



ARCHIMEDES INNOVATION TECHNOLOGY CO., LTD.



Positioning



Perception



Control

Accelerating Global *Autonomy* & *Intelligence*



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01

PART ONE



ABOUT US



About Us

Accelerating Global Autonomy & Intelligence

We come from the **positioning and navigation, automatic control, and sensing communication industries**.

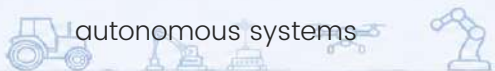
We share the same philosophy, dedicated to freeing people from repetitive, tedious, and hazardous tasks, aiming to revolutionize production and daily life.

We provide comprehensive positioning and perception solutions across various industries, offering an intelligent "brain" to support production autonomy.



Industry Coverage

Serving multiple industries including agriculture, surveying, robotics, and autonomous systems



Technology Development

Integrating GNSS, control algorithms, and sensing technologies to build intelligent systems.



Future Vision

Driving the upgrade of production automation and building a smarter, more efficient future.



Vision

- Making life safer, more comfortable, and healthier

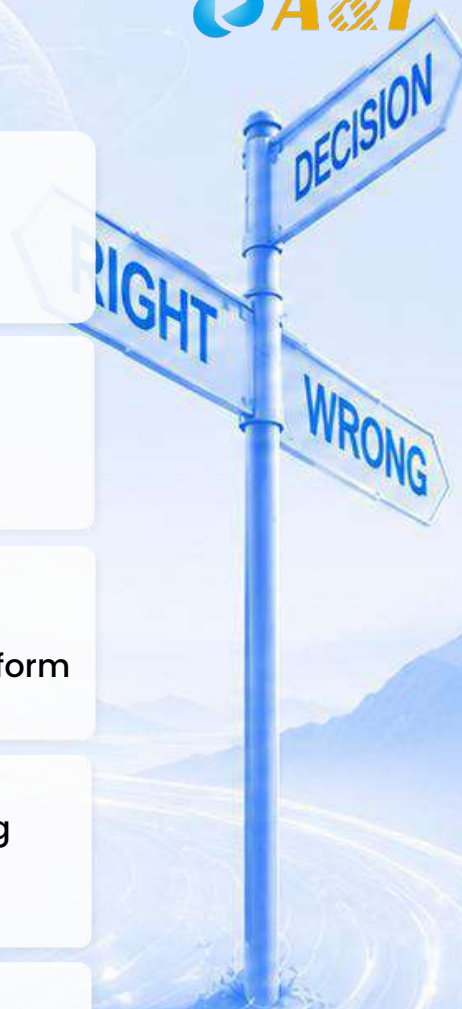
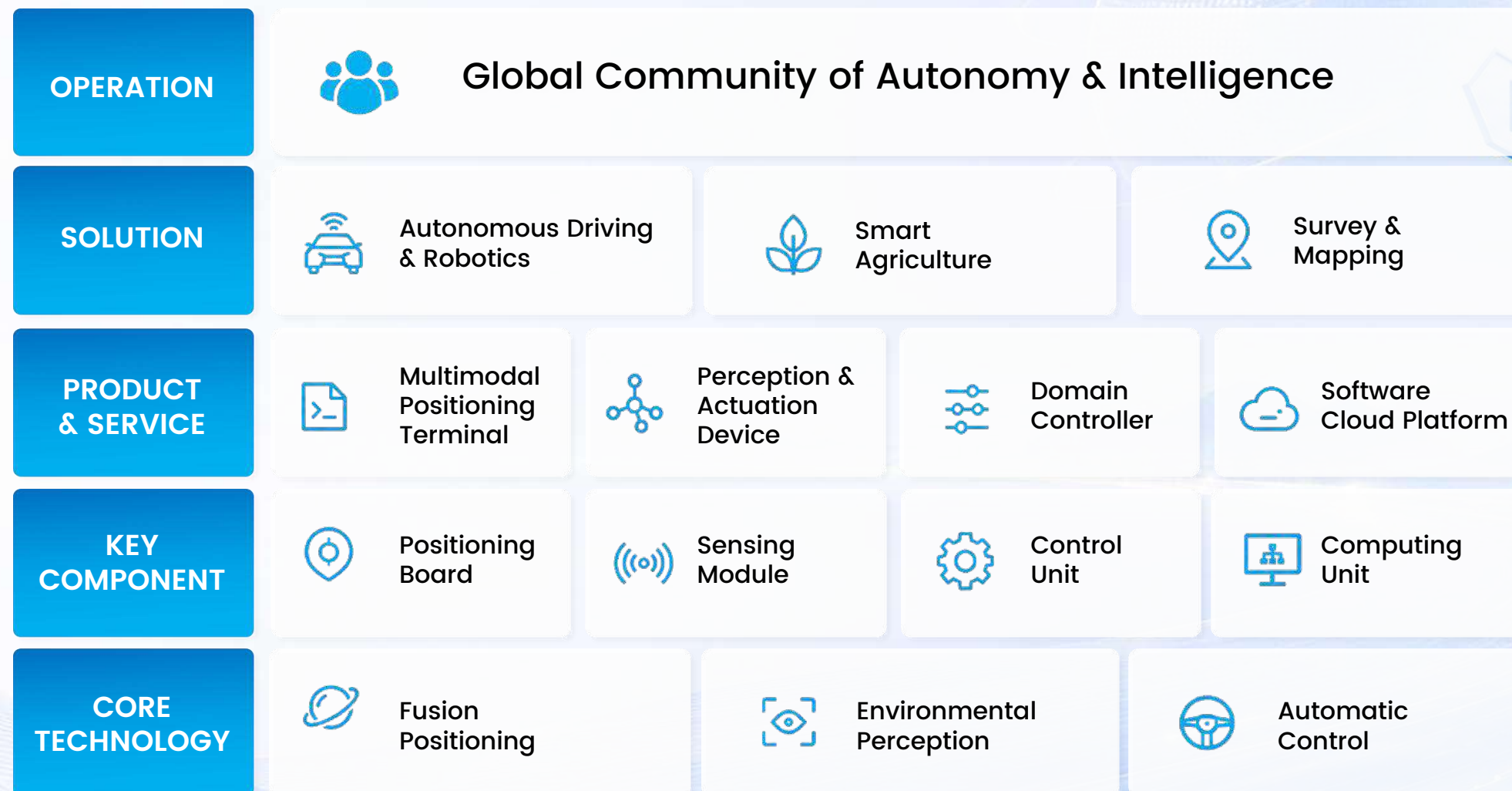
Mission

