

Aviation

RWY 08R Approach Replacement at Vancouver International Airport

HATCH



East Apron VI Expansion at Vancouver International Airport



A-B Connector at Vancouver International Airport

Future-ready aviation: secure, smart, sustainable

Airports today face growing complexity from global travel demand, climate change, to sustainability expectations. Operators must cut emissions, improve energy efficiency, and build resilient infrastructure. Net zero commitments drive the need for sustainable fuels and electrification, while digital transformation is key to optimizing operations, enhancing passenger experience, and ensuring safety through integrated planning and innovative, profitable solutions.

Your aviation project is unlike any other. At Hatch, we don't take a cookie-cutter approach. We deliver tailored solutions to meet your specific goals. Our expertise spans the full spectrum of airport development, ensuring your job is done right the first time.

From planning and feasibility studies to design development, program management, budgeting, commissioning, Operational Readiness and Airport Transfer (ORAT), procurement, and construction management—we do it all.

Around the world, airport operators trust us to deliver secure, smart, and sustainable solutions—enhancing efficiency, integrating emerging technologies, and driving the future of aviation infrastructure.



Newark

Integrated solutions

Urban solutions: By combining advanced urban design, future mobility strategies, and evidence-based planning, we help aviation hubs evolve into smarter, low carbon gateways that meet the demands of growing populations and dynamic economies.

Advisory and strategic master planning: Aligning airport development with urban mobility, economic growth, and future-ready infrastructure.

Climate resilience & sustainability: Designing infrastructure that reduces emissions, conserves resources, and meets global environmental goals. From isolated airstrips to resource-based developments, we deliver certified airports that thrive in challenging climates—combining engineering precision with environmental stewardship.

Energy efficiency & green innovation: Implementing renewable energy systems and optimized power strategies for cost-effective, low-carbon operations.

Digital transformation: Creating smart airports with AI-driven safety, predictive analytics, and IoT-enabled systems for seamless connectivity.

Operational excellence: Engineering airside and landside solutions that optimize flow, enhance passenger experience, and support advanced aircraft facilities.

Integrating Airports into Urban Development; Realizing Airports that are Urban Hubs.

We understand that airports are more than transportation hubs, they are economic catalysts shaping the cities around them. Our urban planning, design, and placemaking services ensure seamless integration of airports into the surrounding infrastructure and intermodal system, balancing growth with sustainability and community needs.

Key services:

- **Land use planning**: Optimizing land use and real estate around airports to generate revenue, boost economic growth, and align with existing and future development goals.
- **Transportation integration**: Transportation planning including transit system and hub development that ensures seamless, attractive, and reliable connectivity, creating a virtuous cycle of accessibility, productivity, and activity benefiting the hub and airport.
- Community and social engagement to drive valuable input and social capital for airports.
- Environmental, social, and governance frameworks.

Project overview:

