Downer

Specialised Pavements & Projects Capability Statement



Downer Specialised Pavements and Projects is a leading provider of integrated road, civil construction, airport infrastructure, and maintenance services across Australia.

We deliver complex construction projects and strategic asset management solutions that meet the evolving needs of our customers. By combining expertise from across our regions, we provide innovative and sustainable solutions that create lasting value for both customers and communities.

Our capabilities span the full project lifecycle, including:

- Maintenance and rehabilitation of runways, taxiways, aprons, and associated infrastructure
- Emergency pavement repairs and response works
- Construction and maintenance of airfield drainage and utilities
- Installation and upgrade of Airfield Ground Lighting (AGL) and apron lighting
- Digital asset management and pavement condition mapping
- Pre-contract planning and project management
- Engineering and technical advisory services
- Civil construction and airside maintenance
- Airside and landside flexible and rigid pavement construction

We understand the challenges of working in live operational environments and are committed to delivering high-quality outcomes while meeting strict construction schedules and maintaining the highest standards of safety, security, and operational continuity.

With extensive experience managing airfield works, we ensure compliance with federal, state, and local regulations, including Civil Aviation Safety Authority (CASA) requirements. Our team is dedicated to delivering safe, efficient, and high-quality outcomes for airport owners across both operational and greenfield developments.

Our team

Downer's Specialised Pavements & Projects (SPP) team brings together industry-leading engineers, project managers, construction specialists and technical experts to deliver some of Australia's most complex pavement and airport infrastructure projects.

Case Study - Downer delivers major upgrades at RAAF Base Williamtown

At one of Australia's busiest defence airfields, adjacent to a commercial airport, Downer delivered a major transformation of critical airfield infrastructure while keeping operations running safely and efficiently. The project involved placing 210,000 tonnes of asphalt, replacing the existing runway, constructing new runway shoulders, widening taxiways to accommodate larger aircraft, and completing extensive civil works, drainage upgrades, utility relocations, line marking and airfield lighting improvements. Spanning more than four years, including two years of planning during the Early Contractor Involvement (ECI) phase, the project was designed with buildability and efficiency at its core. Working in a complex brownfield environment, the team overcame significant challenges, including three consecutive La Niña weather events. More than 500-night shifts were executed with precision, returning the airfield fully operational every morning. Despite the scale and complexity of the works, the project was delivered without a single delay.

With deep expertise in live operational environments, the team safely delivers innovative solutions for airports, toll roads and critical transport assets, combining engineering excellence, practical problem-solving and a commitment to delivering outstanding outcomes for customers and communities.




Downer
EastLink Resurfacing Contract

Service Overview

Civil Construction

Downer's SPP team delivers projects of varying complexity, offering services in planning, design management, construction, and project management. We deliver a range of services for granular pavement construction, including earth works, proof rolling, placement and compaction of quarry product, incorporation of in-pavement drainage and utilities, open swale drainage and landscaping. Additionally, we manage the integration of electrical, communications, water and fire hydrant services seamlessly into our works.

Asphalt Manufacturing and Placement

As one of Australia's largest asphalt manufacturing and construction companies, Downer operates an extensive fleet of over 40 fixed asphalt plants strategically positioned across Australia and New Zealand. Downer's Airports business also operates mobile asphalt plants to deliver high-performance solutions across Australia, New Zealand and the Pacific for remote and regional projects, along with major construction projects necessitating dedicated on site manufacturing.

Our network of fixed asphalt plants feature the flagship Ammann ABP 240-400 RAH100 HRT Batch Plants, producing up to 350 tonnes per hour with between 600 and 1,000 tonnes of hot storage capacity, enabling us to support projects with up to 100% Reclaimed Asphalt Pavement (RAP).

Additionally, our mobile plants include the Astec T300 and T200 asphalt plant along with smaller plants for remote Pacific projects. These plants can be rapidly deployed to remote locations and produce up to 300 tonnes per hour of airfield quality asphalt. The Astec plants are equipped with advanced technology such as double-barrel drum systems for RAP processing along with fibre and additive feeders for Stone Mastic and Warm Mix asphalts, ensuring efficiency and quality in every project.

