



巽翼科技

ZEPHYRUSTECH Limited

企業畫冊

COMPANY BROCHURE



COMPANY PROFILE

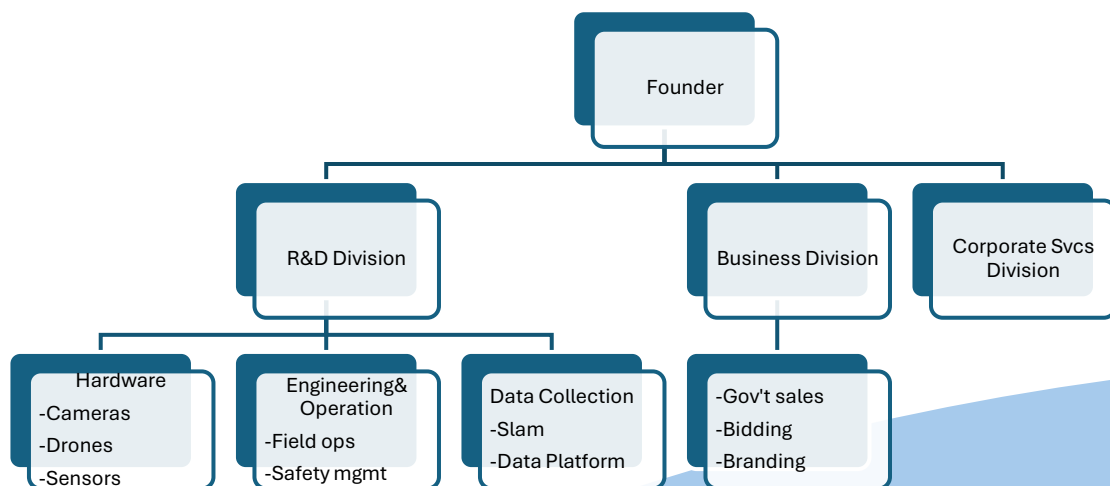
Company Overview



Hong Kong ZEPHYRUSTECH LIMITED / Macau ZEPHYRUS TECNOLOGIA LDA is a technology company specializing in intelligent drone inspection and digital infrastructure operation and maintenance. Founded in 2025, the company is headquartered in Hong Kong, with business covering the Guangdong-Hong Kong-Macau Greater Bay Area and the Macau Special Administrative Region. The core team comprises senior experts in drone hardware development, SLAM navigation algorithms, AI vision recognition, engineering operation and maintenance, and major account sales, dedicated to providing end-to-end digital operation and maintenance services for infrastructure such as tunnels, bridges, and building facades.



Organizational Structure





Core Team

Founder

- Engineering background: Hands on experience in construction and cable car maintenance, with deep understanding of infrastructure (rail transit, cable car systems, construction sites) structural characteristics and operational bottlenecks.
- Certified ESG Planner (CEP®) – accredited by the International Council for Sustainable Development (ICSD)
- Demonstrate a deep understanding of climate risk management, carbon neutrality pathways, green finance, and social responsibility governance, enabling the integration of ESG principles into corporate strategy, project execution, and client services.
- Advanced Rating(A/B) Remote Pilot

TECHNICAL DIRECTOR

- Full stack drone expertise: leading the development of aerial photogrammetry cameras (FT5 21NG, FT5 30NG, FT1 5112) and defining product and system architecture for drone Inspection and machine vision systems.
- Electronics & flight control experience: UAV integration engineer and flight engineer. Designed and integrated multi rotor drones, and conducted field data acquisition missions in large scale projects at Hengqin Island (Zhuhai) and Khorgos Free Trade Zone.
- Deeply involved in the productization of oblique cameras and drone inspection systems. Experienced in embedded systems and sensor calibration, working closely with the founder.

市場拓展總監 (Winnie Wong)

- Previously worked for a Fortune 500 company, managing and participating in single multi-million dollar cooperation projects, have a deep knowledge of the Greater Bay Area market, government procurement processes, and bidding mechanisms. Proven ability to translate technical solutions into commercial contracts and build long-term client trust.



Core Technical Capabilities

By introducing mature technologies and equipment from the leading Mainland Chinese drone companies, and combining in-house capabilities in drone system integration, point cloud processing and AI analytics, Zephyrus Tech has developed a full-stack technical matrix covering all stages of tunnel inspection:

① Tunnel Modelling Capability

Using drones equipped with LiDAR and oblique photography systems to acquire high-precision point clouds of tunnels. Process the data with LiDAR point cloud software and Point Cloud Workstation for registration, noise reduction, classification and 3D reconstruction, forming a **high-precision 3D model** for autonomous navigation and defect identification.

② Autonomous Route Planning & GPS-denied Navigation

Operators define safe flight paths on the 3D model; the system determines waypoints using SLAM and point cloud feature matching. Drones can operate in GPS-denied, strong EMI, and low-light environments using multiple sensors, filling a technological gap for complex tunnel conditions.

③ Automated Inspection & Real-time Sensing

Deploy multi-rotor / vertical take-off fixed-wing drones equipped with LiDAR, high-resolution cameras, thermal imagers, etc. Drone management platform to automate flight paths, real-time data backhaul, AI prediction and automatic report generation.

④ Professional Point Cloud & AI Analytics

Deploy professional point cloud processing and 3D modelling software. Apply spatial information platforms to achieve millimeter-level automatic crack detection and annotation, outputting comprehensive inspection reports containing **defect classification, quantitative dimensions, and precise geographic coordinates**.

ESG 上的貢獻



As a technology company focused on drones, robotics, and IoT sensing, Zephyrus Tech contributes positively to all three pillars of ESG

Environment (E)	• Drones replace heavy survey vehicles and manual patrols, significantly reducing carbon emissions and energy consumption. • Regular monitoring of air quality (PM2.5, PM10, NO₂), water pollution, and illegal dumping provides objective data for EIA and ESG reporting. • Precision point cloud modelling reduces construction waste and supports green building certifications
Social (S)	• Automates dangerous tasks such as high-rise facade inspection and tunnel patrol, greatly reducing occupational injury risks. • Provides AI-assisted mountain and water search & rescue, supporting community safety and emergency response. • Real-time IoT tilt-sensor alerts for scaffolding and structural anomalies protect both construction workers and nearby communities.
Governance (G)	• Enhances project integrity and compliance through transparent, traceable data management.



Applications

Equipped with a self-developed navigation and perception system, the drone can plan routes, hover precisely, and operate safely in complex environments with no GPS signal, no light, and strong interference. It can also identify instrument readings, equipment status, and thermal defects at close range. Combined with AI-powered intelligent analysis of equipment hazards, it supports integrated gas sensors for gas leak monitoring, meeting the needs of complex operations in multiple scenarios.



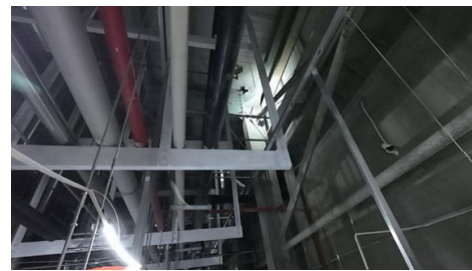
Tunnel Daily Inspection



Common Utility Daily Inspection



Confined Space Exploration



Manufacturing Site Monitoring



聯繫方法

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