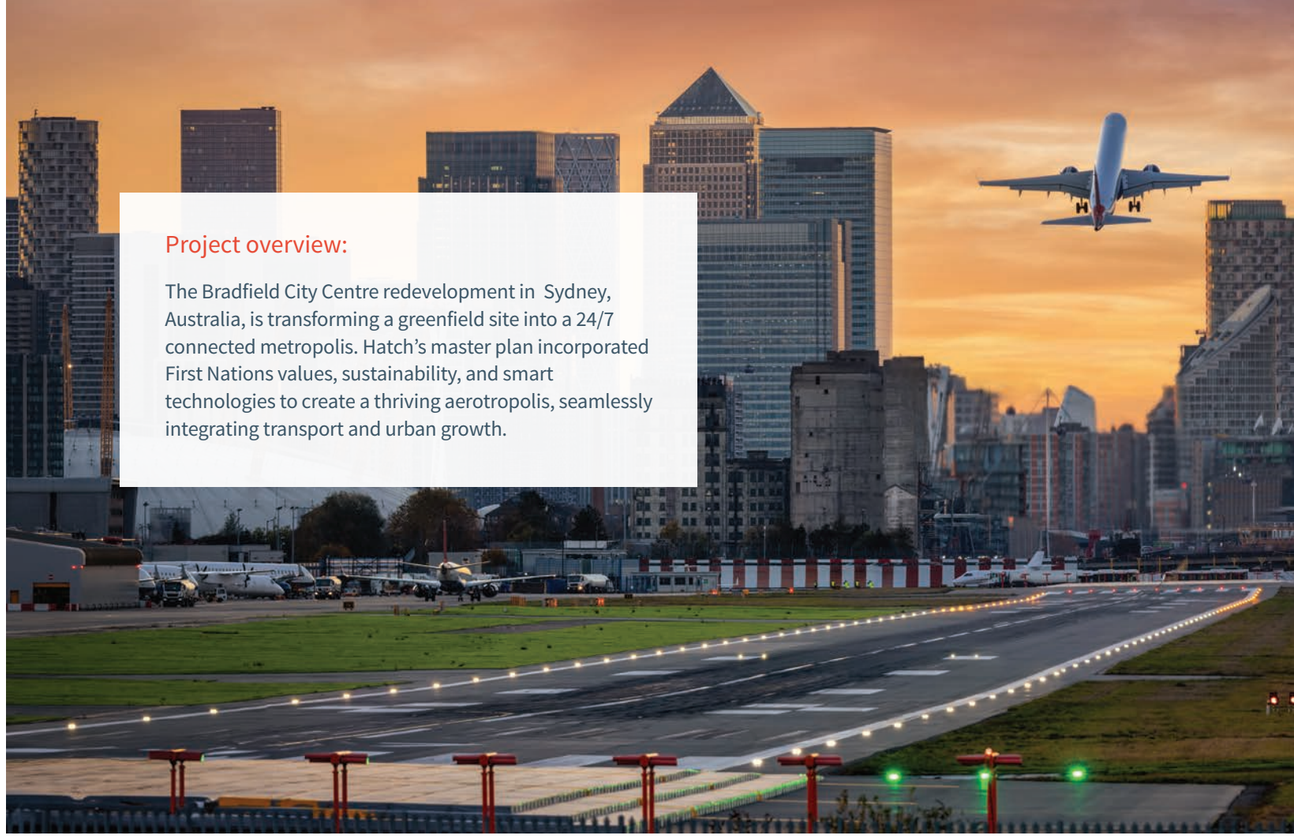
Hatch led the strategic redevelopment of Newark Liberty International Airport in New Jersey, overcoming long-standing connectivity challenges and unlocking new commercial opportunities. Our roadmap leveraged market analysis and stakeholder collaboration to guide the city's rezoning efforts, ensuring long-term economic and social benefits.

Future-Ready Airports

We help airports navigate today's most complex challenges with insights that enable smarter decisions and sustainable growth. Our expertise ensures airports are prepared for evolving technologies, environmental requirements, and the demands of a connected world.