Rigid Pavement Construction

Downer's SPP team offers rigid pavement construction, primarily using airport specification high-strength concrete. Rigid pavements are designed to withstand the heavy traffic loads and tyre-pressures of modern aircraft. Working with specialist concrete manufacturers our team has delivered a range of apron, threshold and taxiway PCC works, including structural fill subbase, cement-treated base course, debonding seal and concrete pavements.

Airfield Ground Lighting and Apron Lighting

Downer manages the supply, installation and commissioning of comprehensive aeronautical ground lighting (AGL) solutions for airports nationwide, complementing our specialised airfield pavement expertise. Our integrated approach ensures seamless coordination between pavement construction and precision lighting installation.

Downer's operations support construction and commissioning of airfield infrastructure, including in and off-pavement pit and duct systems, cable trenching, shallow and multi-section base taxiway and runway lighting, illuminated wind direction indicator, apron high mast floodlighting, PAPI, and Movement Area Guidance Systems.

Working with our global supply chain and specialist subcontractors, we can deliver AGL, apron lighting, and CCTV services, in an integrated solution that manages the complexities associated with multiple contractor interface for our clients.



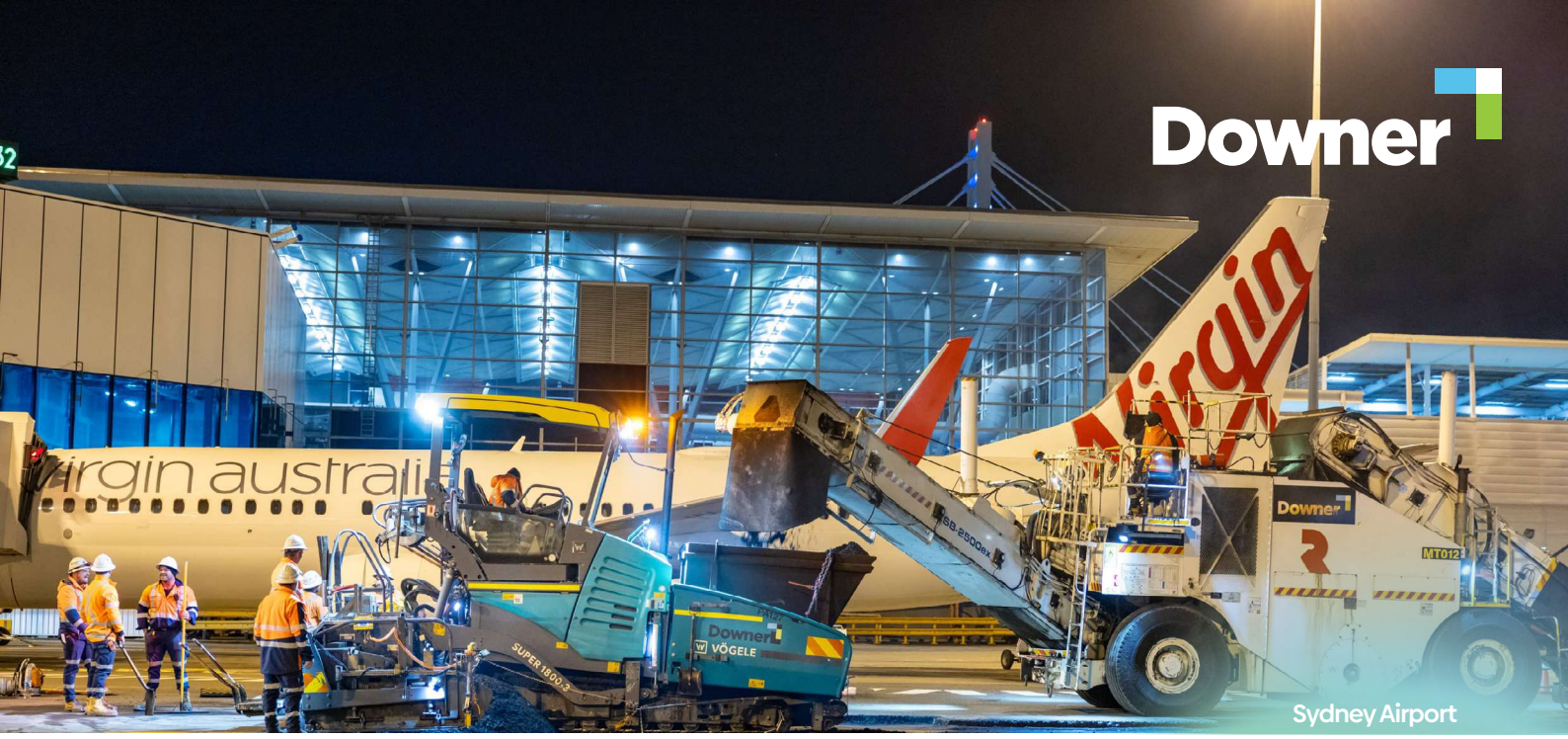


Spray Sealing and Microsurfacing

Downer provides spray sealing and microsurfacing solutions that complement our asphalt capabilities, delivering cost-effective pavement treatments from a single provider. Our modern fleet of bitumen sprayers supports conventional chip seals, high-stress seals, and specialised polymer-modified and crumb rubber treatments for airport pavements.

Microsurfacing is a polymer-modified emulsion treatment that delivers a durable, low-maintenance surface without aggregate loss or ongoing sweeping requirements. It improves surface smoothness, corrects rutting and ponding, enhances skid resistance in wet conditions, and reduces noise.

For regional and remote airfields, microsurfacing provides a long-life wearing surface while maintaining the friction and texture characteristics required for safe operations.



Pavement Stabilisation and Rehabilitation

We provide innovative, cost-effective solutions for pavement rehabilitation and ground improvement using advanced stabilisation and recycling technologies. Our capabilities span material sampling, mix design and construction, with expertise in both in-situ and ex-situ stabilisation.

