

AVIOLOGY



2025

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About AVIOLOGY

AVIOLOGY offers concise, cost-effective Airport Operations Support. Whether you need assistance with Airport Design, Master Planning, Airspace Protections, Wildlife Strike Risks or something unique to your situation, AVIOLOGY can assist you.

Managing Director, Chris Perry has spent the past 15+ years developing a diverse experience base, working directly in aviation operations.

Chris is Australia's first dual qualified and experienced Aviation Ecologist. Having gained extensive experience as both an Airport Manager and Wildlife Ecologist, AVIOLOGY was born.

AVIOLOGY are serving the industry as specialists primarily in Engineering Design, Safeguarding, and Wildlife Hazard Management Plan (WHMP) development. We have provided WHMP services for 50+ Airports Nationally and Internationally and trained 150+ Airport Staff in wildlife mitigation practices.

We have expanded our services through effective collaborations and offer world leading innovation in Aviation and Civil Engineering Design and Airspace Safeguarding Services.



Chris Perry
Managing Director

Welcome Message

Welcome to AVIOLOGY Pty Ltd. We are thrilled to begin our working journey together. We strive for excellence, precisely meeting your needs with cost-effective and highly compliant methods.

Founded by Airport Managers and Aviation Ecologists – Our point of difference is what we champion at AVIOLOGY.

“We work for our clients in everything we do, wherever possible adding value and innovation while minimising cost and risk to the operations.”



Vision, Mission & Values

Vision

To bring innovation, inspiration and sustainability to achieving your aviation needs.

Mission

Provide precise services, responding to the aviation industry needs as they arise.

Values

- Precision
- Innovation
- Effective Solutions
- Work For the Client
- Add value in every aspect of delivery
- Reliability



Our Services



Innovative solutions for private, public and industry clients in **airside and landside aviation engineering design, airspace, critical infrastructure and urbanism.**



A digital-first, structured approach to managing airspace constraints. Our team integrates aviation safety requirements, **geospatial intelligence, and automated assessment workflows.**



Specializing in the development and review of **Wildlife Hazard Management Plans (WHMP)** that meet the exact requirements to compliance and risk.



Aviation Design



- Airside planning
- Aviation technical engineering
- Airport grading and pavement
- Airport Utilities
- Airspace modelling
- Airport masterplanning
- Technical Directorship
- Civil Engineering
- Infrastructure & Precinct Master-Planning
- Regional engineering works
- Independent Verifications and Peer Reviews
- Infrastructure & Precinct Master-Planning
- Stormwater Drainage
- Active transport design
- Building information management
- Transport planning



Urban Regeneration



Utilities



Transport Infrastructure



Social Infrastructure



Government



Critical Infrastructure



Our global reach

Our team have experience across 6 continents. We will bring fit-for-purpose global standards and practices to you.

Notable Projects



Key specialist involvement

- Hamad International Airport – Cargo Midfield Terminal (Qatar)
- Bhogapuram International Airport (India)
- New Bugusera International Airport (Rwanda)
- Major NSW Airport Northern Apron Expansion (Australia)
- Melbourne Metro Tunnel, Stations & Precincts
- Major NSW Airport Northern Apron AI Jet Re-fuelling Project (Australia)
- Emerald Airport Apron and Taxiway Re-development
- Major QLD Airport International Northern Concourse Expansion (Australia)

Bhogapuram International Airport



The Bhogapuram International Airport project involved the design and delivery of a new greenfield international airport in the Andhra Pradesh region of Indian. At completion the airport is to serve +36M passengers per annum. Project delivery involved interface with significant terrain obstructions, coordination of multiple external stakeholders to deliver new regional rail, highways etc.

The project and design delivery are to ensure that the site was fully self-sufficient from a utility infrastructure perspective (i.e. wastewater, water treatment etc.) and being an End-of-Trip precinct.

Key specialist involvement

- Airside and landside masterplanning
- Airside planning including stand design, GSE, Bus connectivity and airside movement areas with associated linemarking, MAGS and Aerobridges
- Grading, earthworks, stormwater drainage, utilities and pavement
- Sitewide stormwater re-use network design
- Utilities design, water balance and waste water facilities
- Landside development including road network, carparking, drop-off/ pick-up, airport facilities engineering design
- Landside precinct development:
 - Commercial precinct
 - Worker accommodation precinct
 - Manufacturing and defence

precincts

- Terminal forecourt design
- Incoming highway integration and design
- Traffic impact assessments and traffic planning
- MRO & Cargo Facility design
- NAVaids and OLS assessment
- Performance specifications

Aviation Safeguarding



A digital-first, structured approach to managing airspace constraints, ensuring regulatory compliance, and supporting safe, sustainable development around airports. Our team integrates aviation safety requirements, geospatial intelligence, and automated assessment workflows.

