

Tianyi Aviation

Intelligent Low-Altitude Aircraft R&D,
Manufacturing and Operation Service Provider



Scan the QR Code to Follow Tianyi
Drone Official WeChat Account

Xi'an Tianyi Aviation Technology Group

Building 4, Chang'an University Science Park, Chanba
Ecological District, Xi'an, Shaanxi, China

■ www.tyuas.com ■ 400-6060-580



CONTENTS.



01	COMPANY PROFILE
13	PRODUCT MATRIX
51	SOLUTIONS
79	SERVICE & SUPPORT
82	SUCCESSFUL CASES

TIANYI



LOW-ALTITUDE INTELLIGENT AIRCRAFT R&D, MANUFACTURING AND OPERATION SERVICE PROVIDER

COMPANY INTRODUCTION

Tianyi Aviation is a technology-driven enterprise focused on the low-altitude economy and artificial intelligence industries, dedicated to future-oriented technologies and committed to becoming a globally leading developer, manufacturer, and operator of intelligent low-altitude aircraft. Its core businesses include: complete aircraft and system platforms; digital and intelligent low-altitude education; low-altitude logistics equipment R&D and operations (cargo-to-terminal); and manned eVTOL R&D, manufacturing, and operations (people-to-terminal).

MISSION

To integrate intelligent low-altitude aircraft with AI technologies, push beyond the boundaries of the sky, and bring the future of intelligent airspace from blueprint to reality—connecting the physical world with intelligent decision-making. Our vision is to turn aircraft into the senses of the sky and data into the spatial intelligence.

VISION

To be a leading developer, manufacturer, and operator of intelligent low-altitude aircraft, delivering full-process integrated solutions and growing into an industry-leading enterprise.



COMPANY MAP

Tianyi Holding Companies

Xi'an Tianyi Aviation Technology Group
Xi'an Tianyi Intelligent Control Education Technology Co., Ltd.
Xi'an Yifei Digital Technology Co., Ltd.
Xi'an Wukong Feisong Technology Co., Ltd.
Hubei Tianyi Zhixiang Aviation Technology Co., Ltd.
Tianyi Shenzhen Branch
Tianyi Wuhan Branch
Tianyi Nanjing Branch
Tianyi Tianjin Branch

Tianyi Associated Companies

Hangfeng Intelligent (Dongguan) Technology Development Co., Ltd.
Shengshi Tianyi Aviation (Jiangxi) Co., Ltd.
Shengshi Tianyi Aviation (Zhongshan) Co., Ltd.
Shengshi Yixing (Guangdong) Aviation Technology Co., Ltd.
Hubei Yilian Tiantong Aviation Technology Co., Ltd.

Tianyi Offices

Fujian, Guangxi, Yunnan
Henan, Anhui, Heilongjiang
Jilin, Liaoning, Gansu
Guizhou, Hunan, ...

Comprehensive Solutions Delivered to Clients Nationwide

1300+

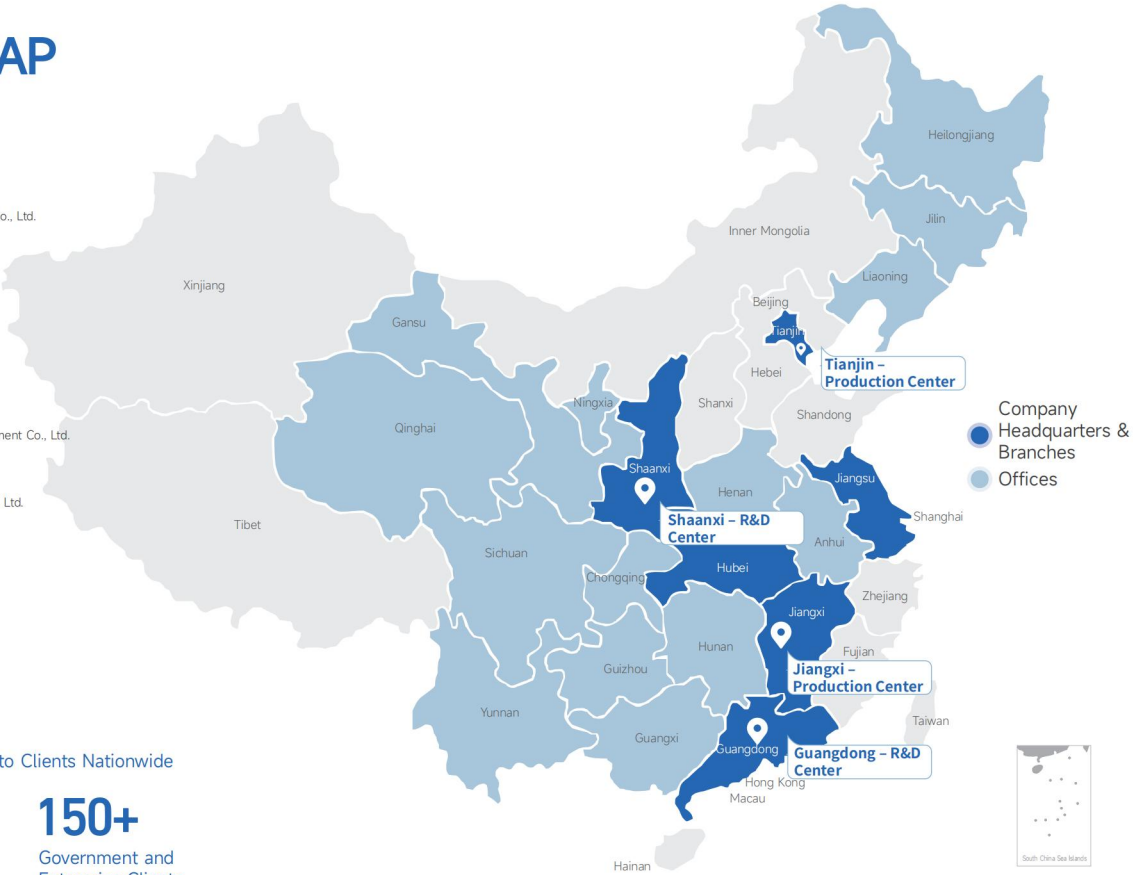
Corporate Clients

800+

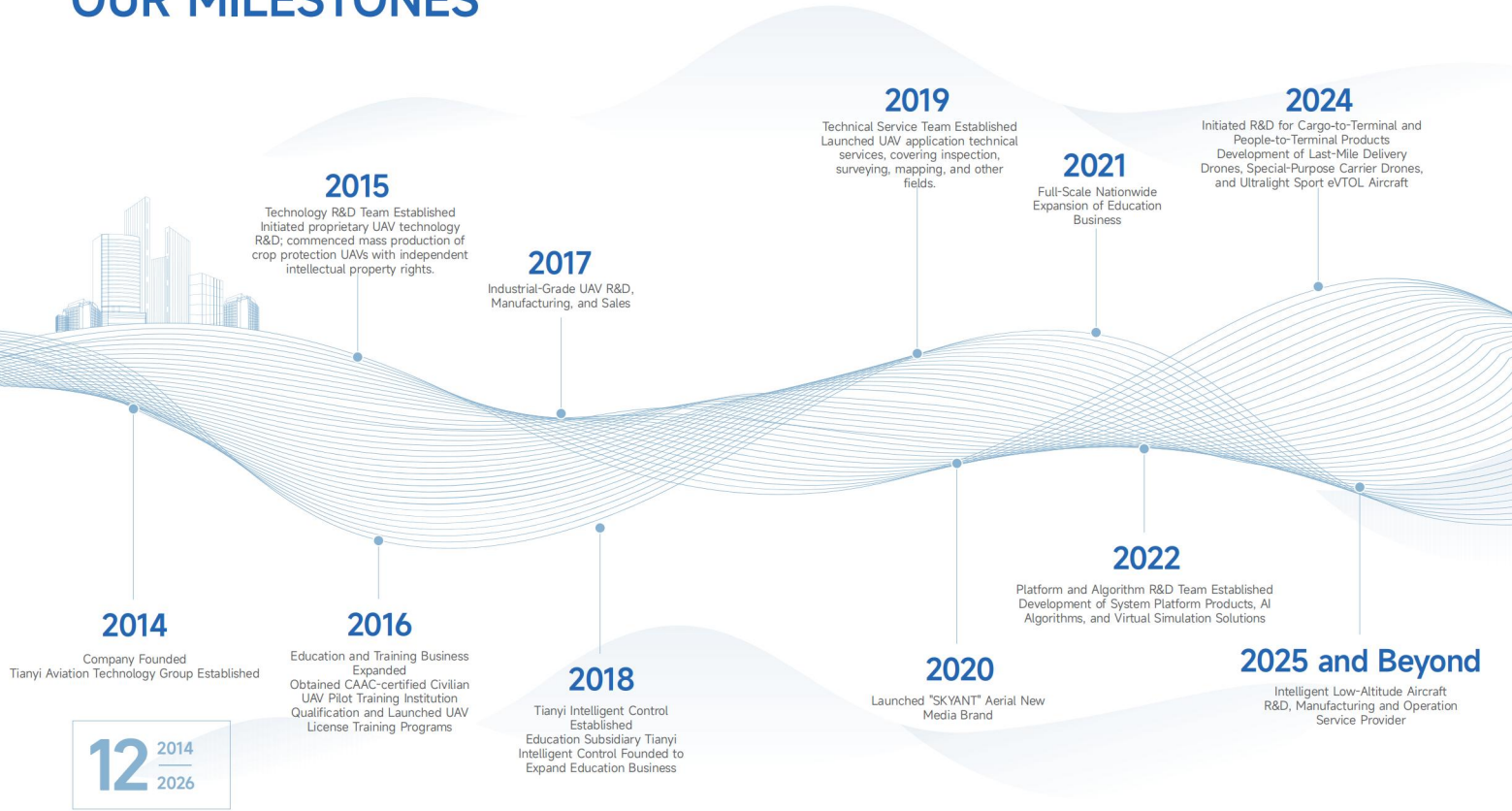
Academic & Research Institutions

150+

Government and Enterprise Clients



OUR MILESTONES



QUALIFICATIONS & HONORS

TECHNOLOGY
EMPOWERMENT WITH
MULTIPLE AUTHORITATIVE
CERTIFICATIONS



Corporate Certifications

- 50+**
National-Level
Certifications
- 70+**
Industry-Level
Certifications
- AAA**
Credit Rating
- Class A**
Service Capability
Rating



Intellectual Property

- 120+**
Patents and Software
Copyrights
- 40+**
Invention Patents
- 60+**
Utility Model Patents
- 50+**
Annual Growth
Rate



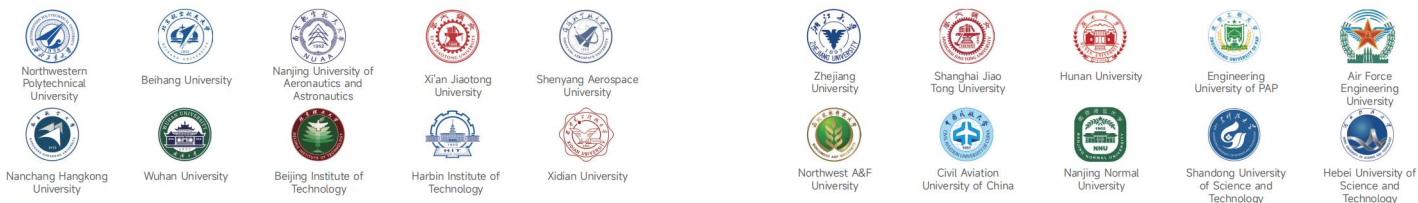
PARTNERS

MORE THAN FLIGHT, A RELIABLE
STRATEGIC PARTNER



PARTNER INSTITUTIONS (PARTIAL)

Undergraduate Colleges



Vocational Colleges



Secondary Vocational School / Technician College



01 PRODUCT MATRIX

- Complete Aircraft and System Platforms
- Cargo-to-Terminal
- People-to-Terminal
- Digital and Intelligent Low-Altitude Education

01 COMPLETE AIRCRAFT AND SYSTEM PLATFORM

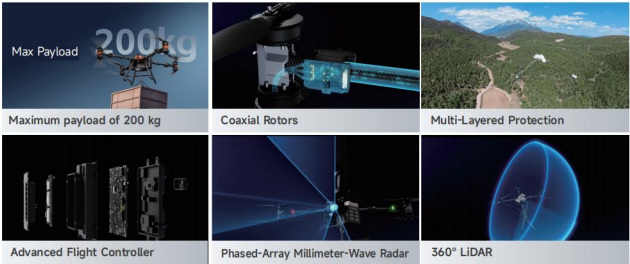
FlyTruck 200M

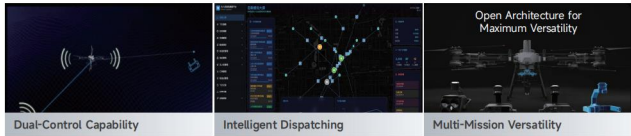
The FlyTruck 200M is an industrial heavy-lift multi-purpose UAV. Adopting a quadrotor with eight propellers configuration, it features a rated single motor power of 7.5 kW, a maximum payload of 200 kg, and a maximum flight time of 20 minutes. Equipped with dual radars and an FPV camera, the drone supports RTK and radar-based altitude holding, delivering highly accurate and reliable positioning and hovering performance. It operates stably in a wide temperature range from -10°C to 45°C, supports flexible switching between heavy-lift and long-endurance modes, and is compatible with a variety of payload devices. It is widely used in logistics delivery, emergency rescue, firefighting, infrastructure hoisting, and other industrial applications.



