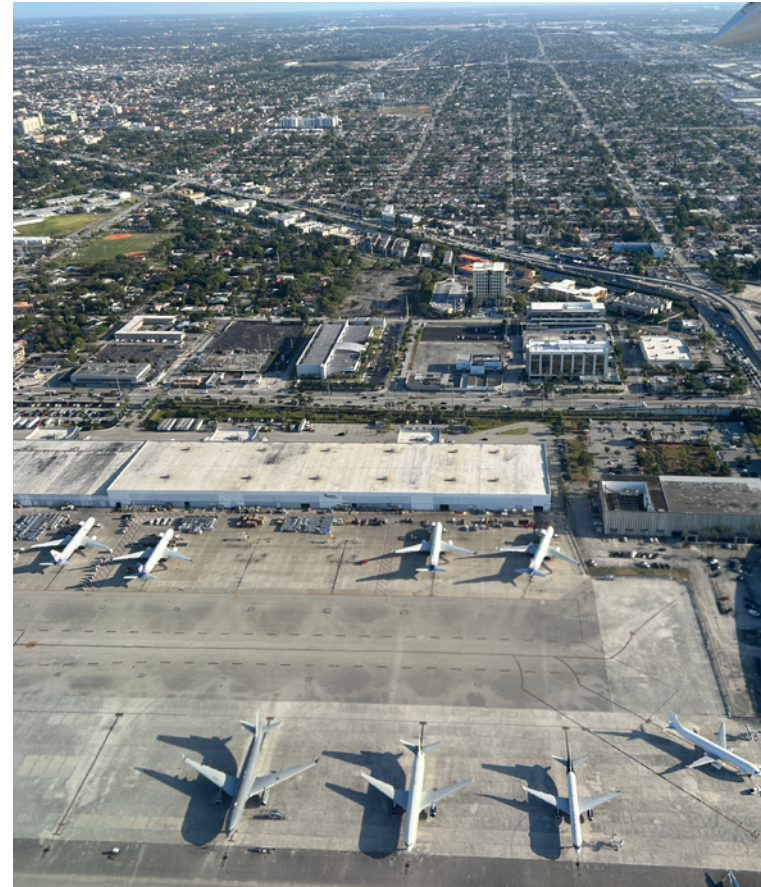
Contract

6

Year contract

Completion date: Ongoing

Client: Dade Aviation Department (MDAD)



Our Global Technology Center created a 3D model of MIA's hotspot to visualize reconfiguration options and develop a detailed construction plan.

[Find out more](#)