In-situ stabilisation uses advanced Wirtgen recyclers and stabilisers to improve pavement strength and durability in active airport environments through lime, cement, bitumen and chemical treatments.

Ex-situ stabilisation is delivered through Wirtgen KMA 220 cold recycling plants, which stabilise virgin and reclaimed materials using a range of binders. Producing up to 2,000 tonnes per shift, these mobile plants reduce waste, transport requirements and project carbon emissions while supporting circular economy outcomes and maximising material reuse on-site

Crack Sealing

Downer's crack sealing solutions are cost-effective and can be applied without impacting airport operations. Crack sealing delivers numerous benefits to airport owners, such as:

- Prevention of water ingress into pavement layers
- Eliminating foreign object debris (FOD)
- Delay of pavement deterioration
- Increased pavement life expectancy
- No disruption to airport operations.

Rhinophalt

Downer is entrusted to deliver Rhinophalt, an internationally proven preservation treatment for airports. Rhinophalt delivers numerous benefits to airport owners, such as:

- Doubling the life of airfield pavements
- Eliminating foreign object debris (FOD)
- Reducing water ingress into pavement layers

Rhinophalt offers airport owners a proven process to prevent the onset of surface distress issues developing on airside pavements to maintain safe airport operations.



Airports Maintenance Capability

Civil, Ground Maintenance & Foreign Object Debris (FOD) Management

Downer is a trusted delivery partner across Australia's major airports, with extensive experience delivering both capital infrastructure projects and maintenance services within high-risk, operationally constrained airfield environments.

Our capability spans planned and reactive maintenance activities across runways, taxiways, aprons, and associated airfield pavements, often undertaken within restricted access windows and night-shift operations. Supported by proven systems, experienced personnel, and flexible resourcing, we deliver safe, compliant, and efficient maintenance solutions while minimising disruption to airport operations.

Local Capability Backed by National Depth

Downer combines strong local delivery capability with the depth and expertise of a national infrastructure services provider.

We prioritise the use of local suppliers and subcontractors, leveraging long-standing relationships and experience working in airport and other safety-critical environments. This approach enhances responsiveness, supports local industry participation, and enables effective integration with airport operations.