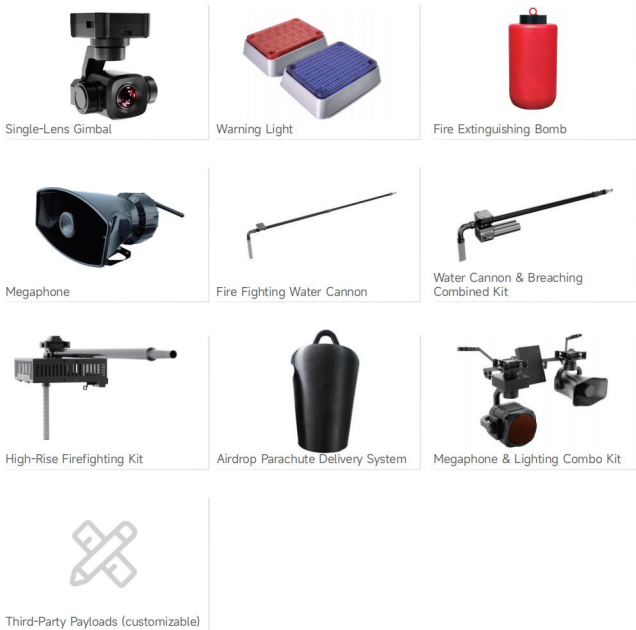
Model FlyTruck 200M	Propeller Size 73-inch	Operating Temperature -10°C~45°C	Max Flight Speed 15 m/s
Symmetric Motor Wheelbase 2783 ± 10 mm	Max Payload 200 kg	Max Hover Time 36 min	
Overall Dimensions (propellers horizontally unfolded, including parachute) 3812 × 2166 × 1065 ± 10 mm	Product Mode Heavy-Lift / Long-Endurance	Radar System Equipped with millimeter-wave radar and LIDAR	

Product Features

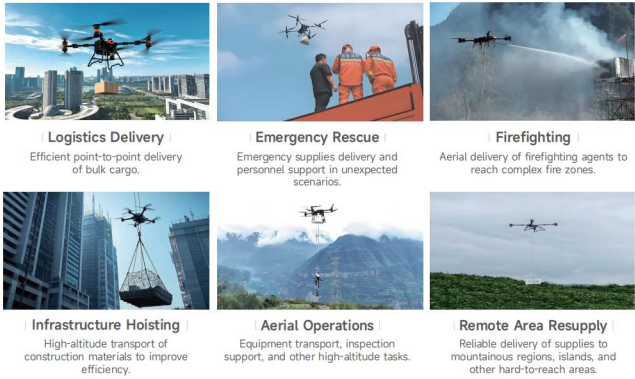




Payload Suite (supports custom third-party payloads)



Application Scenarios



UAV Automated Smart Hangar

The TY-A900 UAV Automated Smart Hangar can be flexibly deployed in field sites, rooftops, and other locations. It supports remote drone dispatching, automatic takeoff and landing, intelligent charging, autonomous operations, and data transmission throughout the entire unmanned workflow. Equipped with a UPS backup power supply and an industrial air conditioning system, the hangar operates stably in temperatures ranging from -30°C to +55°C. It is widely used in inspection, emergency response, public safety, surveying and mapping, firefighting, forestry, water conservancy, and other intelligent operations.

All-Weather Autonomous Operations
 Remote Dispatching and Command
 High-Precision Positioning
 Extreme Temperature Adaptability
 Safety Protection
 Ultra-Fast Charging



Model TY-A900	Max Payload Weight ≥ 3 kg	GNSS GPS/BeiDou/GLONASS/RTK
Net Weight 174 kg (total weight) 184.4 kg (with UAV docked)	Charging Time 25 minutes (from 10% to 90% battery capacity at 25°C ambient temperature)	Video Resolution 1920 × 1080P
Unfolded Dimensions 1855 mm × 1098 mm × 665 mm (excluding weather station)	Max Transmission Distance Typical urban area: 5 km @ 1080P & 1 Mbps Open, interference-free environment: 10 km @ 1080P & 1 Mbps	Operating Temperature -30°C ~ +55°C

Industrial UAV Platform

The TY-X900 integrates advanced navigation and flight control technologies, incorporating omnidirectional obstacle avoidance, visual positioning, high-precision RTK, gimbal stabilization, air-ground communication, integrated display and control, active safety, and other core technologies. It is capable of autonomous cruise, automatic return-to-home, and precision autonomous landing. With visual-assisted positioning and omnidirectional visual obstacle avoidance, it ensures safer and more stable flight operations.

- Long Endurance
- Omnidirectional Obstacle Avoidance
- High Precision
- Strong Wind Resistance
- Long-Range Video Transmission
- Multi-Payload Capability



Model TY-X900	Max Wind Resistance 15 m/s (Level 7 wind) Max wind resistance during takeoff and landing: 12 m/s	Max Payload 3 kg (at max payload, the maximum safe flight speed is limited to 15 m/s)
Wheelbase ≤ 900 mm	Omnidirectional Obstacle Avoidance Obstacle sensing range: front/rear/left/right 0.7~40 m Up/down 0.6~50 m	Video Transmission Range 15 km
Max Flight Time 56 min (no payload); 45 min (with 1 kg standard payload)	Flight Speed Turbo Mode: 25 m/s; Standard Mode: 15 m/s Safety Mode: 10 m/s	Operating Temperature -20°C ~ 50°C

Quad-Sensor Gimbal

The TY-RTV-100M25 is a lightweight quad-sensor airborne gimbal for UAVs. It features a three-axis high-precision servo stabilization system and integrates four core modules: wide-angle, zoom, thermal imaging, and laser ranging. Equipped with a high-performance onboard computing unit, it supports AI algorithms such as smoke and fire detection and intelligent target tracking. With powerful sensing capabilities, it is widely used in traffic inspection, forestry protection, water conservancy monitoring, public safety, and other professional applications.

- Quad-Sensor Integration
- Three-Axis Stabilization
- High Computing Power
- Lightweight
- High Protection Rating
- High Precision



Model TY-RTV-100M25	Zoom Camera 1/2-inch CMOS; 48 MP 25x optical zoom	Laser Rangefinder Range: 10 m to 1500 m
Net Weight 0.8 kg	Wide-Angle Camera 1/1.35-inch CMOS; 48 MP	
IP Rating IP55	Thermal Imaging Camera Resolution: 640 × 512 Temperature Measurement Modes: Spot metering, area metering	

Single-Lens Gimbal

The TY-VL40 is a lightweight single-lens airborne gimbal for UAVs. Equipped with a large-aperture lens, anti-reflective coated glass, and an ultra-low-light high-sensitivity sensor, combined with professional ISP image processing technology, it delivers exceptional full-color night vision capabilities. It produces clear full-color images even in dim or completely dark environments, making it well-suited for nighttime operations in forestry, water conservancy, road inspection, agriculture, and other fields.

- Lightweight
- Three-Axis Stabilization
- Ultra Starlight-Level
- Full-Color Night Vision
- High-Definition Imaging
- Ultra-Low Bitrate



Model TY-VL40	Operating Temperature -20°C ~ +50°C	Fixed-Focus Camera 1/1.8-inch CMOS; 4 MP Max Resolution: 2688 × 1520
Net Weight 0.7 kg	Dimensions 149.8 mm × 139.3 mm × 160.3 mm (L × W × H)	Encoding Formats Supports ROI, SMART H.264/H.265 for flexible encoding to accommodate different bandwidth and storage environments

Megaphone Payload

The TY-XS is a professional megaphone payload for UAVs, featuring a quick-release adapter ring design for fast and convenient installation. It delivers a sound pressure level of up to 130 dB at 1 meter, with an effective broadcast range of 500 meters. Paired with a controllable tilt gimbal, it enables precise directional broadcasting. Supporting real-time voice, text-to-speech, and multi-format audio playback, it is widely used in emergency command, security patrols, on-site coordination, and other scenarios.

- Long Range
- Ultra-High Sound Pressure
- Precise Directionality
- Lightweight
- Multiple Form Factors
- Multiple Modes



Model TY-XS	Broadcast Range 500 m	Dimensions 140 mm × 140 mm × 125 mm (L × W × H)
Net Weight 555 g	Sound Pressure Level 130 dB @ 1 m	Broadcast Functions Real-time voice, recorded audio upload, text-to-speech, audio file playback

Lighting Gimbal

The TY-XL is a professional lighting payload for UAVs, designed for nighttime inspection, emergency rescue, and other scenarios. With a brightness of 12,000 lm and illuminance exceeding 20 lux at 100 meters, it supports steady-on and adjustable strobe modes, and can be synchronized with the gimbal for precision lighting. Featuring IP55 protection rating and intelligent temperature-controlled heat dissipation, it is easy to operate and delivers stable performance, providing efficient lighting support for nighttime operations.

- Long-Range Illumination
- Dual Modes
- High Protection Rating
- Intelligent Temperature Control
- Lightweight
- Broad Scenario Adaptability



Model TY-XL	Brightness 12,000 lm	Illumination Range 150 m, 100 m, 50 m
Net Weight 90 g	Dimensions 153.95 mm × 167.50 mm × 37.34 mm (L × W × H)	Illumination Area 1,225 m², 545 m², 136 m²

Gas Detection Payload

The TY-TG is an airborne gas detection payload for UAVs. It simultaneously detects temperature, humidity, PM2.5, PM10, CO, SO₂, NO₂, O₃, VOCs, and other gases, with detection accuracy ranging from 0.001 ppm to 100 ppm. Powered by DC 24V and weighing just 0.7 kg, its lightweight design makes it ideal for UAV integration. It is widely used in environmental monitoring, fire inspection, emergency response, and other scenarios, efficiently performing aerial gas detection and environmental inspection tasks.

- Multi-Parameter Simultaneous Detection
- High Accuracy
- Lightweight
- Stable and Reliable
- High-Altitude Operation
- Multi-Scenario Versatility



Model TY-XL	Operating Temperature -10°C ~ +40°C	Detection Accuracy 0.001 ppm ~ 100 ppm
Net Weight 0.7 kg	Dimensions 195 mm × 80 mm × 61 mm (L × W × H)	Number of Gases Detected 10

Release Payload

The TY-XC4 is a professional release payload for UAVs, equipped with four sets of inductive airdrop hooks, each with a maximum load capacity of 3 kg. Items can be loaded without power, and hooks can be manually opened even when powered off. Paired with a dedicated app, it supports individual or one-click simultaneous release. Hook status is transmitted in real time for intuitive and efficient control. It is widely used in emergency rescue, material airdrop, and other scenarios.

- Lightweight
- Four-Hook Independent Control
- On-Demand Release
- Stable Load Capacity
- Multiple Modes
- Multiple Scenarios



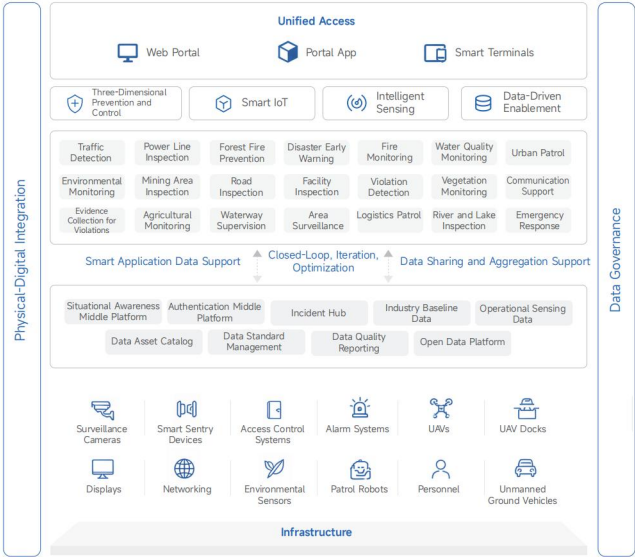
Model TY-XC4	Number of Hooks 4	Release Load Capacity 3 kg per hook
Net Weight 170 g	Dimensions 78 mm × 78 mm × 46.5 mm (L × W × H)	Control Method Supports individual or all-hook release control

UAV Flight Control and Management Platform

The Tianyi UAV Flight Control and Management Platform is an all-scenario intelligent management platform that integrates UAV technology, digital twin, smart IoT, and AI algorithms. It provides integrated solutions for smart cities, park management, transportation, municipal services, and other industries. Through multi-terminal data collection and analysis from UAVs, quadruped robots, surveillance cameras, meteorological sensors, unmanned ground vehicles, and more, it enhances three-dimensional prevention and control, intelligent inspection, and emergency response capabilities. It enables the upgrade from single aerial operations to integrated air-ground-space collaborative management, reinforcing data governance and intelligent decision-making support.



I System Architecture



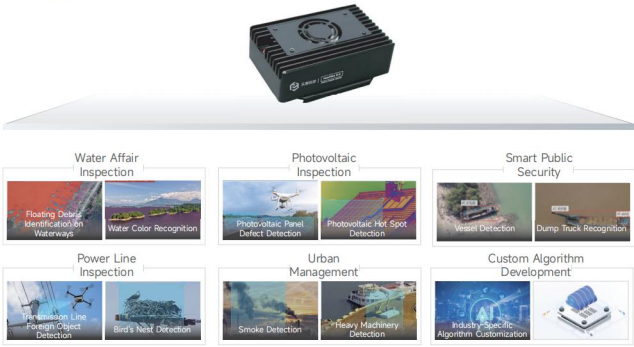
I Product Portfolio



I Business Process



I AI Algorithms



I Industry Applications



02 RESEARCH AND DEVELOPMENT AND OPERATION OF LOW-ALTITUDE LOGISTICS EQUIPMENT

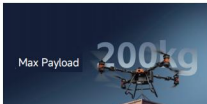
FlyTruck 200L

The FlyTruck 200L is an industrial heavy-lift hoisting UAV. Adopting a quadrotor with eight propellers configuration, it features a rated single motor power of 75 kW, a rated payload of 200 kg, and a maximum takeoff weight of 345.6 kg. The airframe is foldable for convenient transport. It is equipped with a professional hoisting system featuring intelligent sway suppression, emergency release, and ground-triggered release hook, along with millimeter-wave radar, LiDAR, and an FPV zoom camera for omnidirectional precision obstacle avoidance and high-definition video transmission. It is suitable for logistics delivery, emergency rescue, infrastructure hoisting, and other heavy-lift operations, delivering a stable and efficient aerial solution for heavy-load missions.