Philadelphia Northeast Airport, US

Committed to sustainability

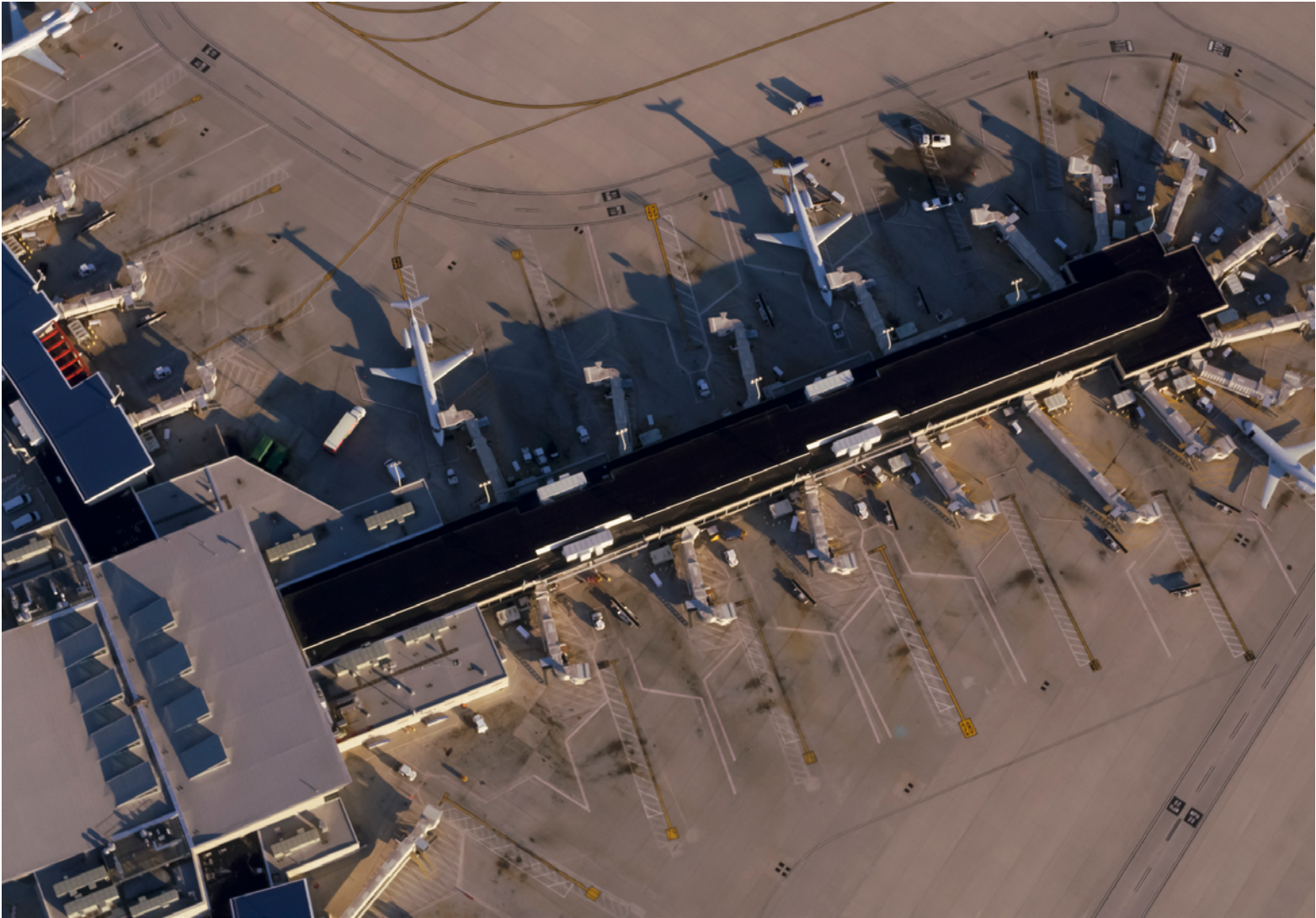
Philadelphia Northeast Airport (PNE), operated by the City of Philadelphia Division of Aviation (DOA), serves as a reliever airport for Philadelphia International Airport (PHL), supporting general aviation, air taxi, corporate, and occasional military use. PNE is a crucial community asset, connecting businesses and people, and supporting economic growth with its 85 T-hangars, 9 corporate hangars, and 6 open hangars housing approximately 190 general aviation aircraft.

The Taxiway L rehabilitation project aims to address pavement distresses and ensure compliance with safety standards. AtkinsRéalis is providing professional services for Envision verification, coordinating with DOA to define sustainability goals and incorporate sustainable practices into the project. The team evaluated five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resiliency, preparing Envision credit worksheets for verification. Notable achievements include recycling 47.2% of materials on-site, resulting in significant cost savings and emission reductions, highlighting PNE's commitment to sustainability.

47.2%	81%	15%	\$0.5M
Materials on-site being recycled	Reduction in emissions	Reduction in embodied carbon using	In savings

Completion date: 2024

Owner: City of Philadelphia Division of Aviation (DOA)



[Find out more](#)





San Diego International Airport, US

Rehabilitation of the busiest single-runway commercial airport in the US

San Diego International Airport (SAN), serving 22 million passengers annually, is the busiest single-runway commercial airport in the US and third busiest globally. In 2015, a study revealed deterioration in its sole runway, Runway 9-27, necessitating rehabilitation.