Specialist subcontractors are engaged where required to support services including:

- Pavement line marking
- Crack sealing and pavement preservation
- Rubber removal and friction management
- Concrete cutting and repairs
- Airfield Ground Lighting (AGL) and electrical services
- Environmental testing and monitoring
- Service locating
- Waste management

All subcontractors are pre-qualified and integrated into Downer's safety, quality, and delivery frameworks, ensuring consistent performance, compliance, and accountability throughout the contract lifecycle.

Our Maintenance Approach

Our maintenance approach is built on collaboration, reliability, innovation, and value for money.

Flexible - We work closely with airport stakeholders to adapt to changing operational requirements, ensuring maintenance activities align with operational priorities and long-term asset performance objectives.

Cost effective - Our scalable maintenance programs optimise resources, reduce unnecessary expenditure, and adapt to changing asset and operational demands, delivering value from day one.

Reliable - Our experienced airport maintenance teams bring proven expertise across airside and landside environments, supporting safe, compliant, and high-quality asset management outcomes.

Innovative - We leverage advanced technologies, intelligent asset management systems, and sustainable maintenance practices to enhance asset performance and deliver tailored solutions for our customers.


Ayers Rock Airport

Delivering Outcomes that Matter

Through experienced personnel, flexible resourcing, and proven governance frameworks, Downer focuses on delivering outcomes that are critical to airport operators:

- Safe and compliant maintenance delivery
- Reduced FOD and pavement defect risks
- Improved asset performance and longevity
- Enhanced operational reliability
- Minimal disruption to airport operations

This capability positions Downer to deliver reliable, high-quality airport maintenance services throughout the life of the contract, supporting safe, efficient, and resilient airport operations.



Mackay Airport

Downer Specialised Pavements & Projects - Capability by Sector

Downer Specialised Pavements & Projects delivers complex pavement infrastructure solutions across airports, toll roads, major transport projects, ports and racetracks.

Combining engineering expertise, civil construction, asphalt manufacturing, specialist surfacing and asset management, we provide end-to-end solutions that improve performance, extend asset life and create lasting value for our customers and communities.

Sector	What We Deliver	Key Capabilities	Customer Outcomes
Airports	Runway, taxiway and apron construction, rehabilitation and maintenance across international, regional, Defence, mining and remote airports.	Airside and landside pavements, rigid and flexible pavements, airfield drainage, Airfield Ground Lighting (AGL), emergency response works and asset management.	Safe operations, improved asset life, reduced disruption to airport operations, compliance with aviation standards.
Toll Roads & Motorways	Major motorway and toll road construction, resurfacing and rehabilitation projects.	High-production asphalt placement, project management, pavement rehabilitation, traffic staging, night works and specialist surfacing.	Increased network reliability, improved safety, reduced maintenance interventions and minimal disruption to road users.
Major Infrastructure Projects	Integrated pavement and civil works on complex transport infrastructure projects.	Civil construction, earthworks, granular pavement construction, drainage, utilities integration, project planning and delivery.	Single point of accountability, efficient project delivery and long-term asset performance.
Ports & Freight Terminals	Construction and rehabilitation of heavy-duty pavements for ports, logistics hubs and freight precincts.	High-strength asphalt, heavy-duty pavement design, drainage, rehabilitation and maintenance services.	Pavements capable of handling high axle loads and intensive freight movements.
Racetracks & Motorsport Facilities	High-performance asphalt surfacing for motorsport venues and testing facilities.	Specialist asphalt design, precision surfacing, smoothness control, skid resistance and ride quality optimisation.	Consistent racing surfaces, enhanced safety and superior performance characteristics.