Model FlyTruck 200L	Emergency Release Supported	Ground-Triggered Release Hook Supported	Max Collaborative Payload (Four UAVs) 600 kg
Symmetric Motor Wheelbase 2783 ± 10 mm	Max Payload 200 kg	Intelligent Sway Suppression Supported	
Overall Dimensions (propellers horizontally unfolded, including parachute) 3812 × 2166 × 900 ± 10 mm (including propellers horizontally unfolded, excluding parachute)	Radar System Equipped with millimeter-wave radar and LiDAR	Hover Time 5.4 min (full load with 3 batteries, 10% remaining power) 20.2 min (no load with 3 batteries, 10% remaining power)	

I Product Features



Max Payload
200kg



Max Collaborative Hoisting Capacity:
600 kg (Four UAVs)



Industrial-Grade Hoisting Rope



Intelligent Sway Suppression



Intelligent Dispatching



Industrial Remote Controller



Ground-Triggered Release Hook



Real-Time Load Weighing



Dual-Control Capability

I Application Scenarios



Mountain / Road & Bridge Infrastructure Construction

Scenario: Hoisting of rebar, cement, formwork, small equipment, and prefabricated components at mountain or canyon construction sites; point-to-point delivery in roadless areas.
Value: Eliminates the need for temporary access roads, protects the ecological environment, shortens project timelines, and reduces costs.



Power / Wind Power Engineering

Scenario: Hoisting of transmission towers, fittings, conductors, and insulators in mountainous areas; transporting wind turbine blades, nacelles, and spare parts to hilltop sites.
Value: Replaces helicopters, reducing costs by approximately 80% and increasing efficiency by roughly threefold, while ensuring safety for high-altitude operations in mountainous terrain.



Emergency Rescue and Firefighting

Scenario: Dropping food, medicine, and rescue equipment in earthquake, flood, or landslide disaster zones; deploying fire hoses and firefighting agents for forest fire response; supplying isolated islands or stranded individuals.
Value: Unrestricted by terrain, rapid response, zero personnel risk, and bridging the 'last mile' of rescue operations.



Agriculture, Forestry, Animal Husbandry, Fisheries, and Rural Logistics

Scenario: Transporting fertilizers and pesticides to mountain farms; moving fresh produce and medicinal herbs down from mountains; transferring livestock feed and breeding equipment; delivering agricultural supplies and daily necessities to remote villages.
Value: Daily transport capacity of over 5 tons, equivalent to the workload of 40 manual laborers, with cost reductions of over 30% and minimized agricultural product spoilage.



High-Altitude / Remote Area Resupply

Scenario: Material airdrops to the Qinghai-Tibet Plateau, Western Sichuan, border outposts, and remote mining areas; transporting medical equipment and life-support supplies at high altitudes.
Value: Maintains full 200 kg payload at 3,000 m altitude without derating, and still carries 140 kg at 6,000 m, overcoming high-altitude transport challenges.



Urban Low-Altitude Logistics and Special Operations

Scenario: Short-distance bulk cargo transport in suburban areas or industrial parks; building curtain wall installation and outdoor unit hoisting; light container transfer at ports and docks.
Value: Bypasses ground congestion, improves urban last-mile delivery efficiency, and adapts to complex urban operational environments.

Tianyi Smart Transport Integrated Management Platform

The Tianyi Smart Transport Integrated Management Platform focuses on industrial heavy-lift operation scenarios including heavy-load hoisting, emergency rescue, firefighting, and infrastructure lifting. It integrates UAV dispatching, real-time monitoring, airspace management, and multi-scenario operation functions, supporting task scheduling, route planning, and multi-UAV collaboration while transmitting core data such as position and payload in real time. It enables intelligent airspace and equipment management, delivering a safe, efficient, and fully traceable low-altitude heavy-lift operation management solution through a visualized interface.



I Core Functions

01
Situation Awareness

Provides real-time, full-domain awareness of the overall operational status of UAVs during low-altitude missions. Based on digital maps, it visually displays flight trajectories for heavy-load hoisting, logistics delivery, and other operations alongside real-time equipment locations. The left panel centrally presents daily task lists including heavy-load operations, emergency hoisting, and infrastructure lifting. The right panel dynamically displays key operational indicators such as airspace meteorological conditions, flight volume statistics, task area distribution, and load operation status. It enables full-process visualization, controllability, and manageability for low-altitude heavy-lift UAV operations, providing operators and managers with integrated scheduling and decision-making support.



02
Airspace Management

Enables refined grid-based division and full-range real-time management of operational airspace, with visual display of available, occupied, and restricted airspace status. Combined with the characteristics of heavy-load hoisting operations, it intelligently plans optimal flight routes to accurately avoid no-fly zones and high-risk areas. It meets safety management requirements for heavy-lift UAVs, improves low-altitude airspace resource utilization, and ensures safe, compliant, and efficient operation throughout the entire low-altitude mission.



03
Flight Cockpit

A dedicated real-time operational monitoring hub for heavy-lift UAVs, supporting one-click switching and full-domain supervision of multiple heavy-lift hoisting UAVs simultaneously. It synchronously streams HD video, flight altitude curves, payload operation status tables, and other core operational data. Tailored for heavy-load scenarios, it integrates safety and emergency commands including emergency stop, forced landing, and manual takeover. It also displays real-time mission details for low-altitude logistics, infrastructure hoisting, and emergency rescue, enabling full-dimensional real-time flight monitoring and emergency response for heavy-lift UAVs.



04
Task Scheduling

A centralized management hub for low-altitude operations, displaying all heavy-load delivery, infrastructure hoisting, and emergency transport tasks. Each task card integrates a thumbnail map, visualized flight routes, and basic task information, clearly presenting takeoff/landing points, operational distance, payload configuration, and other key parameters. Supports fast filtering by task execution status for real-time progress tracking, enabling visualized and centralized management of the entire workflow for low-altitude heavy-load logistics missions.



05
Route Planning

Designs optimal flight paths with support for custom start points, end points, and emergency landing zones. It intelligently calculates flight distance and endurance for heavy-load missions. Provides fine-grained management functions including route activation, deactivation, and editing, supporting parallel scheduling of multiple routes for fleets of heavy-lift UAVs while balancing heavy-load flight safety and airspace constraints to ensure efficient and stable low-altitude operations.



06
Fault Alarm

Monitors the operating status of heavy-lift UAVs and hoisting systems in real time to quickly identify and pinpoint potential faults. Alerts can be filtered by fault type and alarm status, with fault locations visually displayed on maps. It supports safety management requirements for heavy-load operations, helping maintenance teams respond rapidly to emergencies and ensuring safe and stable performance during low-altitude hoisting and logistics delivery missions.



I Product Features

 Full-Chain Integration Integrates core capabilities including UAV dispatching, monitoring, airspace management, and logistics delivery.	 Multi-UAV Collaborative Control Supports real-time monitoring and unified display of status and flight data for multiple UAVs.	 Intelligent Dispatching and Planning Dynamic task scheduling and intelligent route planning to improve delivery efficiency.	 Refined Airspace Management Airspace grid partitioning, real-time monitoring, and no-fly zone compliance control.
 Last-Mile Facility Visualization Real-time display of logistics locker status, compartment occupancy, environmental conditions, and maintenance information.	 Professional Emergency Control Supports safety commands including emergency stop, forced landing, and manual takeover.	 Full-Cycle Task Management Visualized delivery tasks, status filtering, and key information at a glance.	 Data Visualization Cockpit Situational awareness dashboard and flight cockpit for intuitive and efficient operational decision-making.

03

COMPLETE AIRCRAFT AND SYSTEM PLATFORM

Skylark Ultralight Sport eVTOL



Model HF-20	Empty Weight 115 kg	Flight Altitude 0-50 m	Flight Mode Assisted / Standard / Expert
Wheelbase 2.6 m	Max Takeoff Weight 205 kg	Standard Flight Time 40 min	Safety Systems Whole-aircraft parachute / seat airbags / anti-collision vest
Overall Dimensions 2.82 m × 2.82 m × 1.21 m	Max Level Flight Speed 25 m/s	Charging Time 15-minute fast charging	Intelligent Collision Avoidance Warning Adaptive collision avoidance algorithm
Entertainment System Racing Mode / Combat Mode / Challenge Mode			

Core Advantages


High Strength


Low-Drag Design


Panoramic Cockpit


High Redundancy


Modular Design


Quick Battery Swap


Intelligent


Self-Adaptive


High Reliability


Easy to Control

Product Highlights


High-Reliability Airframe Structure Design


Low-Drag Exterior Design


Panoramic Cockpit System Design


Multiple Fault Redundancy


Quick-Release Modular Design


Ejector-Type Quick Battery Swap Technology


Intelligent Obstacle Avoidance and 3D Spatial Management


Aviation-Grade Safety Standards


Adaptive Training Assistance System


Multi-Scenario Adaptability


Independent Quadrotor Eight-propeller Layout


Multi-Sensor Fusion Perception System

Application Areas


Extreme Sports


Flight Experience


Low-Altitude Cultural Tourism


Urban Air Mobility

eVTOL Full Lifecycle Safety Management Platform

24/7 Intelligent Management · Closed-Loop Safety Management

The eVTOL Full Lifecycle Safety Management Platform focuses on full-process safety management of aircraft, integrating core functions including hardware monitoring, club collaboration, flight tracking, and alarm handling. It delivers efficient and precise safety management support for flight operations, enabling administrators to monitor fleet dynamics in real time and mitigate operational risks.

Dashboard: Global Visual Overview

A single-screen overview of club operational core data, with real-time monitoring of aircraft status, reservations, maintenance progress, and alarm distribution. Multi-dimensional data analysis supports operational decision-making.

Aircraft Management: Fine-Grained Multi-Dimensional Management

A five-dimensional health radar chart (flight stability, battery health, navigation accuracy, power system, and electromechanical systems) provides at-a-glance status tracking, flight hours, and maintenance condition.

Flight Management: Full-Cycle Progress Control

A single-screen overview of club operational core data, with real-time monitoring of aircraft status, reservations, maintenance progress, and alarm distribution. Multi-dimensional data analysis supports operational decision-making.

Maintenance Management: In-Depth Traceability of Aircraft Maintenance

Maintenance records are automatically generated before and after each flight. Non-compliant items automatically trigger work orders, with support for manual reporting. Clear accountability and full traceability of progress ensure a complete maintenance records.

Alarm Incidents: Centralized Automated Alarm Handling

Alarms are classified into three levels: critical, warning, and notice. Trend analysis assesses health status, and full alarm history traceability provides data support for maintenance.

Records Management: Behavioral Data for Precision Customer Operations

Unified management of club visitor and member profiles, with complete records of historical reservations, flights, and other activities. Data analysis supports precision marketing and customer relationship management.

Documentation: Efficient Access to Resources for All Aircraft Models

Centralized storage of core technical documentation for all club aircraft models, with categorized management of product manuals, maintenance manuals, driver packages, and other documents, ensuring archived records and traceable references.

eVTOL Flight Control Digital Simulation Platform

Full-Spectrum Simulation · Skill Refinement Through Practice

Built on Unreal Engine 5 (UE5) as the core architecture, the platform integrates high-precision flight dynamics models and a real physics engine to create virtual training environments that are virtually identical to actual aircraft. It delivers a safe, efficient, and cost-effective full-cycle solution for eVTOL flight training.

Precision Physics Restoration

Authentic dynamics and environmental restoration.

Immersive Scene Rendering

Realistic lighting and diverse terrain.

Full-Stage Training Modes

Covers foundational to advanced hands-on training.

Training Data Visualization

Multi-dimensional data dashboards for clear visibility of training outcomes.

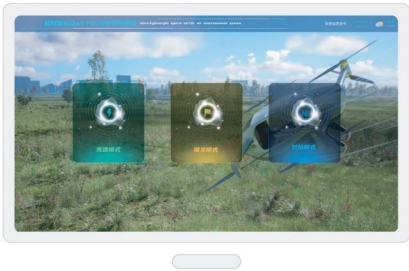
Immersive Simulation Cockpit

Realistic interactive experience with true-to-life cockpit feel.

eVTOL Immersive Flight Arena

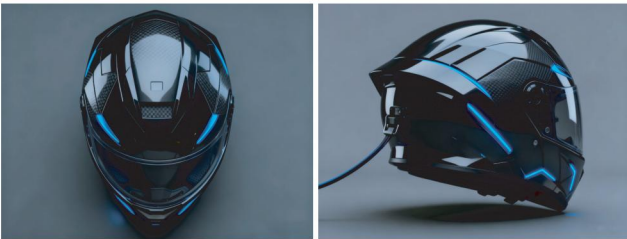
Technology-Empowered Airspace Playground

The eVTOL Immersive Flight Arena leverages the fusion of Augmented Reality (AR) and Mixed Reality (MR) technologies, paired with dedicated head-mounted displays and high-precision spatial positioning systems, to create a seamlessly integrated virtual-real immersive flight entertainment space. Virtual elements are precisely matched with real flight scenarios, turning every flight into an exhilarating cross-reality competitive experience.



Hardware: Smart Head-Mounted Display

Adopting industry-leading smart head-mounted display technology with full-color Micro-LED optical engines and advanced AR optics, it delivers a brand-new aerial entertainment experience through AI+AR multimodal large models and hand-eye interaction.



Software Platform: Entertainment Modes

Racing Challenge Mode – The Ultimate Test of Speed and Precision

Focusing on "dynamic tracks + global competition," it delivers an adrenaline-packed flight racing experience that fully tests piloting skills and reaction time. Includes classic racing and power-up racing.