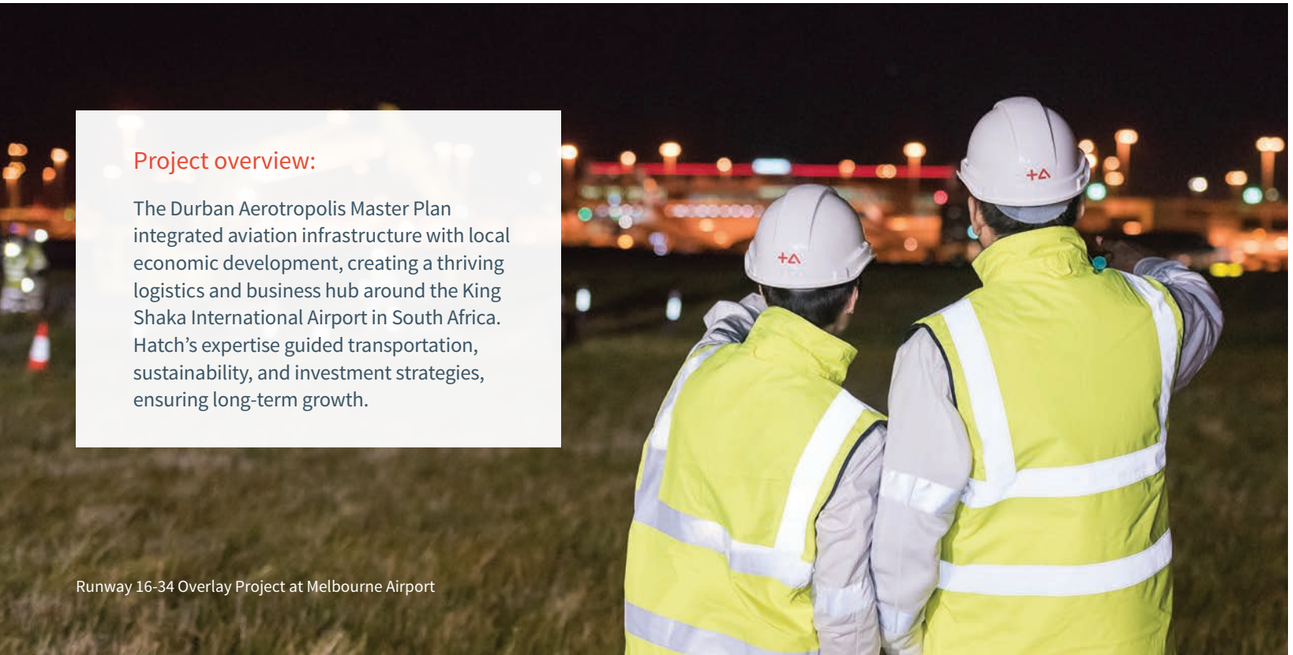
Key Services

- **Feasibility Studies** – Comprehensive assessments to evaluate project viability and potential impacts.
- **Financial Planning** – Strategic financial management for sustainability and cost-effectiveness.
- **Regulatory Compliance** – Full adherence to regulations and standards throughout the project lifecycle.
- **Risk Management** – Identifying and mitigating operational and financial risks.
- **Operational Strategy** – Optimizing processes for efficiency, safety, and long-term performance.



Project overview:

The Bradfield City Centre redevelopment in Sydney, Australia, is transforming a greenfield site into a 24/7 connected metropolis. Hatch's master plan incorporated First Nations values, sustainability, and smart technologies to create a thriving aerotropolis, seamlessly integrating transport and urban growth.



Project overview:

The Durban Aerotropolis Master Plan integrated aviation infrastructure with local economic development, creating a thriving logistics and business hub around the King Shaka International Airport in South Africa. Hatch's expertise guided transportation, sustainability, and investment strategies, ensuring long-term growth.

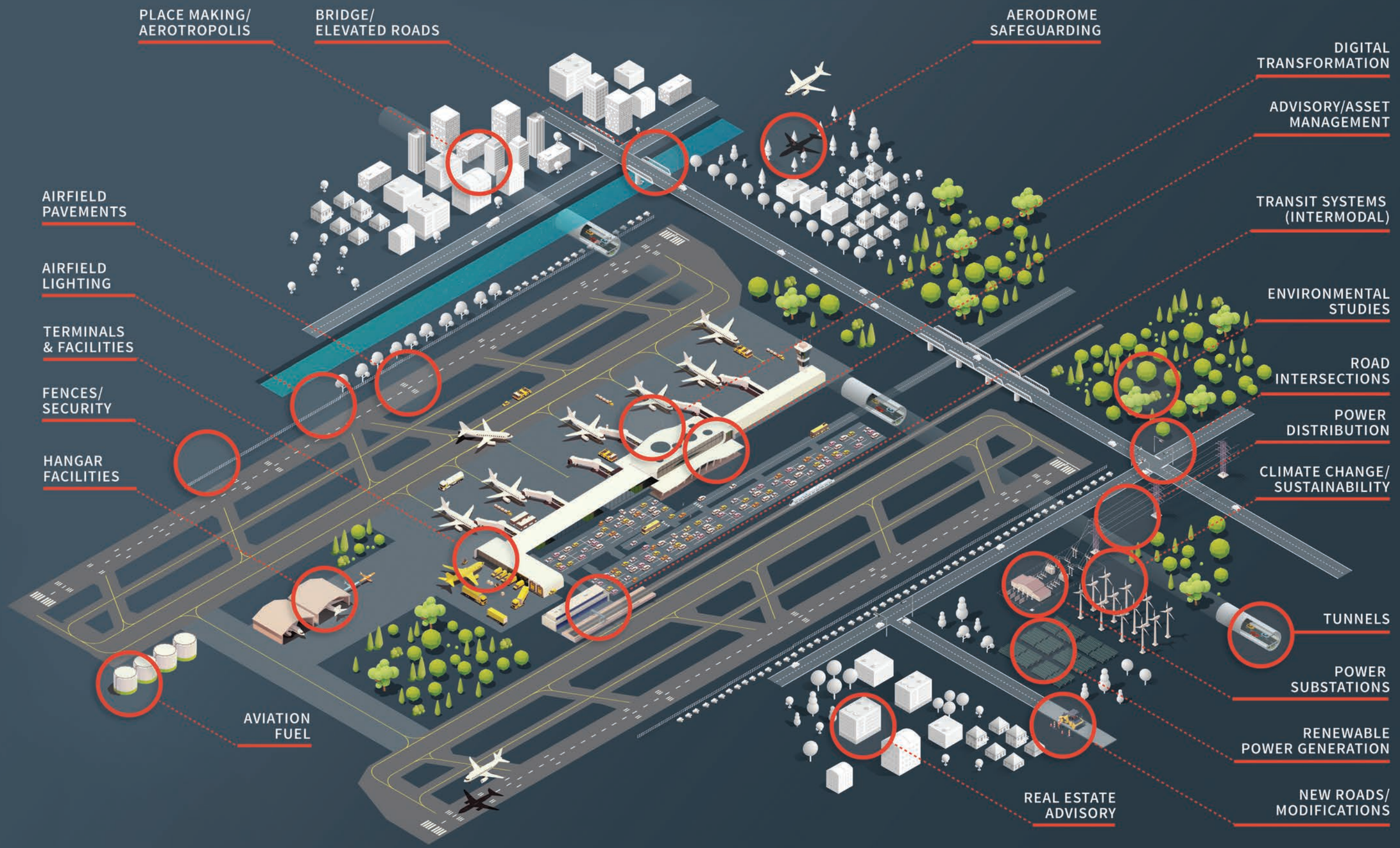
Runway 16-34 Overlay Project at Melbourne Airport