As an on-call engineering consultant, we managed and designed the \$23 million project. The scope included demolition, pavement design, grading, erosion control, construction safety, phasing, pavement marking, and airfield electrical design. We also upgraded runway light fixtures to energy-efficient LEDs and replaced taxiway asphalt with durable concrete.

Given the high traffic and lack of alternative runways, construction occurred during off-peak night hours to avoid daytime disruptions. Existing runway lights were removed and covered to expedite milling and asphalt inlay.

The rehabilitation ensures reliability and safety for SAN's only runway, addressing maintenance issues and minimizing operational impacts and closures.

\$23m	22m
Project cost	Passengers annually

Completion date: 2018

Client: San Diego Regional Airport Authority



[Find out more](#)



Southwest Florida International Airport, US

Professional services for revived Florida airport terminal expansion

Southwest Florida International Airport (RSW) is the second-busiest single-runway airport in the U.S., serving over 10 million passengers annually. It plays a crucial role in domestic and international travel, offering non-stop flights to more than 50 destinations and significantly boosting the local economy with over \$8.3 billion in revenue and 60,000 jobs.

In 2022, AtkinsRéalis resumed the RSW Terminal Expansion Project, initially delayed and now extended to 2025. The \$331 million project for the Lee County Port Authority includes design and construction administration services, with a contract value exceeding \$26 million.

The expansion involves remodeling 164,000 square feet and adding 117,000 square feet, consolidating TSA checkpoints into a 16-lane centralized configuration, expandable to 18 lanes. It also includes new walkways, additional seating, concession areas, and a business lounge.

\$11.5m	6	10m
Contract	Year contract	Annual passengers

Completion date: Ongoing

Client: Miami-Dade Aviation Department (MDAD)



This airport expansion is essential for accommodating the increasing number of visitors.

[Find out more](#)



What makes us
different is the way
we work, and the way
we think.

[Read the latest thought leadership and
opinion from our experts](#)





OUR GLOBAL MARKETS AND SERVICES

From designing entire cities to delivering nuclear power stations, we focus on areas that greatly enhance the way we are all housed, connected, powered, and protected.



MARKETS

Our primary aim is to deliver value across high-growth, high-quality end markets in infrastructure and nuclear:



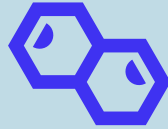
**Buildings
& places**



Defense



Industrial



**Minerals
& metals**



Nuclear



**Power &
renewables**



Transportation



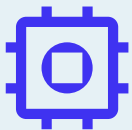
Water

SERVICES

We deploy global capabilities locally to our clients and deliver unique end-to-end services across the whole life cycle of an asset including:



**Consulting, strategy
& advisory**



**Engineering
& design**



**Project & program
management**



**Project
delivery**



**Operations
& maintenance**



Capital



Decommissioning

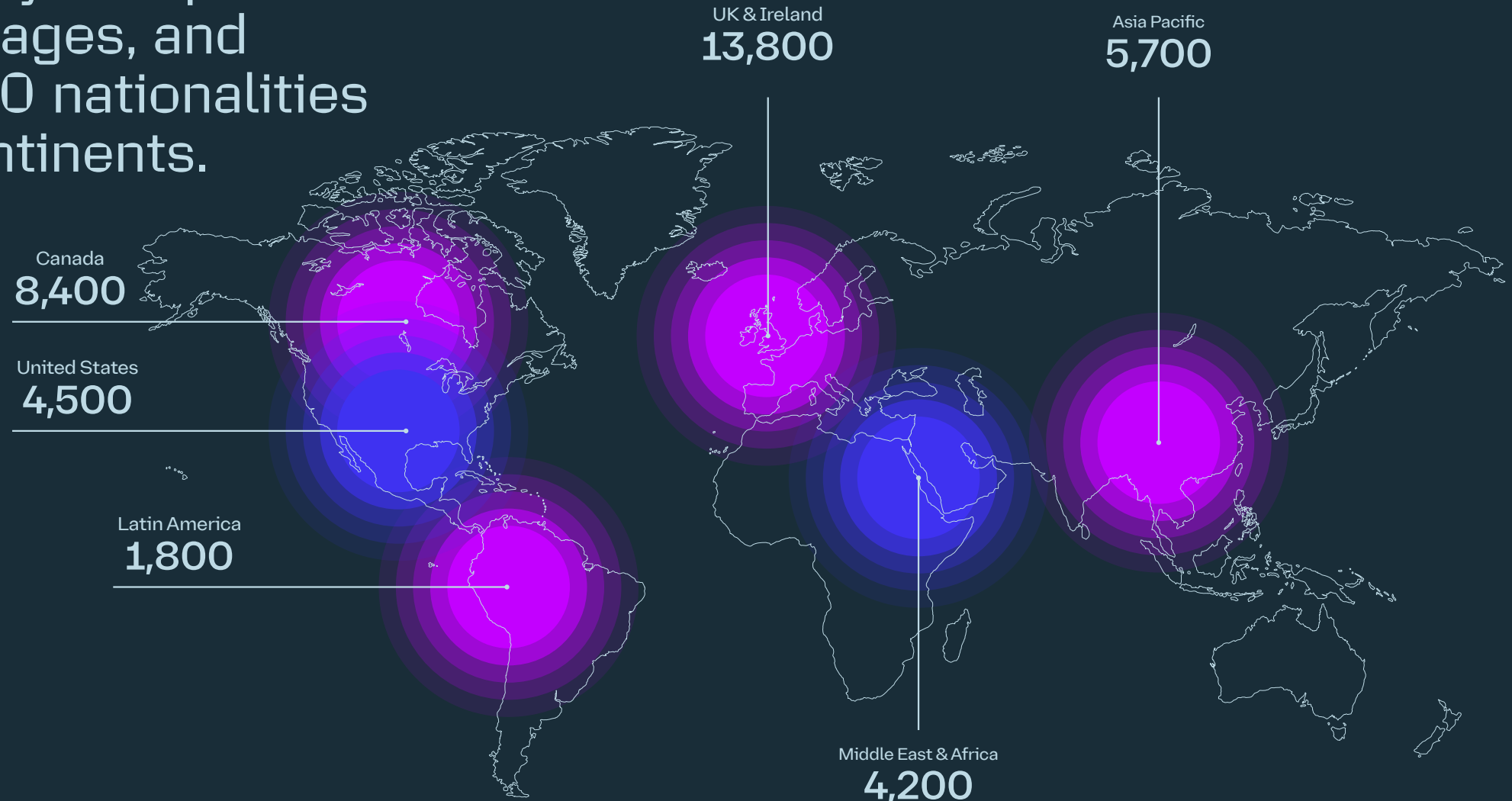


Every day, we're striving to be more inclusive, more collaborative and more innovative in how we drive change. To us, different makes a difference.

[Find out more](#)



Our global team of over 38,000 employees speaks over 70 languages, and represents 130 nationalities across six continents.



OUR VALUES

Our values are the essence of our Company's identity. They represent how we act, speak and behave together, and with our clients and stakeholders.

Safety

We put safety at the heart of everything we do to safeguard our people, assets, and the environment.

Collaboration

We work together and embrace each other's unique contribution to delivering amazing results for our clients, our communities, and our planet.

Innovation

We redefine engineering by thinking boldly, proudly, and differently.

Integrity

We do the right thing, no matter what. We are accountable for our actions.

Excellence

We are proud to do our best, achieve high standards, creating environments where all can thrive.



Engineering a better
future for our planet
and its people.

atkinsrealis.com/aviation

#Aviation



 AtkinsRéalis