Mission Challenge Mode – Fun and Training in One

Drawing on classic flight shooting game logic, it builds a progressive challenge system that enhances flight skills through entertainment. Features multi-level stage design, immersive mission experiences, and a skill growth system.



Tactical Combat Mode – Strategic Team Collaboration

Centered on "red vs. blue team battles," it combines flight control with tactical coordination to create an immersive aerial battlefield. Supports 1v1, 2v2, and other flexible match formats. Through spatial positioning and motion capture, it enables virtual ammunition loading, trajectory simulation, and real-time damage assessment. Core gameplay revolves around "base offense and defense," with team members assigned to reconnaissance, breakthrough, and defense roles, testing both individual control and team tactics for a strategic and collaborative experience.



04

LOW-ALTITUDE DIGITAL EDUCATION

Hardware

I UAV Engineering Innovation Training Zone



UAV Swarm Scientific Research Platform NEW

Aircraft Type Indoor Quadrotor Formation UAV	Takeoff Weight Approx. 850 g	Propeller Protection Supports fully enclosed propeller guards
Overall Dimensions 3.5-inch	Airframe Material Carbon fiber plate / engineering plastic / lightweight composite material	Power System Brushless motors + miniature ESCs
Diagonal Wheelbase Approx. 160 mm – 180 mm	Propeller Size 3.5-inch propellers	Battery Type High-rate lithium battery

The UAV Swarm Scientific Research Platform is a compact multi-UAV collaborative platform designed for teaching, research, and demonstration applications. Featuring a lightweight quadrotor structure and fully enclosed propeller guards, it supports GPS-denied indoor positioning, precision hovering, trajectory flight, multi-UAV formation keeping, and formation switching. The system is equipped with ground station software that enables multi-UAV status monitoring, mission planning, coordinated takeoff and landing, and flight data recording. It is suitable for university UAV instruction, multi-agent collaborative control research, swarm algorithm validation, and indoor formation demonstration. With high safety, easy deployment, strong openness, and low experimental cost, it is an ideal platform for indoor UAV formation research and teaching experiments.



Indoor UAV-UGV Collaborative Logistics Platform NEW

Aircraft Type Indoor Quadrotor UAV for Vehicle-UAV Collaboration	Airframe Configuration X-type quadrotor layout	Takeoff Mode Vehicle platform takeoff / ground takeoff
Propeller Size 7-inch to 8-inch propellers recommended	Application Scenarios Indoor logistics delivery, vehicle-UAV collaboration, scientific research experiments, terminal payload delivery	Landing Mode Precision landing on vehicle platform / ground landing
Diagonal Wheelbase 330 mm	Propeller Size 3.5-inch propellers	Airframe Material Carbon fiber plates + aluminum alloy connectors / lightweight composite materials

The Indoor UAV-UGV Collaborative Logistics UAV is a 330 mm wheelbase quadrotor designed primarily for vehicle-UAV collaborative logistics delivery in GPS-denied indoor environments. The UAV can carry small payloads, take off from the unmanned ground vehicle platform, complete short-range aerial terminal delivery, and return to land precisely on the vehicle platform. The system leverages the UGV's LIDAR for indoor mapping and real-time localization, and shares positioning and map data with the UAV, enabling autonomous flight, precision landing, and mission coordination within a unified coordinate system. This product is suitable for warehouses, buildings, laboratories, and indoor delivery verification scenarios, featuring safety, flexibility, expandability, and strong suitability for research validation.

Outdoor UAV-UGV Collaborative Logistics Platform NEW



Aircraft Type Outdoor Quadrotor Logistics UAV	Wheelbase 950 mm	Folded Dimensions 407 × 421 × 459 mm
Product Positioning Logistics UAV Platform	Application Scenarios Outdoor vehicle-UAV collaborative logistics delivery, park distribution, campus delivery, factory terminal delivery	Propeller Size 23-inch
Airframe Configuration X-type quadrotor layout	Unfolded Dimensions 1253 × 1258 × 459 mm	Max Takeoff Weight 10 kg

The Outdoor UAV-UGV Collaborative Logistics UAV is a medium-sized logistics UAV developed on a 950 mm wheelbase quadrotor platform, compatible with modified takeoff and landing platforms of autonomous delivery vehicles. The UAV serves as a mobile airport, responsible for ground transport, takeoff/landing platform deployment, and cargo transfer, while the UAV handles terminal aerial delivery, obstacle-crossing payload transport, and short-distance rapid delivery. With a 950 mm wheelbase, 10 kg maximum takeoff weight, support for 12S high-capacity batteries, and small-package logistics payloads, it can perform automatic takeoff, precision landing, and automatic recovery on the vehicle-mounted platform. This product is well-suited for low-altitude logistics scenarios including industrial parks, campuses, factory zones, and scenic areas, featuring flexible delivery, strong terminal coverage, high vehicle-UAV coordination, and strong commercial validation potential.

I UAV Engineering Innovation Training Products



Tianyi / TY-Theory DE700
Advanced UAV Development
Teaching Platform



Tianyi / TY-Nexpilot 2.0
Onboard Intelligent Computing
Terminal



Tianyi / TY-TheoryDL-01
UAV Power System Testing
Platform (Desktop Version)



Tianyi / TY-RP01
Research UAV Flight Platform

I UAV Assembly and Commissioning Training Products



Tianyi / TY-Basis450
UAV Assembly, Commissioning,
Maintenance & Repair Training
Platform (Multirotor)



Tianyi / TY-Basis400-HVE
Intelligent Aircraft Selection and
Assembly Platform



Tianyi / TY-ContestEDU-IAM450
UAV Assembly, Commissioning,
Maintenance & Repair Training Platform



Tianyi / TY-TheoryWD
UAV Maintenance, Damage Assessment &
Training Teaching Platform



Tianyi / TY-Basis2200
UAV Teaching Platform for Assembly &
Commissioning Training (VTOL
Fixed-Wing)



Tianyi / TY-Tool
UAV Assembly & Commissioning
Practical Training Toolkit

I UAV Industry Application Training Zone



Tianyi / TY-A40
Medium VTOL Fixed-Wing UAV
Flight Platform

I UAV Flight Control Training Zone



Tianyi / TY-Basis1100
Small UAV Pilot License Training
Platform



Tianyi / TY-Basis1500
Medium UAV Pilot License
Training Platform



Tianyi / TY-Pile Test
UAV Electronic Examination and
Evaluation System

Software

"Learning" Platform

"Learning" Low-Altitude Education Resource Sharing Platform is a digital and AI-enabled teaching resource platform built specifically for cultivating talents needed by the low-altitude economy industry in national universities, higher vocational colleges, secondary vocational schools, and technical colleges. Centered on the core concepts of "Sharing, Fragmentation, Restructuring, and AI," the platform provides partner institutions with modular courses, teaching resources, industry information, and other multi-dimensional content.



I Four Core Concepts of the Platform

Sharing

Not limited to Tianyi's own resources — covers courses, equipment, and the latest technologies shared free of charge from leading manufacturers and partner institutions.

Fragmentation

Creates "reusable" resources that can be freely retrieved, edited, and restructured as needed.

Restructuring

Enables rapid construction of school-based courses by seamlessly integrating proprietary resources and open web-based content through an intuitive drag-and-drop interface.

AI

A UAV-specific vertical large model, rather than a general-purpose Q&A system, delivering accurate outputs for aircraft models, operation scenarios, and copywriting.

I Core Value of the Platform

Student Level	Effectively aligns students' practical learning content with real industry needs, providing high-value resources that directly benefit students.
Teacher Level	Supports teaching with rich pedagogical resources, multi-dimensional policy information retrieval, and comprehensive industry reports, enabling flexible school-based course development.
Department Level	Supports the development of program-building outcomes, consolidating years of departmental achievements in program development.

I Platform Resources

01. Tianyi Open Source Course Library

Developed in accordance with national teaching standards, including three major modules — professional basics, core courses, and extended courses — comprising over 40 courses.

Multi-Rotor UAV Flight Control Technology
Presented by: Tianyi Aviation
14 | 14 | 18

UAV Communication and Navigation Technology
Presented by: Tianyi Aviation
36 | 36 | 44

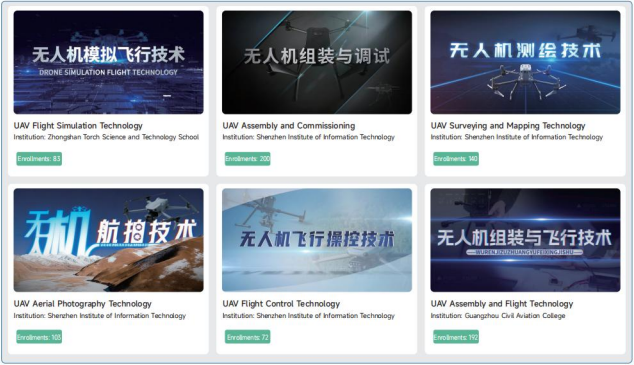
Fundamentals of Aerodynamics and Flight Principles
Presented by: Tianyi Aviation
49 | 49 | 57

Intelligent UAV Inspection of Transportation Infrastructure
Presented by: Tianyi Aviation
59 | 59 | 69



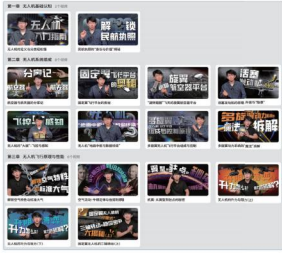
02. School-Enterprise Premium Course Library

High-quality school-based courses uploaded by partner institutions. Currently, over 50 courses from more than 30 partner institutions are available.



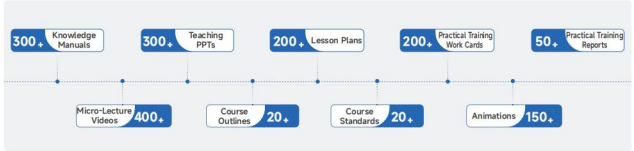
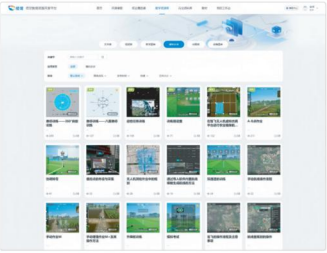
03. "Teacher Liang Talks Aviation"

High-quality school-based courses uploaded by partner institutions. Currently, over 50 courses from more than 30 partner institutions are available.



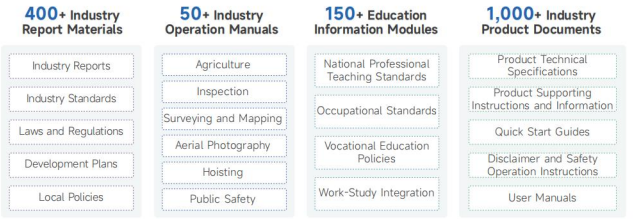
04. Teaching Resource Library

Includes micro-lecture videos, PPT courseware, animations, virtual simulations, and more, covering over 3,000 granular resources that can be flexibly deployed.



05. Industry Database

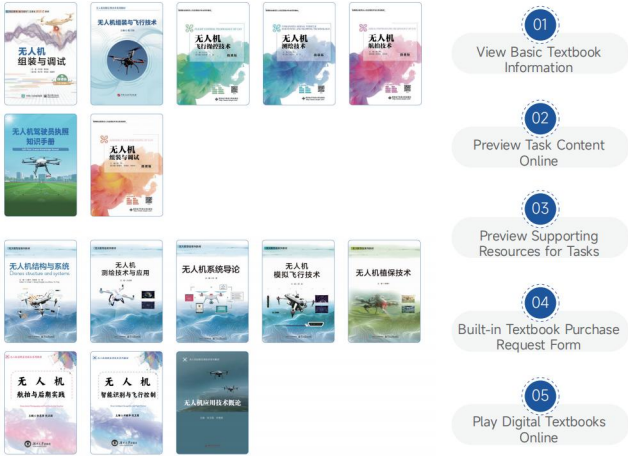
Over 2,000 documents from industry frontlines, including industry reports, regulatory standards, operation manuals, and product technical documentation.





06. Textbook Channel

A one-stop platform exclusively for teachers to browse textbooks, preview resources, and customize purchases.



I Platform Features

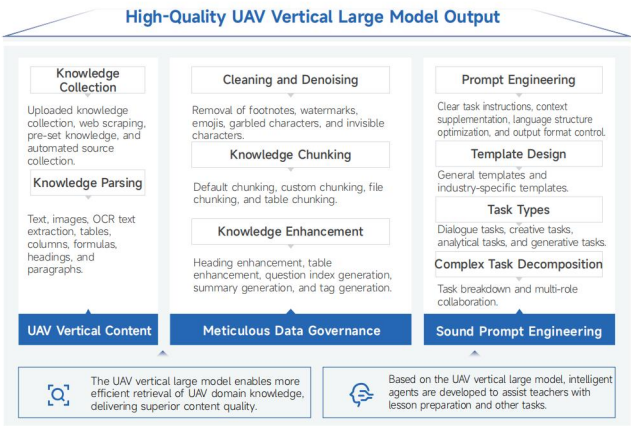
01. Flexible Course Building

A convenient system for PPT editing, course creation, and class management, forming a complete workflow from course reorganization to classroom delivery.



02. UAV-Specific Vertical Large Model

A vertical large model designed to support UAV program teaching needs, capable of generating content for aircraft models, operation scenarios, course outlines, and more.