Digital Asset Management for Aging Infrastructure

Downer integrates cutting-edge technology with decades of specialised expertise to collaborate with airport operators and consultants, delivering safer, more sustainable, and efficient infrastructure outcomes across the complete asset lifecycle. Our digital solutions complement existing systems to optimise asset management for aging airport infrastructure:

- **Comprehensive Digital Asset Registers:** Centralised, GIS-integrated records aligned with Airport Certification Manual requirements, capturing asset condition, maintenance history and compliance documentation.
- **Advanced Predictive Models:** AI-enhanced tools that track asset condition with up to 95% accuracy, forecast deterioration over 5-20 years and support optimised capital investment decisions.
- **High-Speed Mobile Mapping:** Leica Pegasus and Apollo systems collect survey-grade data at speeds up to 80 km/h, improving safety and minimising operational disruption.
- **In-Pavement Monitoring Systems:** Embedded sensors provide real-time data on pavement performance, strain, temperature and moisture to support proactive maintenance.
- **Sophisticated Analytics Platforms:** Cloud-based tools improve long-term planning, reduce reactive maintenance and extend asset life.
- **Digital Engineering & 4D Modelling:** BIM and 4D modelling technologies optimise design, construction sequencing and project delivery while reducing impacts on airport operations.



Downer is pioneering high-speed, in-motion airfield surveying with the Leica Mobile Laser Scanner. This innovative technology enhances efficiency, safety, and precision in infrastructure surveys.

Quality Assurance and NATA Accredited Laboratories

To ensure the highest quality standards, Downer operates National Association of Testing Authorities (NATA)-accredited laboratories. These laboratories conduct rigorous testing on all asphalt mixes and materials, ensuring compliance with Australian standards and project-specific specifications. Our NATA-accredited testing guarantees that our pavements meet the highest performance and safety standards.

Our mobile asphalt plants are accompanied in the field by fully fitted and accredited by NATA Labs, manned by airport experienced laboratory and technical personnel to ensure no matter the location, our clients can rely on Downer to deliver the highest quality pavement outcomes.

>30 Years

delivering airside and landside works

1.2 million m²

Airfield pavements maintained and upgraded across Australia annually





Hobart Airport

Proven Airport Experience — 10yrs+



Project Case Studies

Hobart International Airport Airfield Upgrade Project

June 2024 – May 2025 | $112M

We were engaged as Principal Contractor to deliver critical upgrades to Hobart International Airport's airfield to support Code E aircraft operations. The works included rehabilitation of Runway 12/30, strengthening of Taxiways Charlie and Delta and extensive modifications to taxiways Alpha, Hotel, and Foxtrot to meet compliance requirements. Parking and apron layouts were optimised to enhance efficiency, including reconstructing Bay 1, extending Taxiways Foxtrot and Hotel and constructing a new Taxiway Julliet to improve operational connectivity for the airport. Additional works included upgrades to aeronautical ground lighting, electrical systems, line marking, and signage.

The project was delivered within a live operational airport environment, requiring staged works during curfew periods to maintain seamless airport operations and ensure timely return-to-service following each shift.

Delivery involved large-scale pavement rehabilitation and reconstruction, supported by detailed planning and adaptive construction methodologies to manage challenging conditions including cold weather paving, unsuitable subgrade and a highly compressed program. The project was completed with minimal disruption to operations, achieving consistent compliance with specifications and maintaining airport operability throughout delivery.

Sydney Airport Domestic 2&3 Taxilanes & Associated Apron Bays Lead-Ins

July 2024 – October 2025 | $21M

Sydney Airport Corporation Limited engaged Downer to deliver urgent pavement strengthening of Domestic Taxilanes 2 and 3 and associated aprons, addressing asset deterioration and increasing maintenance demands. Works included up to 500mm deep-lift asphalt reconstruction and removal and reinstatement of AGL infrastructure, delivered within strict nightly curfew constraints.

Downer implemented an Australasian-first 450mm+ deep-lift solution, enabling rapid overnight construction and guaranteed return-to-service each morning, minimising operational disruption and maximising gate availability. The project demonstrates innovative, operationally focused delivery and provides a proven approach relevant to apron expansion projects, while also achieving measurable CO_2e reductions through material selection, manufacturing processes and pavement technology.