Our multidiscipline master planning expertise ensures airports remain efficient, scalable, and adaptable. We develop long-term holistic strategies that align aviation growth with sustainability and community-focused aspirations, driving diversified, and long-term non-traditional airport revenue sources.

Key services:

- **Strategic development planning:** Crafting long-term strategies to guide phased growth and infrastructure improvements, future-proofing options for true aerotropolis development, and initiating marketable, economic and value-adding early phases of integrated urban growth aligned with airport operations and capital projects.
- **Sustainability initiatives:** Incorporating eco-friendly practices and technologies to minimize environmental impacts.
- **Operational efficiency enhancements:** Implementing systems and processes to enhance user experiences, optimize airport-wide operations, and reduce turnaround times.

Our services span the entire airport ecosystem



Resilient and Sustainable Infrastructure

We are committed to developing resilient and sustainable aviation infrastructure. We take a scientific, evidence-based approach to develop solutions for climate change mitigation and adaptation. Our projects incorporate cutting-edge technologies and practices to minimize environmental impact and enhance sustainability. From energy-efficient designs to sustainable materials, we are dedicated to reducing the carbon footprint of airports and contributing to a greener future.

Key services :

- **Climate action planning:** As our clients undertake the decarbonization of their operations, our dedicated team of climate change experts can support you through climate action planning.
- **Climate resilience:** We assess physical impacts of climate change and the adaptation required to withstand disasters to support our clients to improve the resilience of their facilities and businesses while achieving sustainable growth and economic prosperity.
- **Technologies:** Employing green innovations such as reflective coatings and polymer fibers to boost efficiency and reduce environmental impact.
- **Sustainable materials:** Utilizing eco-friendly, recycled, and locally sourced materials in both new and updated structures.
- **Energy efficient:** Designing systems that minimize fuel consumption, lower costs, and reduce carbon footprints.

Project overview:

We partnered with Boston Logan International Airport in the US to develop a zero-emissions strategy, incorporating electrification and renewable energy adoption. This initiative sets the foundation for a greener, more resilient airport infrastructure.



EV Charging Stations at Vancouver International Airport

Hatch is supporting the Airport Authority with feasibility studies, reviewing demand, identifying locations, design, and installations for EV charging station infrastructure across the airfield to meet net-zero and fleet electrification targets over the coming years.