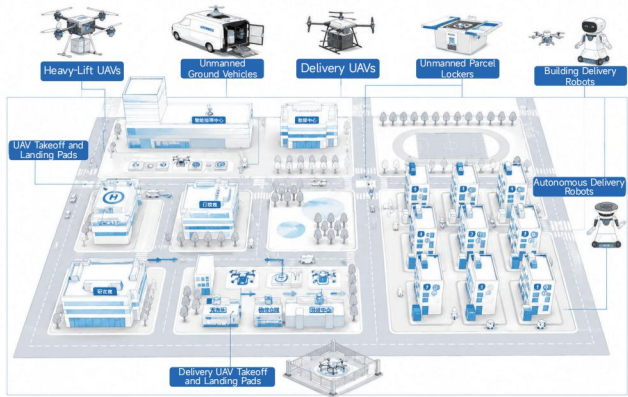
03. Student Mini-Program

Divided into three sections — professional courses, self-study micro-lessons, and industry materials — providing students with accessible learning channels anytime, anywhere.



All-Time All-Space Low-Altitude Logistics Algorithm Simulation Platform

The All-Time All-Space Low-Altitude Logistics Algorithm Simulation Platform is a full-scenario operational simulation training system driven by "UAV logistics missions," with core workflows including scenario simulation, airspace configuration, route planning, and mission evaluation.



I Product Features


Full-Process Coverage


Editable Simulation Environment


Manageable Airspace


Closed-Loop Teaching

I Technical Highlights

- 01

UE + Cesium Full-Domain GIS Digital Foundation
- 02

Route Planning and Multi-Layer Transport Network Modeling Algorithms
- 03

Mission Execution and Autonomous Flight Control Algorithms
- 04

Environmental Factors and Risk Disturbance Algorithms

I Hardware Simulation


Heavy-Lift UAVs


Last-Mile Delivery UAVs


Parcel Lockers


Takeoff and Landing Platforms


AGV (Automated Guided Vehicle)


Forklift AGV


Material Handling Robots


Building Service Robots


Sorting Robots


Unmanned Ground Vehicles

I System Display


System Display


Software Login


Route Verification


Flight Execution

Yifei Digital Intelligent Teaching Management Cloud Platform

The Yifei Digital Intelligent Teaching Management Cloud Platform is the exclusive smart engine for civil UAV license training. It serves as a cost-reduction and efficiency-enhancement tool for training institutions and a certification success accelerator for trainees. The platform breaks through the fragmentation pain points of traditional training by innovatively integrating five core modules—theoretical instruction, practical training, simulated assessment, academic management, and learning analytics—to build a seamless "Teach-Learn-Practice-Test-Evaluate" closed-loop training system and a full-chain training ecosystem. Powered by cutting-edge AI technologies, it intelligently analyzes each trainee's learning gaps, precisely evaluates practical operation standards, and delivers personalized improvement plans. It provides institutions with one-stop management tools including visualized data dashboards, automated academic workflows, and standardized assessment systems. The platform truly enables cost reduction and efficiency gains, moving UAV license training from cumbersome and inefficient processes into a new era of efficient, convenient, and refined smart education.



Trainee Portal

- 01

Extensive High-Quality Course Resources

Covers the complete UAV pilot training syllabus, including 120 micro-lecture videos totaling over 1,000 minutes, 43 sets of PPT courseware with over 1,650 pages, and 43 knowledge manuals with over 1,600 pages and more than 280,000 words, matching all subjects of the civil aviation license examination.
- 02

Blended Learning

Enables self-paced theory and simulation learning online, combined with intensive flight training on-site, achieving an integrated "online learning + on-site instruction" model that ensures solid theoretical grounding and rapid flight proficiency.
- 02

Efficient Practice and Precision Analysis

Features a comprehensive question bank of 1,608 items, supporting sequential, chapter-based, and AI-prioritized practice based on incorrect answers. Provides 100% text-based explanations, 625 practical operation walkthroughs, and 210 video animation breakdowns for multi-modal Q&A support.
- 04

Intelligent Learning Analytics

Aggregates data from theory, comprehensive Q&A, and practical flight training to generate personalized learning diagnosis reports, precisely identifying areas of weakness.

- 05

Simulated Assessment

Simulates the scoring rules, interface, and process of the actual civil aviation license examination, covering all subjects including theory, comprehensive Q&A, practical flight, and ground station operations.
- 06

Industry Application Courses

Adapted for multi-industry application scenarios including agriculture, surveying and mapping, and logistics, matching corresponding training classes and practical requirements.
- 07

Yifei Dictionary Mini-Program – An Efficient Learning Tool

The mobile version supports question practice, simulated exams, learning progress tracking, and personal profile management, making efficient use of fragmented time.

Instructor Portal

- 01

Digital Teaching Management

One-click screen casting, full-screen playback, chapter selection, and real-time homework review create an interactive classroom environment and enhance teaching efficiency.
- 02

Overall Learning Analytics Summary

Provides full-dimension learning data for all class trainees, clearly identifying common and individual issues to support differentiated instruction.
- 03

Trainee Teaching Management

One-click management of class information, trainee profiles, exam categories, and grades, with all teaching data presented at a glance.
- 04

Learning Progress Tracking

Real-time tracking of trainees' theoretical, practical, and simulated exam progress, enabling precise control of teaching pace.

Institution Portal

- 01

Institutional Data Dashboard

Analysis covers revenue, enrollment trends, pass rates, recruitment channels, and trainee industry backgrounds, providing data-driven support for decision-making.
- 02

Class Teaching Management

Supports class creation, session management, student assignment, and grade entry, enabling full-process digital control.
- 03

Intelligent Academic Management

Automates enrollment, scheduling, attendance tracking, tuition registration, and performance target management, delivering cost reduction and efficiency gains.
- 04

Customizable Class Themes and Custom Branding (OEM)

Supports personalized class theme customization and full-platform custom branding (OEM), enhancing institutional brand recognition.

Yifei UAV Virtual Simulation Platform

The Yifei UAV Virtual Simulation Platform is built on high-precision modeling technology and professional-grade simulation flight algorithms, deeply integrated with a top-tier 3D rendering engine. It not only delivers cinematic-grade high-definition visuals but also accurately reproduces the dynamic physical characteristics of UAV flight, including aerodynamic effects and attitude control logic, achieving a level of visual and physical realism that is nearly indistinguishable from actual flight. The platform restores in full detail the complex meteorological conditions and diverse terrain environments of civil aviation UAV license training and assessment. The control feel precisely matches the response and force feedback of real training aircraft, allowing trainees to accumulate practical flight experience without operating physical UAVs. The platform is fully compatible with all aircraft types—multicopter, fixed-wing, VTOL fixed-wing, and helicopter—and supports all license levels including VLOS pilot, BVLOS pilot, and instructor. It truly delivers simulation training value with "one platform for multiple aircraft types and full-scenario coverage."

- 

01 100% Realistic Exam Simulation
Strictly corresponds to civil aviation exam subjects, scoring rules, and procedures, faithfully reproducing on-site exam audio prompts to enhance test familiarity.
- 

02 Scientific Training Curriculum
Backed by 10 years of flight training experience, the platform offers scientifically structured progressive training modules to rapidly advance flight proficiency.
- 

03 Ground Station Specialized Practice
Addresses the common weakness in ground station instruction and examination by offering dedicated ground station operation training and assessment modules.
- 

04 Customizable Question Bank
Supports custom ground station exam question banks, allowing trainees to upload various exercise and test questions for more targeted practice.
- 

05 Learning Progress Evaluation
Real-time updates on trainee simulation progress, combined with AI-powered learning analytics reports to precisely identify weak points in flight operations for focused improvement.
- 

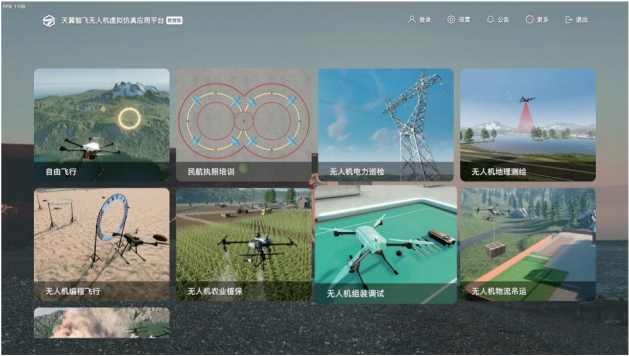
06 Comprehensive Exam Site Familiarization
Includes on-site VR materials covering all exam locations, enabling trainees to familiarize themselves with the test environment in advance. Contact information for exam centers is also provided for convenient scheduling.
- 

07 Customization Support
Supports custom training interface UI and custom training aircraft models, allowing training institutions to build differentiated advantages.

Tianyi Intelligent Flight UAV Virtual Simulation Application Platform

The Tianyi Intelligent Flight UAV Virtual Simulation Application Platform is a professional UAV simulation training software designed for vocational education and low-altitude economy UAV application scenarios. It employs high-precision modeling and advanced flight simulation technologies, integrated with a top-tier 3D engine to deliver cinematic visuals and dynamic physical effects, authentically recreating UAV application environments.

The platform covers four major business areas: UAV teaching applications, simulation flight, industry applications, and simulation research. It includes functional modules such as free flight, civil aviation licensing, power line inspection, geographic surveying and mapping, agricultural plant protection, programming flight, simulation competitions, and assembly and commissioning. It provides comprehensive UAV simulation training solutions for colleges and training institutions, while also offering enterprises a highly business-aligned, user-friendly, and flexibly deployable UAV application skills training system to accelerate talent development and enhance industry application capabilities.



Teaching Applications



Theoretical Simulation



Free Flight



Practical Training Simulation



Civil Aviation Licensing

Simulation Flight



Power Line Inspection



Geographic Surveying and Mapping



Agricultural Plant Protection



Simulation Competitions



Firefighting Drills



Cargo Hoisting

Industry Applications



Assembly, Commissioning and Maintenance



Research Support

02 SOLUTIONS

- Complete Aircraft and System Platforms
- People-to-Terminal
- Digital and Intelligent Low-Altitude Education

01 Complete Aircraft and System Platforms

Tianyi Smart Patrol · Full-Domain Low-Altitude Unified Flight Management Solution

Solution Overview

Built on a full-domain integrated digital foundation, the Tianyi UAV Flight Control and Management Platform consolidates UAV equipment, airspace resources, inspection data, and emergency response workflows across all departments. It breaks down departmental data silos and isolated resources to establish a fully closed-loop low-altitude governance system featuring unified airspace dispatch, unified route planning, unified flight supervision, unified data processing, unified incident dispatching, and multi-department collaborative response. This enables safe and controllable low-altitude flight operations, efficient resource reuse, rapid incident response, and precise and effective governance.

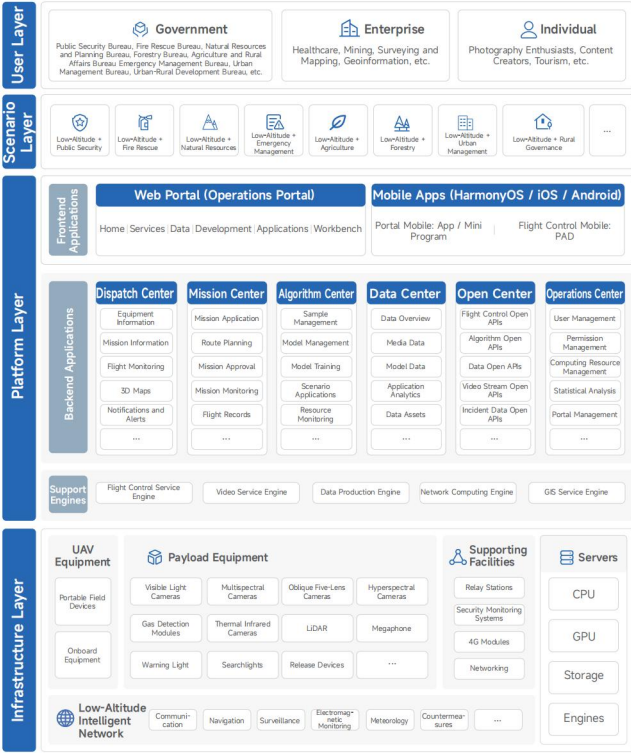


Product Portfolio



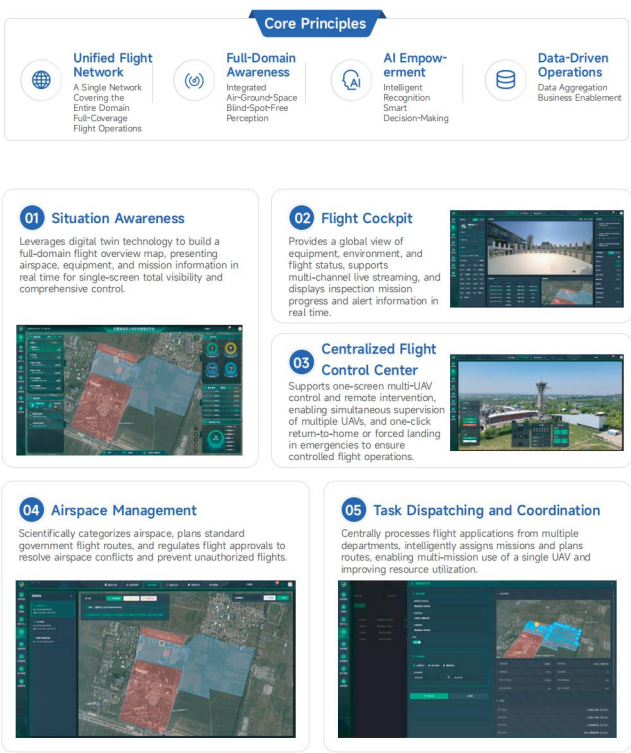
Overall Architecture

Guided by the core principles of "unified flight management across the entire network, full-domain awareness, AI empowerment, and data-driven operations," the system builds a smart government UAV inspection framework with "unified control, unified dispatch, unified data, and unified applications," achieving the goal of "ensuring UAVs can be deployed, managed, and fully utilized."



Core Functional Modules

Guided by the core principles of "unified flight management across the entire network, full-domain awareness, AI empowerment, and data-driven operations," the system builds a smart government UAV inspection framework with "unified control, unified dispatch, unified data, and unified applications," achieving the goal of "ensuring UAVs can be deployed, managed, and fully utilized."