- Accelerating Global *Autonomy* & *Intelligence*

Values

- Enjoy competition and strive for excellence.
- Courage to tackle challenges hands-on.
- Embody protagonist spirit and stay motivated.
- Reject bureaucracy, focus solely on problem-solving
Maintain efficiency and sustainability.
- Work with passion, love what you do, have fun.

COMPANY ORIENTATION



02

PART TWO

**AUTONOMOUS DRIVING
& ROBOTICS**

M992-INS

Navigation Board



- Seamless calibration, plug-and-play
- WEBUI - easy to configure and monitor the receiver
- PTP time synchronization, output up to 1000Hz
- Convenient and quick query and configuration
- Support various platforms including vehicle, airborne, maritime, and ultra-low-speed carriers

PBOX

Tightly Coupled Receiver



- Automotive-grade Design
- Redundant Backup Algorithm Engine
- Rich Peripheral Interfaces
- Scene Optimization
- 4G & UHF Version available

SHOWCASE - M992-INS & PBOX



Heavy Load AGV



Stable high-precision positioning in **STRONG MAGNETIC** environment



Reliable performance under heavy load



Key “**stands up**” because of strong magnetic



Equipped with **A&I PBOX**

SHOWCASE – M992-INS & PBOX



Boat/ Fleet Automation



Continuous, accurate positioning
– even with multi-path effects



Stable heading for smooth,
predictable navigation



Reliable performance over
long-distance operations



Equipped with
A&I PBOX



SHOWCASE – M992-INS & PBOX



Photovoltaic Cleaning Robot



Boom-type

Precise Path Planning, Stable all-weather operation



Distributed-type

Precise positioning & attitude control, anti-fall protection

SHOWCASE – M992-INS & PBOX



Robotic Feed Pusher



Adaptable to
complex ranch
environments



Smooth attitude
control at low
speed



DOMAIN CONTROLLER & SENSOR



- Selectable computing power
- Extensive sensor and I/O interfaces
- Low power consumption
- Support complex scenarios: V2X roadside perception, robotics, and intelligent driving and operations for vehicles



Autonomous Freight Vehicle



High-performance central computing supports full-scenario autonomous decision-making for freight vehicles.



Redundant safety design guarantees reliable operation under harsh and complex road conditions.