Electric Charging Stations for Ground Service Equipment at Vancouver International Airport



Project overview:

Hatch led a comprehensive study for the Vancouver Airport Authority to explore the integration of renewable energy and storage technologies to provide power resiliency for the airport and broader Sea Island area against critical unforeseen events. The study included load forecasting of the projected electrification impacts on the airport and local transportation operations, and developing a phased roadmap that balances technical feasibility, financial performance, and operational resilience. In alignment with the Airport Authority's strategic commitment to sustainability and decarbonization, up to seven renewable energy technologies were reviewed including solar, onshore and offshore wind, tidal, geothermal, and biomass, all positioned within 15km of Sea Island with consideration of airport zoning regulations and flight safety.

Powering Airports

The future of aviation requires smarter, greener energy solutions. Our expertise in providing resilient power systems that incorporate renewable power, energy storage, microgrid controllers, and grid modernization solutions ensures airports have the resilient power systems they need to support electrification and decarbonization.

Key services:

- Airport microgrids, power resiliency, and district energy solutions.
- Renewable energy integration (solar, wind, battery storage, etc.) with traditional back-up power.
- Load growth planning, energy efficiency solutions, and grid interconnection studies.
- Electric Vehicle charging infrastructure solutions for ground operations.

Project overview:

We conducted a comprehensive study to replace diesel generators at Canada's Montreal Trudeau International airport, beginning with an analysis of the current and projected electrical demands, followed by a review of the characteristics and performance of the existing diesel engine generators. Various ecological solutions, including natural gas, biofuels, metal fuels, biomass, and hydrogen, were assessed through detailed technological reviews, layout considerations, and cost estimate preparations. Battery energy storage and thermal storage options were also explored, with consideration given to intended use cases, advantages, disadvantages, and constraints.

Digital

Digital transformation is revolutionizing airport operations, unlocking efficiencies through analytics and AI-driven automation. Hatch, a global leader in decision support for industrial operations, helps businesses adopt new technologies, enable integrated and agile operations, and enhance workforce efficiency through decision intelligence.

Key services:

- **Digital tools:** Leveraging advanced data analytics, real-time monitoring, and smart infrastructure to optimize airport operations, simulate scenarios, unlock efficiencies, improve asset longevity, and support operational excellence.
- **Automated systems:** Implementing automated technologies to improve safety, and streamline baggage handling, passenger flow, air traffic management, and energy efficiency.
- **Passenger experience enhancements:** Deploying digital solutions to optimize customer satisfaction, improve passenger journeys, and simplify airport processes.
- **Business driven strategy for digital transformation strategy:** Includes a structured roadmap, assessments of business and operational needs, evaluations of digital readiness, development of data strategy and governance frameworks, and the implementation of change management practices.

We leverage advanced technologies to enhance operational excellence and the passenger journey, ensuring airports run at peak efficiency, safely.



Enabling to organisation to integrate new or modified assets

Taking an integrated approach with project and client teams



Operational readiness

Our Commissioning, Operational Readiness, and Ramp-up Excellence (CORE) team goes beyond traditional ORAT programs with a comprehensive Operational Readiness framework that integrates from the earliest strategic planning stages. This approach allows readiness strategies to adapt to owner requirements and project phases, enabling progressive delivery from initial studies through sustained operations.

Early engagement is key. By involving owners, stakeholders, operators, local communities, and customers in defining the OR plan, we ensure success across the entire lifecycle—planning, implementation, asset management, and maintenance. This is especially critical in airport environments where efficiency, safety, and passenger experience are paramount.

Our proven methodology, refined through complex projects in mining, bulk material handling, power generation, and major infrastructure, brings unmatched value to aviation. Leveraging cross-sector expertise, we integrate systems, streamline processes, and ensure seamless commissioning for airports worldwide. More than preparing facilities for day one, we future-proof them for evolving technologies, sustainability goals, and operational excellence.

About Hatch

Whatever our clients envision, our engineers can design and build. With over seven decades of business and technical experience in the mining, energy, and infrastructure sectors, we know your business and understand that your challenges are changing rapidly.

We respond quickly with solutions that are smarter, more efficient, and innovative. We draw upon our 11,000 staff with experience in over 150 countries to challenge the status quo and create positive change for our clients, our employees, and the communities we serve.

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