06 Real-Time Monitoring and Early Warning

Real-time audio and video transmission with AI-powered automatic detection of abnormal incidents such as illegal construction, fire hotspots, traffic violations, and crowd gatherings, with second-level alerting and coordinated emergency response.

07 Unified Equipment Management

Provides unified access to various IoT devices, supports mainstream UAV models, and enables centralized dispatch and sharing to reduce idle equipment.

08 AI Algorithm Center

Builds a scalable algorithm repository that loads AI models on demand across scenarios, delivering algorithm-as-a-service and empowering multi-business intelligent recognition.

09 AI Flight Safety Assessment

Automatically pre-evaluates flight risks using multi-dimensional data, identifies potential hazards before takeoff, supports approval processes, and reinforces flight safety.

10 Data Sharing and Analysis

Breaks down cross-departmental data barriers, aggregates low-altitude data for shared analysis, and builds a full-domain low-altitude unified map to support decision-making.

11 Integrated Data Foundation

Aggregates multi-source heterogeneous low-altitude data, eliminates information silos, and provides standardized data services to support upper-level applications.

12 Full-Dimensional Flight Track Playback and Review

Records and preserves complete flight data throughout the mission, supports 3D review and analysis, and facilitates accident tracing and route optimization.

02

People-to-Terminal

eVTOL Flight Camp & Flight Club Solutions

Overall Architecture

Redefining Public Flight Infrastructure

Targeting government entities, urban investment firms, cultural tourism operators, capital investors, and scenic area managers, the solution leverages the core hardware product — the ultralight sport eVTOL — along with three software platforms: the eVTOL Full Lifecycle Safety Management Platform, the eVTOL Flight Control Digital Simulation Platform, and the eVTOL Immersive Flight Arena. It offers two standardized product models: the public experience-oriented Flight Camp and the flagship composite Flight Club. Together, they form a three-in-one low-altitude economy ecosystem of “compliant access — safe flight — intelligent management,” achieving: public participation, institutional profitability, and government oversight.

Development Standards

Flight Camp · Reach for the Sky, Unlocking a New Outdoor Flight Experience

With the sky as the backdrop and the ground as the foundation, the Flight Camp creates an outdoor flight destination integrating aviation, science education, cultural tourism, and leisure — fulfilling every aspiration for the sky, open to all who love flying and nature.

Core Functional Areas

Flight Takeoff and Landing Core Area

Aircraft Maintenance and Support Area

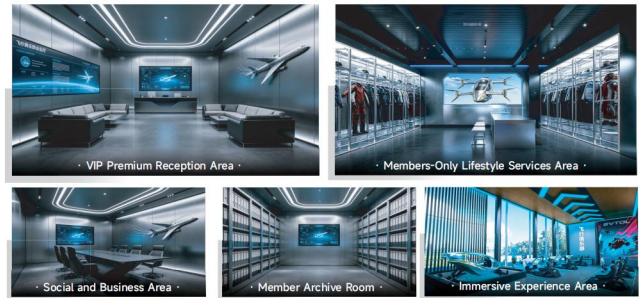
Public Amenities Area



Flight Club · Exclusive Community, Defining Premium Flight Living

Bringing together like-minded individuals through aviation, the Flight Club creates an exclusive private social and premium flight service platform for elite aviation enthusiasts — a space that combines elegance, professionalism, and warmth.

Core Functional Areas



Applicable Scenarios



03 Low-Altitude Digital Education

Academic Program Development and Research

Core I: 7 Major Solutions for Deepening Industry-Education Integration

Tianyi Aviation offers differentiated industry-education integration solutions for undergraduate universities, higher vocational colleges, secondary vocational schools, and technician colleges. Leveraging its industry strengths, the company supports academic program development and jointly cultivates low-altitude industry talent. In response to the Ministry of Education's new low-altitude programs (such as Low-Altitude Logistics Technology and Operations), Tianyi has developed dedicated solutions.



Core II: Undergraduate Academic Program Development Solution for "Low-Altitude Technology and Operations"

Program Specializations

Low-Altitude Aircraft Design and Manufacturing

Training Focus: Novel eVTOL configuration design, integrated aerodynamic/structural flight control optimization, high power-to-weight ratio electric propulsion system integration, and advanced composite material applications and manufacturing.



Low-Altitude Intelligent Autonomous Systems Development

Training Focus: Advanced autonomous flight control algorithms, multi-UAV coordination and swarm intelligence, AI-driven fault diagnosis and health management, and embedded intelligent system development.

Low-Altitude Traffic Management and Safety Operations

Training Focus: UTM system architecture design, low-altitude traffic system operations management, airworthiness certification and maintenance support for low-altitude aircraft, dynamic airspace planning, flight operations risk management, and business model innovation.

• Program Curriculum System

Integrating multidisciplinary fields including aerospace engineering, control science, information and communication, and transportation, the curriculum is designed to meet the talent demands across R&D, manufacturing, operations, management, and regulation within the low-altitude economy industry chain, building a comprehensive curriculum for Low-Altitude Technology and Engineering.



• Professional Research Practice

1. UAV Flight Control Development Practice

Centered on the design and development of UAV flight control systems, this module provides practical training conditions for teaching modules including software-in-the-loop simulation, hardware-in-the-loop simulation, flight control parameter tuning and optimization, Offboard mode autonomous flight, and ground station mission interaction. It supports students through the entire engineering process from flight control design to application validation.

Supporting Course Resources (Partial)

Course Module	Engineering Practice Project	Delivery Format
Platform Familiarization and Safety Protocols	Aircraft Hardware Module Identification and Wiring Familiarization	Theory + Hands-On
	Flight Control Basic Data Reading and Analysis	Hands-On
	Onboard Computer System Resource and Operating Status Monitoring	Hands-On
	Standard Power-On Self-Test Procedure Practice	Theory + Hands-On
	Emergency Response Scenario Simulation	Hands-On
	Safe Takeoff, Landing, and Position Hold Practice	Hands-On
	Environment Setup and Operation Examples	Hands-On
	Simulation Environment Launch and Model Inspection	Hands-On
	Basic ROS Calls and Testing	Hands-On
Communication and Control Interfaces	UAV Real-Time Pose and Status Information Subscription and Parsing	Hands-On
	UAV Basic Motion Control Practice	Hands-On
	UAV Flight Trajectory Dynamic Visualization Implementation	Hands-On
	Offboard Mode One-Key Takeoff Control	Hands-On
	Offboard Mode Autonomous Rectangular Trajectory Flight	Hands-On
	Offboard Mode Autonomous Figure-8 Trajectory Flight	Hands-On
	Waypoint Mission Upload and Execution Practice	Hands-On
	Custom Return-to-Home / Hover Shortcut Button Practice	Hands-On
	One-Key Mission Launch Script Implementation	Hands-On
	Autonomous Takeoff and Landing Simulation Validation for UAVs in Low-Altitude Scenarios	Hands-On
Simulation Systems and Digital Twin	Waypoint Flight Simulation with Obstacle Scenarios	Hands-On
	Multi-Sensor Data Collection and Analysis in Simulation Environments	Hands-On
	Corridor Inspection Scenario Setup	Hands-On
	Doorway Crossing Scenario Setup	Hands-On
	Dynamic Obstacle Avoidance Scenario Setup	Hands-On
	Multi-Round Simulation Task Success Rate Statistics	Hands-On
	Trajectory Error and Velocity Curve Analysis	Hands-On
	Automated Test Report Generation	Hands-On

Course Module	Engineering Practice Project	Delivery Format
Flight Control and Trajectory Tracking	PID Parameter Tuning and Trajectory Performance Comparison	Hands-On
	Tracking Error Comparison Under Different Velocity Commands	Hands-On
	Smooth Acceleration and Deceleration Flight Control Implementation	Hands-On
	Circular Trajectory Generation and Flight Validation	Hands-On
	Spiral Ascending Trajectory Generation and Flight Validation	Hands-On
	Complete Trajectory Stitching for Takeoff – Cruise – Landing	Hands-On
	UAV Takeoff-Cruise-Hover-Return-to-Home State Machine Implementation	Hands-On
	Automatic Switching Between Target Detection and Tracking Modes Practice	Hands-On
	UAV Anomaly Detection and Automatic Safe Landing Practice	Hands-On

*Delivery format is for reference only and should be determined based on the specific circumstances of the program.

2. UAV Intelligent Application Practice

Centered on the deep integration of artificial intelligence and UAVs, this module provides practical training conditions for teaching modules including visual and LIDAR perception fundamentals, multi-sensor fusion localization and mapping, UAV trajectory planning and obstacle avoidance algorithms, and visual recognition and target tracking. It cultivates students' capabilities in developing intelligent applications for low-altitude economy scenarios.

•Supporting Course Resources (Partial)

Course Module	Engineering Practice Project	Delivery Format
Visual and LIDAR Perception Fundamentals	Camera Image Reading and Visualization	Theory + Hands-On
	Stereo Camera Calibration Practice	Hands-On
	Color Block Detection and Center Point Coordinate Output	Hands-On
	Point Cloud Data Real-Time Visualization	Theory + Hands-On
	Ground and Obstacle Point Cloud Extraction	Hands-On
	Local Obstacle Grid Map Construction	Hands-On
	Sensor Timestamp Consistency Configuration	Hands-On
	Camera-to-Body Coordinate System Extrinsic Parameter Configuration	Hands-On
	Data Alignment Performance Comparison and Evaluation Before and After Fusion	Hands-On
Sensor Localization and Mapping	Vision-Based Indoor Hovering Localization	Hands-On
	Position Hold Flight in Indoor Environments	Hands-On
	Indoor Corridor Point Cloud Map Construction	Hands-On
	Prior Map-Based Relocalization Implementation	Hands-On
	Comparative Analysis of Vision and LIDAR Localization Performance	Hands-On
	Robustness Comparison of Sensor-Only and Fusion-Based Localization Under Non-Line-of-Sight Conditions	Hands-On
	Observation of Cumulative Error Elimination in Loop-Closure Trajectories	Hands-On
	Absolute Trajectory Error Evaluation for Multi-Source Fusion Pose Estimation	Hands-On

Course Module	Engineering Practice Project	Delivery Format
Visual and LIDAR Perception Fundamentals	Global Path Planning and Optimization in Maps	Theory + Hands-On
	Online Route Replanning Validation Under No-Fly Zone Constraints	Hands-On
	Multi-Waypoint Automated Inspection Path Generation Algorithm Implementation	Hands-On
	Path Avoidance and Trajectory Replanning Validation with Known Obstacles	Theory + Hands-On
	Real-Time Obstacle Avoidance Response and Route Adjustment Testing Under Dynamic Obstacles	Hands-On
	Safety and Accuracy Comparison Evaluation Before and After Obstacle Avoidance	Hands-On
	Full-Process Implementation of Autonomous UAV Exploration in Unknown Rooms	Hands-On
	Quantitative Statistics of Area Coverage During Unknown Environment Exploration	Hands-On
	Incremental Autonomous Exploration Closed-Loop Control Implementation Based on Boundary Detection	Hands-On
	Multi-Type Visual Marker Detection and Classification	Hands-On
	Target Localization and Annotation Output in Images	Hands-On
Sensor Localization and Mapping	Coordinate Projection of Visual Detection Results to Task Space	Hands-On
	Target Recapture Testing Under Brief Occlusion	Hands-On
	Continuous Tracking Validation of Ground Dynamic Targets	Hands-On
	Full Closed-Loop Implementation of Visual Detection and Tracking	Hands-On
	Visual Servo-Assisted Precision Landing Implementation	Hands-On
	Doorway Crossing Implementation Based on Geometric Center Recognition	Hands-On
	Multi-Marker Sequential Recognition and Task Execution Implementation	Hands-On

*Delivery format is for reference only and should be determined based on the specific circumstances of the program.

Core III: Academic Practice Program Development Solutions for Vocational Colleges

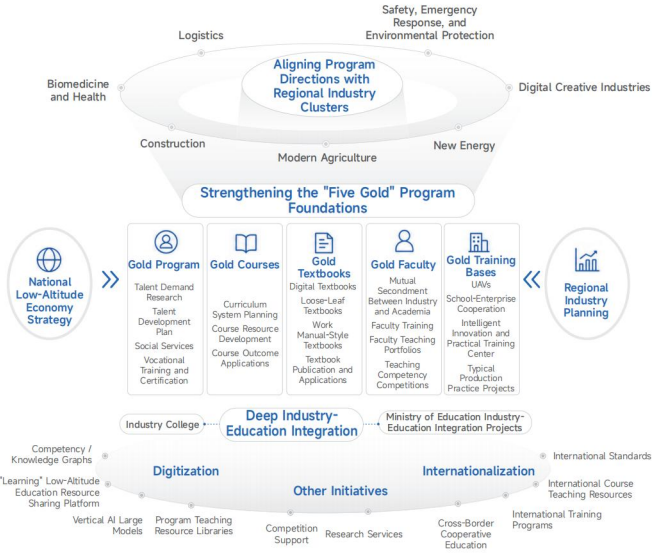
For Higher Vocational Colleges

•Development Context

Guided by the principle of "well-served and well-supported," and in line with the "New Double-High" construction requirements, the program serves the national low-altitude economy strategy. It addresses the needs of regional advanced manufacturing, modern agriculture, and strategic emerging industries, while building on the unique strengths and characteristics of each institution. Through school-enterprise collaboration, low-altitude programs are jointly developed.

•Overall Development Approach

Tianyi Aviation works with institutions to conduct talent demand research, jointly formulate program talent development plans, build curriculum systems, develop digital teaching resources and new-format textbooks, establish high-quality faculty teams, set up UAV intelligent innovation and practical training bases, create Low-Altitude Economy Industry Colleges, introduce the "Learning" Low-Altitude Education Resource Sharing Platform, and support vocational education going global. The goal is to build high-level low-altitude programs with distinctive features, notable industry service outcomes, solid "Five Gold" construction, deep industry-education integration, and international influence.