AIAL Airfield Pavement Renewals – WP3 SP6

December 2020 – present | $85M

The Airfield Pavement Renewals Framework is a multi-year programme established by Auckland International Airport Limited (AIAL) to proactively renew, upgrade and maintain critical airfield infrastructure across the airport's operational environment. The framework delivers a rolling programme of work packages covering aircraft stands, taxiways, turning circles and sections of the main runway, alongside associated airfield ground lighting (AGL), civil infrastructure and ancillary services. As part of this programme, we delivered the WP3 SP6 package, which focused on the renewal of the Alpha 3 Rapid Exit Taxiway (RET), addressing ageing pavement at the end of its service life and reducing potential FOD and operational risks. The works included full-depth pavement reconstruction, new AGL infrastructure and construction of blast shoulders, supporting AIAL's broader enabling works for future runway renewals.

The project was delivered within a live international airport environment, maintaining 24-hour operational capability throughout construction. Delivery required detailed staging, development of construction methodologies and close coordination with air traffic control and multiple AIAL stakeholders to safely manage aircraft movements and maintain continuous operations. The works integrated pavement, drainage and AGL components, with adaptive sequencing and planning implemented to manage constrained construction windows, complex service interfaces and varying ground conditions. Through collaborative planning with AIAL and the designer (Beca), and a structured approach to staging and delivery, we maintained airfield operability and minimised disruption while delivering critical airside infrastructure upgrades.

Brisbane Airport Logistics Apron Upgrade Project (LAUP)

April 2025 – September 2025 | $10M

We were engaged as Principal Contractor to deliver the reconfiguration and rehabilitation of the Logistics Apron at Brisbane Airport, including over 80,000 m² of deteriorated asphalt pavement. The works involved survey-controlled profiling and removal of 5,780 tonnes of degraded material, followed by the placement of new airport-spec asphalt incorporating recycled asphalt product (RAP).

The works were delivered within a live airside environment under strict CASA and Airservices Australia requirements, requiring close coordination with airport operations and adherence to MOS 139 design standards and slope requirements. Advanced survey-controlled profiling techniques were applied to achieve accurate removal and replacement of pavement layers, reducing waste and improving long-term durability.

Despite operating in a live airport environment with a fixed deadline aligned to a Royal Australian Air Force (RAAF) exercise, the project was completed on time and within budget through detailed construction sequencing, proactive planning and collaborative delivery with Brisbane Airport Corporation.



William Town RAAF base

Mackay Airport Runway Overlay and AGL Upgrade

August 2025 – March 2026 | $17M

We were engaged as Early Contractor Involvement (ECI) Head Contractor to deliver asphalt rehabilitation works across Runway 14/32, associated taxiways and blast pads at Mackay Airport as part of the Future-Proofing Mackay program. The works involved extensive milling of existing pavements, placement of corrective asphalt layers and high-performance asphalt overlays, reinstatement of line marking and installation of new LED runway lighting.

All works were completed within overnight runway closures (10:00 pm–5:00 am), with the runway returned to service for daily flight operations. During delivery, underlying pavement conditions required a change to the original paving approach. An alternative single-layer methodology was agreed, reducing shift durations, lowering construction risk and delivering cost savings for the client.

The works were completed ahead of schedule and under budget following approximately 60 shifts and more than 15,000 labour hours.

Sustainable Pavement Portfolio

- **High-Recycled Asphalt Pavement (RAP):** Proven and sustainable solutions incorporating up to 30% recycled content in airfield pavements and up to 100% in road pavements, delivering lower-carbon outcomes without compromising durability, quality or long-term performance.
- **Reconophalt®:** Incorporates waste materials including soft plastics, toner, glass and crumb rubber, diverting up to 800,000 plastic bags per kilometre of runway.
- **Warm-Mix Asphalt:** Produced at temperatures 20–40°C lower than conventional mixes, reducing energy consumption by up to 30%.
- **EME2 High-Modulus Asphalt:** Enables up to 20% thinner pavements while extending pavement life by 15–20%.
- **BioBind® Advanced Technology:** BioBind represents a next-generation, low-carbon bitumen alternative derived from more than 70% renewable resources, delivering carbon reductions of 40–50% compared to conventional binders.
  - 20% improvement in low-temperature fatigue resistance
  - 30% improvement in high-temperature deformation resistance
- **Lifecycle-Focused Strategies:** Downer applies whole-of-life asset management strategies to maximise performance and sustainability outcomes.
  - Extending pavement lifespan by 25–40%
  - Reducing intensive maintenance interventions by up to 50%
  - Decreasing lifecycle carbon emissions by 30–45% over a 20-year period