Digital Tools and Advanced Services for Airport Operations

Supporting operational decision-making with scalable digital products:

- Obstacle and Vegetation management Tool
- Innovative Crane & Temporary Structure Assessment Tool
- Digital aerodrome layout plans with GIS delivery
- Interactive GIS aviation safeguarding dashboards for airports, councils, and developers
- AMDB and eTOD delivered as GIS-ready datasets for direct integration into aeronautical and planning tools.

3D Airspace Modelling & Geospatial Intelligence

We use specialised aviation modelling software to produce:

- ICAO OLS and PANS-OPS surfaces (CAANZ, CASA)
- Pre-implementation support for the upcoming ICAO OFS/OES OLS changes
- CNS and Visual aid protection surfaces
- Scalable geospatial models for airport master planning and urban development

Field Surveys & Geospatial Data Capture

High-accuracy data collection to support safeguarding decisions:

- GNSS surveys for runway parameters, control verification, and QA
- Terrestrial, vehicle-mounted, and aerial LiDAR for detailed 3D mapping
- Aerial imagery and photogrammetry (manned aircraft or drones)
- Data fusion for precise obstacle and surface analysis
- Aerodrome Mapping Data (AMDB)
- Electronic Terrain and Obstacle Data (eTOD)

Notable Projects

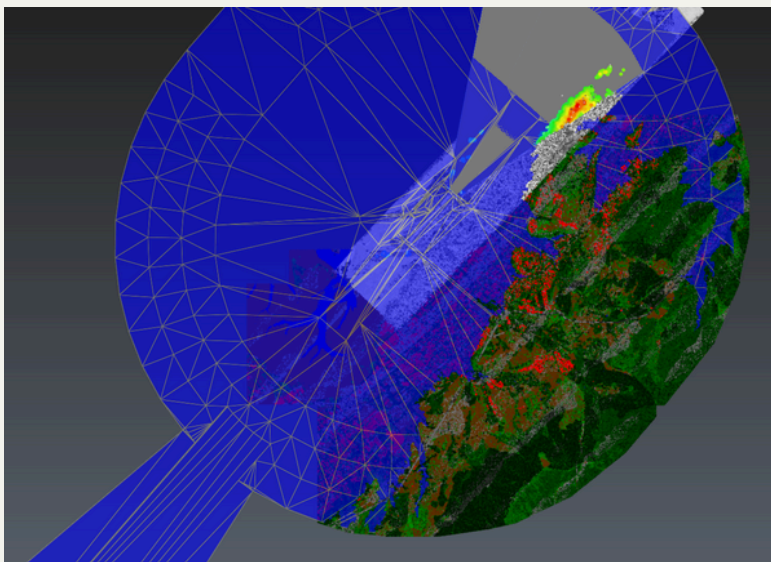


Our team has delivered safeguarding, survey, and aerodrome operational intelligence projects across New Zealand and the Pacific, supporting airport operators, ANSPs, airlines, and consultants with high-accuracy data, digital tools, and integrated modelling workflows.

Selected Experience

- Pacific Aeronautical Charting and Procedures (PACP) – Solomon Islands Survey
- Obstacle Limitation Surface (OLS) & Instrument Flight Procedure (IFP) Maintenance Surveys for more than 20 Airports NZ-wide
- Operational GIS Dashboards for more than 20 Airports Across NZ and Australia
- Runway Infrastructure Mobile Mapping
- Concept airspace modelling to support feasibility studies, infrastructure upgrades, master planning, site-specific assessments, and development planning.

Rotorua Airport



Key Deliverables

Using a combination of ground-based and airborne LiDAR, including UAV survey, we developed a complete obstacle and airspace model, enabling the airport to:

- Transition from reactive to proactive obstacle management
- View, track, and prioritise hazards based on actual operational impacts
- Make safety-based decisions aligned with Part 139, PANS-OPS and OEI considerations
- Communicate airspace requirements to property owners through clear, property-specific reports for the first time

Our team was awarded the Aeronautical Excellence Award at the 2025 New Zealand Airports Association Awards for delivering a transformative aerodrome safeguarding solution for Rotorua Airport. Rotorua Airport required a new approach to managing more than 1,900 identified obstacles across a complex volcanic landscape. Traditional methods were proving costly, inaccurate, and operationally impractical.

The project required manual construction of non-standard, curved and stepped flight paths that could not be modelled automatically. Our team built these models from scratch, improving accuracy and relevance to Rotorua's terrain and airspace geometry.

Aviation Ecology



- Wildlife Hazard Management Plans (WHMP)
- Wildlife Hazard Audit (WHA)
- Off-airport Land-use Assessments
- Off-airport land-use Management Plans
- Risk Assessment
- Standard Operating Procedures (SOPs)
- Species Action Plans
- Wildlife Hazard Management Training
- GIS and Mapping
- Significant Strike Investigation
- Landscape Review/Design
- Development of Database and Analysis
- Mitigation Tool Supply



Notable Projects



AVIOLOGY has 15+ years experience in developing a diverse specialty base, working directly in aviation operations and global ecological programs.