For Secondary Vocational Schools

Development Context

Seizing the strategic opportunity of the national low-altitude economy, and in line with the "Double Excellence Plan" construction requirements, the approach is guided by the fundamental principle of "serving students' sustainable development." It addresses the foundational and large-scale demand for UAV skilled talent in regional industries, while staying true to the secondary vocational education positioning of "equal emphasis on employment and further education."

Overall Development Approach

Through in-depth industry research, an integrated articulation training model is innovatively developed. Schools and enterprises jointly formulate talent development plans, systematically build a modular curriculum system, develop online premium courses and new-format textbooks, establish a structured "dual-qualified" teaching team, and co-create a UAV intelligent training center and a Low-Altitude Economy Industry College that integrates teaching and training, certification, technical services, and skills competitions. The "Learning" Low-Altitude Education Resource Sharing Platform is fully introduced to drive digital transformation of the program. The ultimate goal is to build a high-quality secondary vocational UAV Operation and Maintenance program with distinctive features, solid outcomes, smooth articulation pathways (between secondary and higher vocational education), deep industry-education integration, strong regional service capacity, and the ability to serve as an exemplary model.

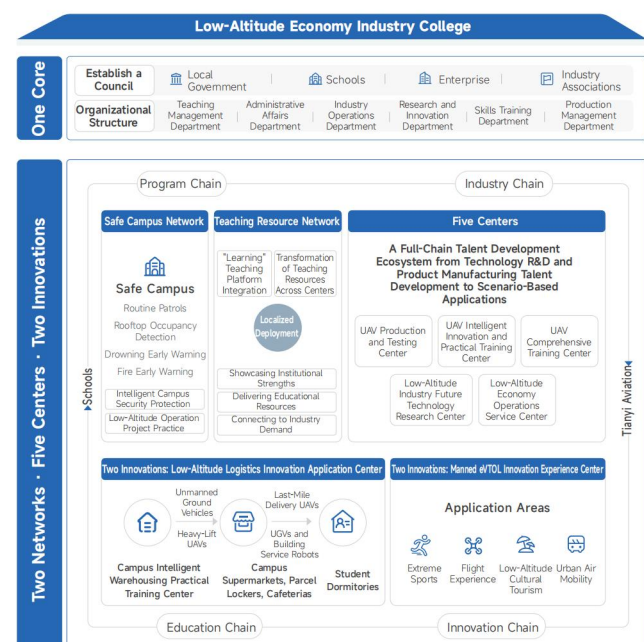


In accordance with the Ministry of Human Resources and Social Security's Implementation Plan for Promoting the Work-Study Integrated Skilled Talent Training Model in Technician Colleges and the Standards for Work-Study Integrated Classrooms, Programs, and Curriculum Development in Technician Colleges, and in light of the current trends in UAV application technology and practical academic program development needs, the approach is centered on "industry-education integration and work-study integration." It forms a distinctive pathway that aligns curricula with job roles and integrates teaching with production, aiming to build domestically leading work-study integrated programs, cultivate high-quality technical and skilled talent for the low-altitude economy industry, provide talent and technical support for regional industries, facilitate industrial chain upgrading, and strive to become a national model benchmark among technician colleges.



- Development Approach

Driven by the low-altitude economy development needs of the region where the institution is located, the solution integrates the advantageous resources of government, school, enterprise, and industry associations. It plans and constructs a framework of "One Core, Two Networks, Five Centers, and Two Innovations," forming a Low-Altitude Economy Industry College that integrates talent development, production and manufacturing, skills training, technological innovation, social services, and demonstration and experience functions.



Expected Objectives

Focusing on low-altitude services and low-altitude applications, the school-enterprise partnership is committed to building a Low-Altitude Economy Industry College with four core functions: "Production, Education, Research, and Training." It aims to establish a collaborative governance model featuring "Government-School-Enterprise-Association" resource sharing, shared responsibility, and mutual benefit.



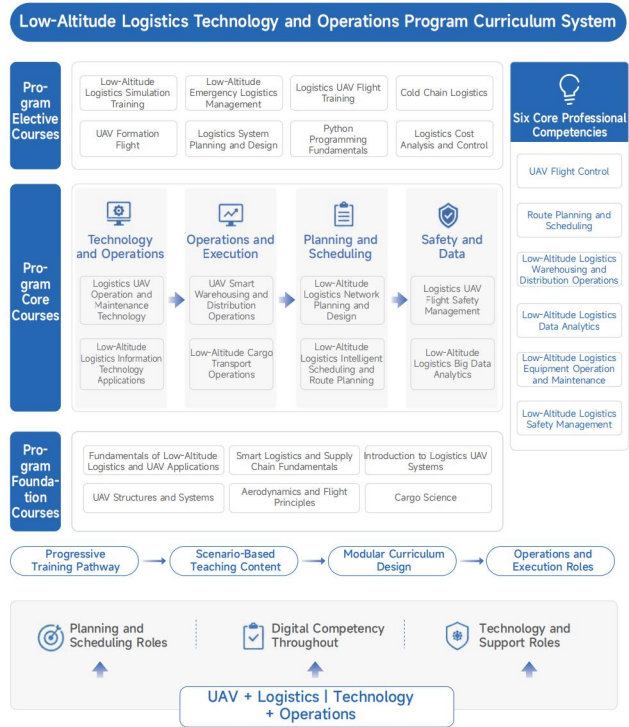
Core VI: Low-Altitude Logistics Technology and Operations
— New Academic Program Development Solution

Solution Overview

Closely aligned with the talent demands of the regional low-altitude logistics industry chain and in line with the "Five Gold" new infrastructure requirements of vocational education, Tianyi Aviation will assist institutions in systematically building a talent development system for the Low-Altitude Logistics Technology and Operations program, ensuring that the new program is established with a high starting point and high standards.

Curriculum System

Tianyi Aviation will assist institutions in building a Low-Altitude Logistics Technology and Operations curriculum system that covers the full chain's critical links — "Technology and Practice – Planning and Scheduling – Safety and Data." Course teaching resources that integrate "theory and practice, online and offline" will be jointly developed.



• Practical Training Base

Leveraging Tianyi Aviation's industry practice and integration capabilities, a Low-Altitude Intelligent Logistics Comprehensive Practical Training Base will be built, covering the entire chain of low-altitude logistics — from technology familiarization and flight training to simulation planning, warehousing and distribution operations, command and dispatch, and data analytics. The base integrates multiple functions including teaching, practical training, training programs, competitions, research, and innovation.

Low-Altitude Intelligent Logistics Comprehensive Practical Training Base



Six Centers: Covering Key Links in Low-Altitude Logistics



Platform: Campus Low-Altitude Logistics Practical Platform



Practical Training Design Logic



Core VII: Micro-Program and Interdisciplinary Integration Development Solution

• Solution Overview

Aligned with the Ministry of Education's "Double Thousand" Plan policy requirements, guided by the urgent need for talent in the low-altitude economy industry, and aimed at empowering the transformation and upgrading of traditional programs, Tianyi Aviation will leverage its school-enterprise cooperation strengths to assist institutions in developing low-altitude-related micro-programs. The goal is to rapidly cultivate versatile, innovative, and practice-oriented talent with low-altitude technology application capabilities.

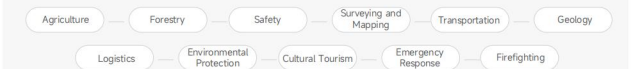
• Development Approach

Building on the traditional strengths of each institution, Tianyi Aviation will support talent demand research, talent development plan formulation, course teaching resource development, practical training environment setup, the construction of a "UAV +" interdisciplinary micro-program training system, and the implementation of blended online-offline teaching across all dimensions, helping institutions build high-quality micro-programs.

"UAV +" Interdisciplinary Micro-Program Training System



Empower the transformation and upgrading of traditional programs.



Leveraging School-Enterprise Cooperation Advantages to Empower Full-Process Academic Program Development



Full-Industry Application-Level Practice Teaching Platform



Core VIII: Textbook and Course Outcome Development Solution

Solution Overview

Leveraging Tianyi Aviation's professional teaching and research team, the solution aligns with flight control, industry application, and core job competencies in the regional low-altitude economy industry chain. Using typical work tasks as the vehicle, it assists institutions in developing "job-aligned, digitally-integrated" courses, creating supporting textbooks and teaching resources, and cultivating signature academic program development outcomes.

Course Development

Program Core Courses

UAV Foundational Teaching Module

Adapted Courses

UAV Assembly and Commissioning
UAV Flight Control
UAV Structures and Systems
UAV Maintenance and Repair
etc.

Competency Development Objectives

Master foundational UAV skills in assembly, commissioning, maintenance, and flight.

Teaching and Practical Training Equipment

UAV Assembly and Commissioning, UAV Maintenance and Damage Assessment Systems, Flight Training UAVs, UAV Virtual Simulation Cloud Platform, UAV Teaching Management Cloud Platform, etc.

Applicable Levels: Technician Colleges / Secondary & Higher Vocational Colleges / Undergraduate Universities

UAV Application Teaching Module

Adapted Courses

UAV Aerial Photography Technology
UAV Agricultural Plant Protection Technology
UAV Inspection Technology
UAV Surveying and Mapping Technology
etc.

Competency Development Objectives

Master skills in industry application areas including aerial photography, plant protection, inspection, and surveying and mapping.

Teaching and Practical Training Equipment

Mavic 3, Inspire 3, T50, T25, MSE, MST, M30T, M350 + H20 / H20T, M350 + PI / LI, DJI Terra, etc.

Applicable Levels: Technician Colleges / Secondary & Higher Vocational Colleges / Undergraduate Universities

Program Elective Courses

UAV Experimental Exploration Module

Adapted Courses

UAV Power System Testing Experiments, UAV Flight Control System Control Experiments, Fundamental UAV Experiments, etc.

Competency Development Objectives

Master UAV-related experimental research methods and system testing skills.

Teaching and Practical Training Equipment

M350, M30T, Power System Experimental Platform, Flight Control Experimental Platform, etc.

Applicable Levels: Higher Vocational Colleges / Undergraduate Universities / Research Institutions

UAV Research and Development Module

Adapted Courses

UAV System Development, UAV Swarm Formation, UAV SDK Development, Python, C++, Linux, ROS, etc.

Competency Development Objectives

Develop relevant competition modules aligned with industry development to promote teaching through competition.

Teaching and Practical Training Equipment

M350, M30T, Secondary Development UAVs, Swarm Formation Systems, System Development Experimental Platforms, etc.

Applicable Levels: Higher Vocational Colleges / Undergraduate Universities / Research Institutions

UAV Skills Competition Module

Adapted Courses

UAV Skills Competition-related content, including but not limited to: UAV Assembly, Commissioning and Maintenance, UAV Applications, UAV Development

Competition Implementation Objectives

Develop relevant competition modules aligned with industry development to promote teaching through competition.

Skills Competition Equipment

T50, T25, M350, MSE, M3T, and other products designated for competition events, etc.

Applicable Levels: Technician Colleges / Secondary & Higher Vocational Colleges / Undergraduate Universities

Types of Supporting Teaching Resources

Course Syllabus

Course Standards

Lesson Plans

Question Banks

Practical Training Work Cards

Practical Training Reports

Teaching PPTs

Micro-Lecture Videos

Practical Operation Courses

2D Animations

Textbook Development

Work Manual-Style Textbooks

Enterprise Work Order Replication

Conversion of Real Production Work Orders and Processes

Operational Flowchart Illustrations

Visual Step-by-Step Guidance for Students

Scenario Simulation

Simulates Real Work Environments at Job Sites

Industry Standard Integration

Deep Integration of Civil Aviation Regulations, Industry Standards, etc.

White Space and Writing Areas

Facilitates Data Recording Form Filling and Note-Taking

3 Approved Textbooks

Loose-Leaf Textbooks

Independent Module Design

Content Organized in Modular, Project-Based Format

Flexible Combination and Assembly

On-Demand Extraction and Reorganization
Adaptable to Different Teaching Needs

Instant Outdated Content Replacement

Replace Obsolete Knowledge Pages Without Full Reprint

Digital Links

Key Skill Points Linked via QR Codes

Durable Design

Sturdy Binder Rings and Paper

6 Published Textbooks

Digital Textbooks

Rich Media Resources

Animations, Videos, Virtual Simulations, 3D Interactive Models, etc.

High Interactivity

Interactive Learning and Assessment with Built-in Online Quizzes

Multiple Functions

Supports Learning Features Including Notes, Highlighting, and Bookmarks

Cross-Platform Compatibility

Supports Use on Computers, Tablets, and Mobile Devices

Data-Driven Operations

Records Learning Data for Precision Teaching Evaluation

50 Institutions Served

20,000+ Teaching Resources Developed



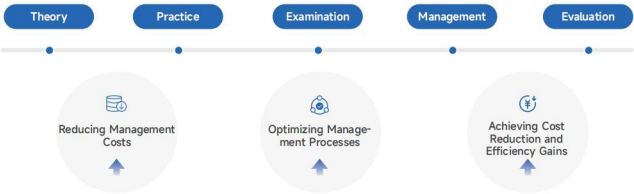
Loose-Leaf and Work Manual-Style Textbooks



Digital Textbooks

CAAC Training Digital Intelligence Solution

The CAAC Training Digital Intelligence Solution is built on policy support and the needs of low-altitude economy development. Addressing the pain points of CAAC training, it establishes a comprehensive training curriculum system centered on the Yifei Digital Intelligent Teaching Management Cloud Platform and the Yifei UAV Virtual Simulation Platform. Covering trainees, instructors, academic staff, and institutions across all ends, it provides integrated services in theory, practice, examination, management, and evaluation, building an all-encompassing "Trainee-Instructor-Academic-Institution" intelligent system. It helps institutions break through the dual constraints of rising costs and human resource bottlenecks, reshaping core competitiveness in the low-altitude economy era.