Zero Harm

Downer sets the industry standard for safety and compliance in complex airport environments through our Zero Harm approach, supported by advanced technologies and proven delivery performance:

- **Integrated Safety Technologies:** Advanced systems including telematics with geofencing for airside operations, AI-driven machine control with millimetre precision, and real-time personnel tracking enhance safety in active airport environments.
- **Mobile Data Capture Systems:** Pegasus, Apollo and other specialised platforms improve inspection data accuracy by 30–40% while reducing airside access time by up to 65%, enhancing both safety performance and operational efficiency.
- **Runway Friction and Surface Performance:** Specialised continuous friction measurement equipment and high-performance surface treatments ensure compliance with regulatory requirements and safe aircraft operations in all weather conditions.
- **Aviation-Specific Safety Training:** Customised safety programmes have resulted in TRIFR performance below industry benchmarks and zero reportable safety incidents across more than 500,000 work hours at active airports in the past three years.
- **Operational Readiness and Airside Compliance:** Dedicated airport delivery teams experienced in live operational environments, coordinating closely with airport operators, air traffic control and stakeholders to maintain safety, security and operational continuity throughout project delivery.



Early Contractor Involvement (ECI): Unlock Better Project Outcomes

The greatest opportunity to influence project performance, sustainability outcomes and whole-of-life value occurs at the earliest stages of project planning. Through Early Contractor Involvement (ECI), Downer works alongside airport operators, consultants and stakeholders to identify opportunities, manage risks and optimise project outcomes before key decisions are locked in.

By engaging early, customers gain access to Downer's technical expertise, innovative materials, construction knowledge and sustainability insights, enabling smarter decisions that can reduce carbon emissions, improve constructability, optimise whole-of-life costs and drive greater value throughout the asset lifecycle.

Benefits of partnering with Downer through ECI include:

- Achieve sustainability targets sooner through the early integration of lower-carbon pavement solutions and sustainable construction practices.
- Reduce project risk with informed planning, realistic delivery strategies and proactive risk identification.
- Improve cost and schedule certainty by aligning design, materials and construction methodologies from the outset.
- Unlock innovation through access to Downer's specialist product, technology and operational expertise.
- Enhance constructability with practical delivery insights that help minimise disruptions and improve project efficiency.
- Operational Carbon Reduction: Strategies that minimise fuel consumption, material haulage and energy use through local recycling, optimised pavement designs and efficient construction methodologies.
- Maximise whole-of-life asset value through solutions tailored to operational, environmental and performance objectives.

By bringing together planners, designers and delivery specialists from day one, Downer helps airport customers make confident decisions that deliver safer, more sustainable and more efficient infrastructure outcomes.