Experts in the development and review of Wildlife Hazard Management Plans (WHMP) that meet the exact requirements.

Our WHMP services are tailored for airports and aerodrome operators, ensuring full regulatory compliance and lasting operational safety.

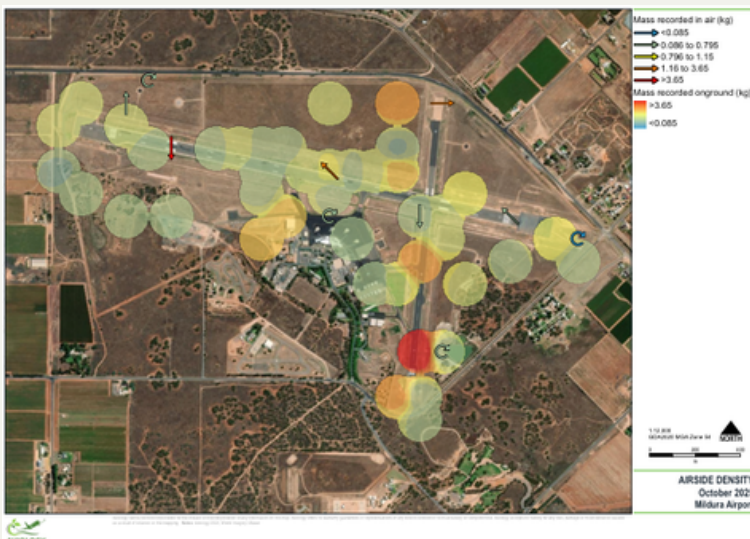
Key Deliverables

- Full Organisational Audit.
- Review of Aerodrome Certification Exposition.
- Wildlife Management Training Course.
- Supply of Dispersal Tools.
- Re-write of the WHMP.
- Development of SOPs.
- Engagement with Key Off-airport Wildlife Attracting Sites.
- Development of Wildlife Risk Assessment.
- Development of Species Actions Plans with Seasonal Review of Peak Risks.
- Wildlife Fact Sheet Posters.
- GIS Mapping and Development of a Digital Data Collection Platform.

Nelson Airport



Mildura Airport



Key Deliverables

- Major Re-write of the WHMP
- Mapping of key Wildlife Risk Activity Airside.
- Mapping Off-airport Wildlife Attracting Land-uses within 13km of the Airport.
- Wildlife Management Training Course.
- Species Specific Risk Assessment.
- Development of SOPs.
- Development of Species Actions Plans.
- Wildlife Fact Sheet Posters

Meet The Teams



Powered by Engineers

Experienced civil engineers in Aviation design, planning, civil engineering, masterplanning and urbanism. We bring a holistic approach, understanding impacts of decisions and help guide pragmatic solutions in a range of airside and landside related projects. Guided with vast experience in planning, engineering and construction, we help bring the vision to life.



Powered by Geospatial and Aviation Specialists

A multidisciplinary team combining advanced geospatial expertise, aerodrome surveying, airspace modelling, aviation operations, and airline performance engineering. Our specialists bring experience across land surveying, GIS, LiDAR and remote sensing, aircraft performance and route feasibility, airline and airfield operations, RPAS and unmanned systems, and procedure design support. This blend of technical, operational and regulatory capability ensures safeguarding assessments, modelling outputs and feasibility studies reflect real-world aircraft performance, crew requirements, safety logic and airport constraints.



Powered by Ecologists

The fastest growing professionals in the field of WHMP, bird strike management. Aviology is nationally and internationally recognised.

We are strong advocates for a states growth and implementation of Wildlife Hazard Management Practices and strives for practical solutions in a cost-effective manner, actively working with the national aviation associations to build better practices and minimise risks.

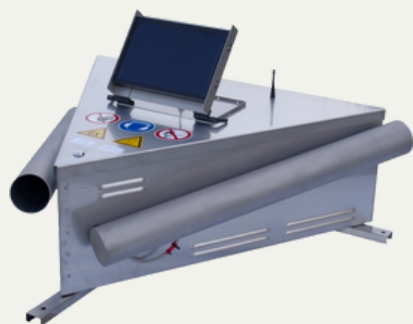


Supplier Partner



Prevent birds from settling inside hangars where they can cause damage or delays. Our solutions keep work areas clean, safe, and free from interruption.

Our solutions help minimise the risk of bird strikes, protecting people, aircraft, and schedules. Reduce downtime and unplanned maintenance with effective bird control



Built to withstand sun, wind, and rain, our solutions keep working through every season. You get consistent, long-term bird control with minimal maintenance.



AVIOLOGY

DESIGN SAFEGUARDING ECOLOGY



Our Contact



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