The solution features a vast repository of high-quality teaching resources and a comprehensive question bank. Based on this system, trainees can complete theoretical and simulation learning online through realistic virtual flight scenarios and full-coverage UAV exam preparation, while conducting intensive on-site flight training to achieve solid theoretical grounding and rapid proficiency with different aircraft types. It realizes a closed-loop "Theory-Practice-Examination-Management-Evaluation" service model, improving teaching quality and pass rates while also helping training institutions effectively reduce management costs, optimize workflows, and achieve cost reduction and efficiency gains.



Value Advantages

Through a three-in-one model of "self-learning empowerment + online efficiency enhancement + high pass rates," the solution builds differentiated competitiveness. It meets the personalized learning needs of trainees while enabling institutions to reduce costs and improve efficiency, ultimately gaining market recognition through outstanding results and driving sustained brand growth.

Encouraging Self-Learning to Improve Teaching and Training Efficiency

- Flexible Learning Modes** | A diverse range of learning resources and self-paced learning pathways are provided, allowing trainees to arrange their study according to their own progress and make better use of their time.
- Intelligent Assistive Tools** | Leveraging AI technologies, the system intelligently supplements learning content, automatically detects weak areas, and delivers targeted reinforcement training to enhance learning outcomes.
- Interactive Teaching** | Through online discussions, real-time Q&A, and simulated exercises, trainees are more engaged, self-directed learning motivation is stimulated, and teaching efficiency is optimized.

Online Operations for Effective Cost Reduction

- Automated Management

Scalable Coverage

Environmentally Friendly and Sustainable

Digital systems are used to complete enrollment, scheduling, attendance tracking, and assessment processes, reducing manual management costs and improving operational efficiency.

The online model allows for easy expansion of service scope to reach more trainees, achieving diminishing marginal costs and improving overall profitability.

Reduces resource consumption associated with on-site training — such as accommodation, meals, and transportation for trainees — lowering operational costs while embracing green principles.

High Pass Rates to Build Industry Reputation

- Precision Teaching System

Dual Guarantee of Expert Instructors and Technology

Brand Image Enhancement

Based on historical exam data and trainee feedback, the curriculum is continuously optimized, with a focus on high-frequency test points and difficult areas to improve pass rates.

Industry-leading senior instructors, combined with intelligent question banks and simulation exam systems, help trainees prepare efficiently and achieve significant performance improvements.

Through trainee success stories and real data, brand credibility is established, attracting more potential users and creating a virtuous cycle.

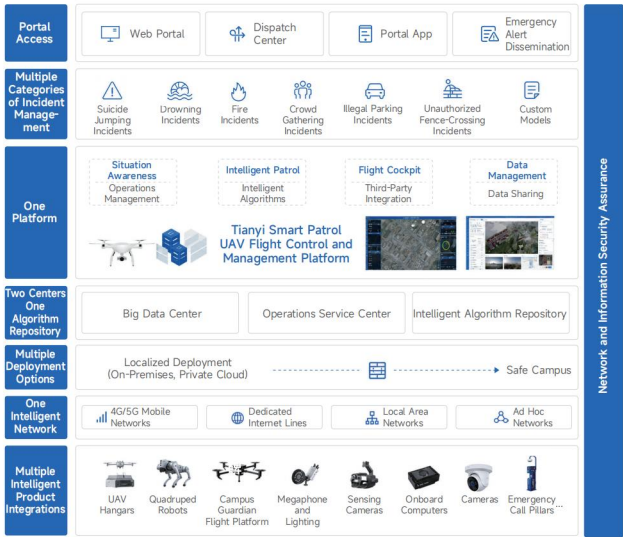
Safe Campus

The Safe Campus Professional Scenario Solution employs UAV hangars and quadruped robots as terminals, combined with the Tianyi UAV Flight Control and Management Platform to achieve 24/7 automated patrol operations. The system integrates AI algorithms to efficiently prevent and respond to campus security issues, addressing the shortcomings of traditional campus security systems. It provides solutions for campus perimeter alerting, incident security, routine round-the-clock patrols, campus fire early warning, and hazardous incident alerting, effectively enhancing the school's overall monitoring capabilities and emergency response level.

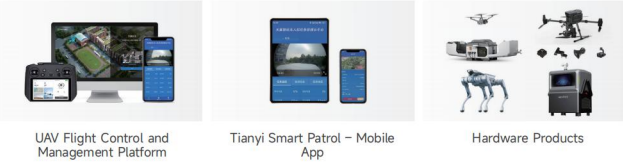
Traditional Security Pain Points and Solution Efficiency Improvements

Traditional security systems have many limitations, including numerous blind spots and slow response times with manual/fixed cameras; low efficiency and delayed information transmission in manual patrols; reliance on post-event video review without proactive risk identification; low nighttime recognition rates with easily missed critical details; and low data collection accuracy with untimely transmission. This solution reduces blind spots by 90%, achieving full-area coverage without dead ends; improves emergency response efficiency by 8-10 times; increases risk identification capability to 85%; raises nighttime anomaly recognition rates from 45% to 80%; and boosts security decision-making efficiency by 200%.

System Architecture

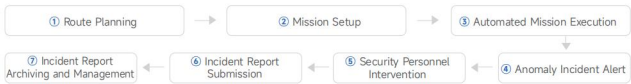


Core Components



• Intelligent Patrol Process and Core Functions

1) Closed-Loop Patrol Process



2) Core Functions

Situation Awareness
Panoramic equipment status monitoring with support for 2D/3D map switching.

Flight Cockpit
Simplified remote control cockpit enabling easy management by non-specialists.

Data Management
Big data analysis, classification, and archiving to improve operational management efficiency.

Operations Management
Alert management, task assignment, access control, and shift optimization.

Intelligent Patrol
Multi-route, multi-mission, multi-UAV coordination to comprehensively enhance patrol efficiency.

Equipment Management
Remote equipment monitoring, fault alerts, and optimized resource utilization.

Real-Time Preview
Real-time preview of multiple video streams with picture-in-picture support for multi-zone monitoring.

Integrated Management
Integrated area control, permission management, and flexible permission assignment.

Mobile App
Mobile app for real-time monitoring and intelligent alarm handling to ensure safe UAV operations.

3) AI Algorithms (Campus Scenarios)

01 Illegal Parking Incidents
Campus illegal parking data collection, transmission, and rapid processing to improve campus traffic safety.

Vehicle: 82.15%
person: 0.00%

02 Rooftop Occupancy Incidents
Rooftop personnel detection and anomaly alerts to ensure campus safety.

person: 80.77%

03 Unauthorized Fence-Crossing Incidents
Detection of fence-crossing behavior to prevent unauthorized entry and exit.

04 Drowning Incidents
Water area patrols, personnel detection, and rapid alerts to ensure safety.

05 Crowd Gathering Incidents
Monitoring of campus crowds and density analysis to prevent gathering-related incidents.

person: 49.85%
person: 69.50%
person: 77.35%
person: 71.37%
person: 43.50%
person: 60.86%

06 Fire Incidents
Campus fire detection, timely alarms, and real-time scene transmission for rapid response and safety assurance.

03 SERVICE AND SUPPORT

Xi'an Tianyi is an officially authorized CAAC unmanned aircraft pilot license examination center. As the Shaanxi 03 Examination Center, it has been deeply engaged in the CAAC UAV license training industry for a decade, with solid expertise, extensive experience, and a well-established, standardized professional teaching system. The examination center is equipped with compliant theory classrooms and standard practical training grounds, strictly aligned with CAAC official assessment standards. It delivers precise theory instruction, practical training, and pre-exam intensive sessions. Leveraging years of educational advantages, the center has in-depth knowledge of the national application process and exam key points, maintaining consistently high pass rates. It provides a one-stop closed-loop service covering registration consultation, systematic training, and certification, ensuring efficient, standardized, and professional support to help trainees easily obtain the nationally recognized CAAC UAV pilot license.

CAAC License Training Services

UAV Training Base Distribution Summary



8 Provinces



11 Training Bases



4 Examination Centers



500+ Clients

Dual-Qualification UAV Training · CAAC License Examination Center



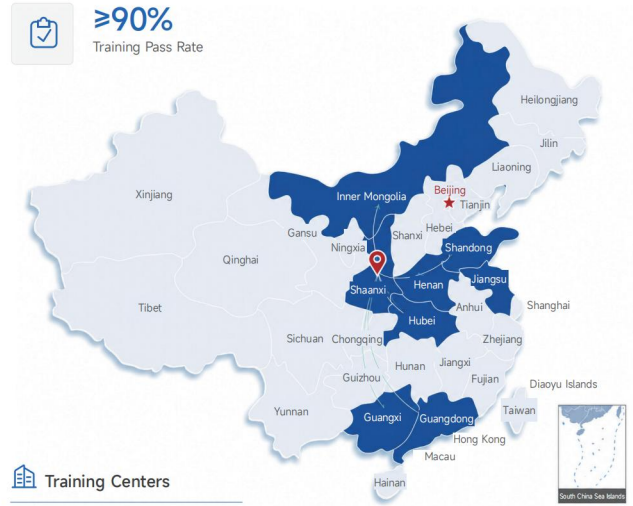
04 SUCCESS STORIES

Training Achievements

 **20,000+** Trainees
Cumulative Training

 **3,500+** Trainees
2025 Total Training Volume

 **≥90%**
Training Pass Rate



Training Centers

- Shaanxi · Guangdong · Guangxi · Henan
- Jiangsu · Inner Mongolia · Shandong · Hubei

01

ONE

Complete Aircraft and System Platforms

Qinling Mountains Environmental Protection

UAV Hangar Smart Inspection Project

- Project Scope

 - Deployed a UAV hangar-based smart inspection system for the Qinling Nature Reserve.
 - Networked UAV smart nests integrated with multi-function sensors.
 - Established an intelligent UAV inspection operation management system.
- Project Value

 - Unattended 24/7 continuous patrol flights.
 - Provided dispatch command, airspace application, data analysis, and maintenance support services for various departmental operations.
 - Enabled scenario monitoring in water resources, environmental protection, emergency response, and other fields.
 - Achieved comprehensive governance across the covered area.



Shaanxi Provincial Transportation Control

"Air-Ground Integrated" Smart Inspection Project

- Project Scope

 - Built an intelligent UAV inspection system for Shaanxi Province's expressway network.
 - Deployed 8 hangars along the Xi'an-Baoji Expressway as a pilot, enabling 24/7 intelligent UAV patrols.
 - Leveraged UAV task scheduling, AI-powered intelligent analysis, and issue tracking to deliver smart service assurance.
- Project Value

 - Improved inspection efficiency: 24/7 UAV patrols significantly increased expressway monitoring frequency and efficiency.
 - Enhanced safety and emergency response: timely detection and handling of anomalies accelerated response times.
 - Promoted intelligent management: AI analysis and task scheduling optimized resource allocation and advanced expressway digitalization.



Wudang Mountain Tourism Administration

Aerial Material Resupply Platform Project

- Project Scope

 - Established low-altitude transport routes within the scenic area.
 - Created an exclusive aerial material resupply system for the Wudang Mountain scenic area.
 - Established a scenic area emergency response system.
- Project Value

 - Improved management efficiency, reduced ground dependency, and accelerated material resupply.
 - Strengthened emergency response capabilities, ensured visitor safety, and enhanced the overall visitor experience.



02

TWO

Industry Operation Services

Changqing Oilfield Seventh Oil Production Plant UAV

Intelligent Production & Construction Inspection Project

- Project Scope

 - Pipeline inspection services.
 - Deployed an intelligent UAV management platform.
- Project Value

 - Enabled daily patrols of key areas including well sites, oil and water wells, stations, and pipelines.
 - Significantly improved patrol accuracy and efficiency while reducing safety risks for patrol personnel.
 - Accelerated the digital transformation of traditional enterprises.



Communist Youth League 100th Anniversary May 4th Youth Day UAV Formation Performance

Project Scope

- To celebrate the 100th anniversary of the founding of the Communist Youth League, the team presented a spectacular UAV formation performance using high-tech means at Xi'an Daming Palace National Heritage Park.
- Fleet size: 300 UAVs.

Project Value

- Enhanced the cohesion and influence of youth league organizations and promoted the innovation and development of youth culture.
- Effectively conveyed positive energy and strengthened public patriotism and cultural confidence.



International Teaching Resource Development – Xi'an Aeronautical Polytechnic Institute

Project Scope

- Jointly developed a Chinese-English bilingual textbook project with Pakpasa Technical College in Laos, producing 6 textbooks and supporting course resources, including UAV Assembly and Commissioning.

Project Value

- Effectively improved teaching quality and met the demands of internationalization in UAV education.
- Engaged in cross-border research projects to jointly advance UAV technology development.
- Supported higher vocational education development in Belt and Road countries, jointly cultivating skilled talent.



03 | Education and Research

UAV Industry College Development – Shenzhen Institute of Information Technology

Project Scope

- Established an industry-college-research-training integrated specialized UAV Industry College, including practical training labs for UAV/industry applications, virtual simulation, assembly and commissioning, and hands-on flight training.

Project Value

- Enhanced teaching quality and strengthened students' employability.
- Guided by industry development needs, introduced advanced equipment and teaching resources to cultivate high-caliber talent.
- Adapted to local development needs and promoted regional economic growth.



National Teaching Resource Development – Shaanxi Institute of Technology

Project Scope

- Developed national and provincial-level UAV application technology teaching resource libraries, including standardized courses, industry resources, and enterprise case studies.

Project Value

- Enhanced the practicality and forward-looking nature of education through real enterprise cases and the application of the latest technologies.
- Strengthened the institution's educational advantages in the UAV field through customized courses and practical projects.
- Cultivated technical talent aligned with industry needs, enhancing the institution's reputation and industry influence.