Hobart Airport

Downer Specialised Pavements & Projects - Key Leaders



Simon Abrahams

General Manager Specialised Pavements and Projects



Callum Bollard

Pre-Contracts Manager

callum.bollard@downergroup.com



Owen Thorpe

National Delivery Manager

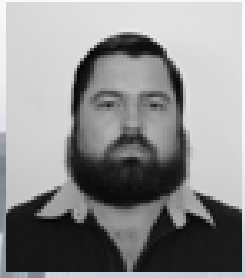
owen.thorpe@downergroup.com



Boris Kimmel

National Maintenance Manager

boris.kimmel@downergroup.com



Riaan Van Dyk

Construction Project Manager

riaan.van_dyk@downergroup.com



Tim Jackson

Specialist Products and Services Manager

timothy.jackson2@downergroup.com



Esther Lang

Quality Manager

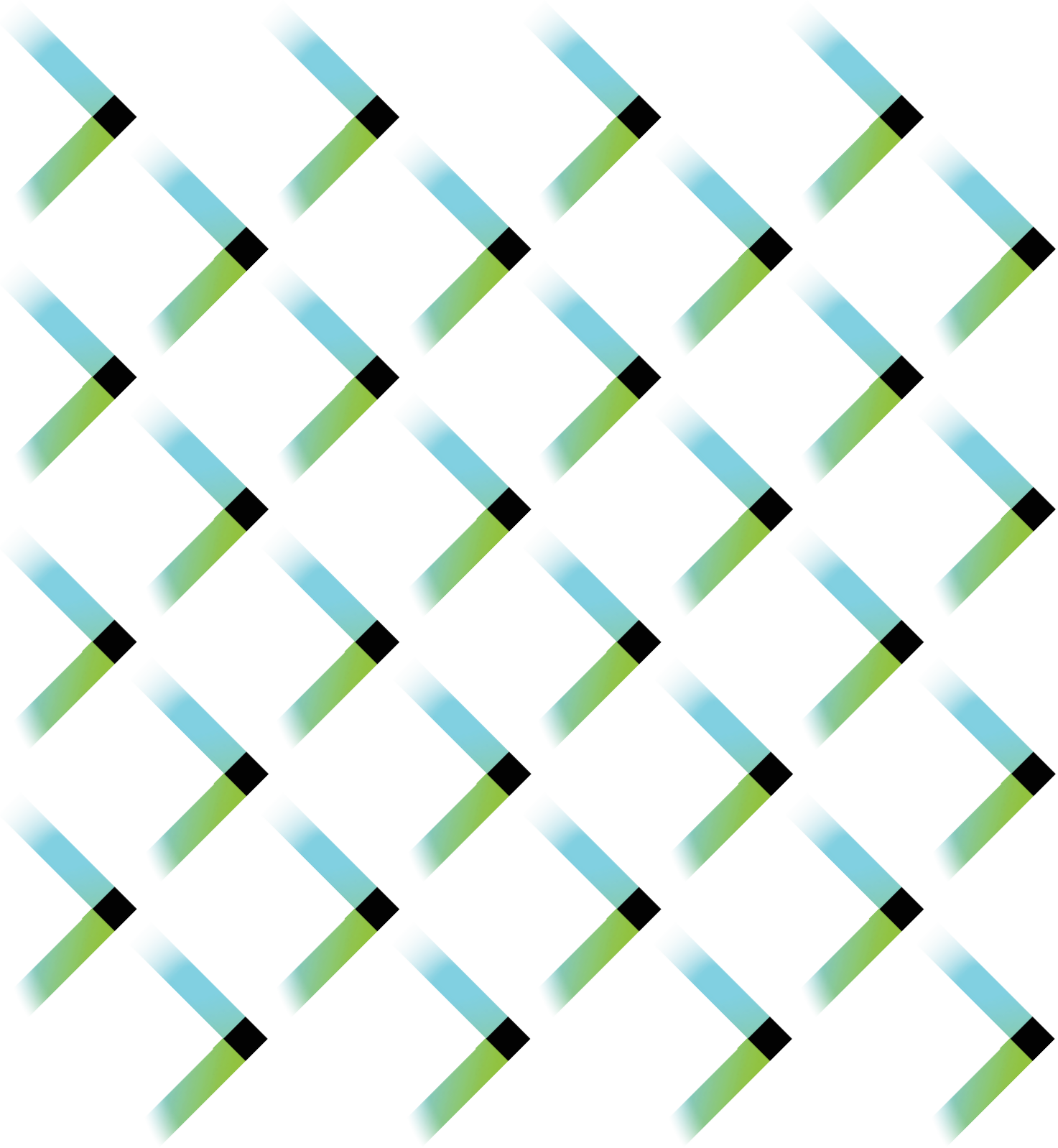
esther.lang@downergroup.com



Iulian Man

Design Manager

iulian.man@downergroup.com



Enabling communities to thrive.

Triniti Business Campus
39 Delhi Road
North Ryde NSW 2113

130 Kerrs Road
Wiri Auckland 2104

E: airports@downergroup.com

www.downergroup.com