Prolonged fault-free and reliable operational performance



03

PART THREE

PRECISION AGRICULTURE

AUTOSTEERING SYSTEM – SYSTEM COMPONENTS



ASteer Autosteering
controller



Camera



SPRING2 10
Tablet control terminal



AWheel Electric
steering wheel

AUTOSTEERING SYSTEM – COMPATIBILITY



Multiple Adapter Options

Support various steering interfaces

Spline sleeves



Brackets & mounts



Multiple Agricultural machines supported



Front-wheel steer tractors



Rear-wheel steer tractors



Articulated tractors



Rice transplanter



Native Fit Design

Seamless integration with tractors



Custom Solutions

Tailored for specific requirements

95% Compatibility

Install in **20 Minutes** Ready to Work



Install



Calibrate



Working

01

Install

Quick setup on existing tractors

02

Calibrate

Simple and guided calibration

03

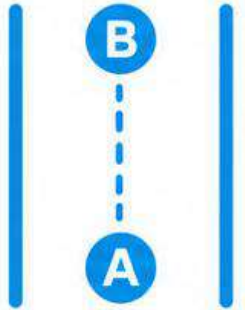
Working

No professional skills required

AUTOSTEERING SYSTEM - WORKING MODES



01



AB line

02



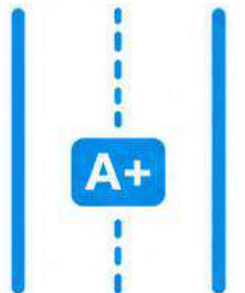
Circular
Curve

03



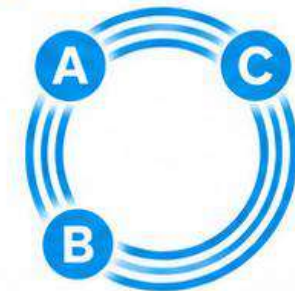
Free Curve

04



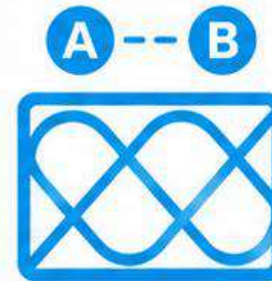
A+ line

05



Circular
Curve

06

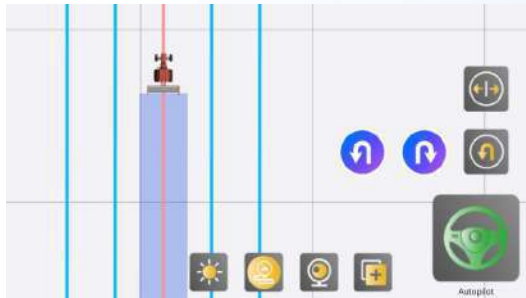


Diagonal line

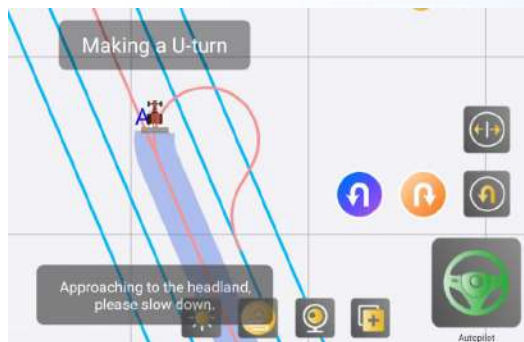
AUTOSTEERING SYSTEM – AUTO U-TURN



Auto type

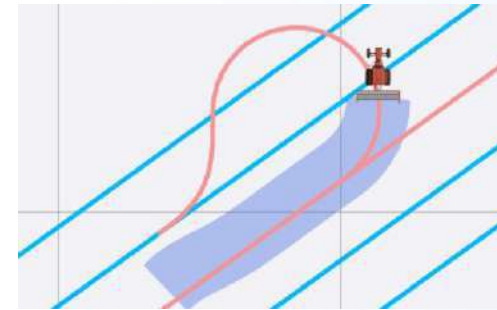


Auto U-turns
after **one click**

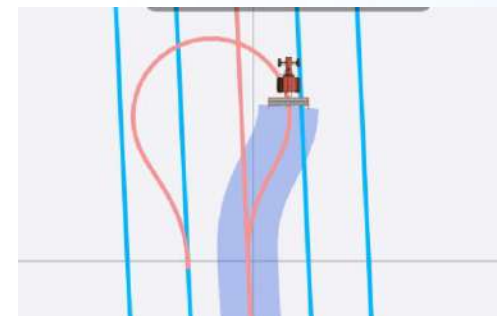


Auto U-turns
after **approaching headland**

U-turn type



Normal turn



Bulb turn

AUTOSTEERING SYSTEM – SLOPE OPERATION



Slope Operation Capability

Both **Longitudinal** grade and **cross** grade are up to **10** degree



Longitudinal Slope

10°



Cross Slope

10°



✓ Technical Features

- > IMU Compensation for Attitude Changes
- > Adaptive Slope Compensation Algorithm
- > Stable Straight-Line Tracking
- > Automatic Steering Angle Adjustment

Application Scenarios



Hilly Terrain

Suitable for operations in rolling terrain with frequent slope changes



Terraced Fields

Ideal for precision operations in stepped farmland



Sloped Farmland

Efficient operation on inclined agricultural land



Complex Terrain

Designed for irregular and challenging field conditions

AUTOSTEERING SYSTEM – WIDE SPEED RANGE



Ultra-Speed

0.1 km/h



High-Speed

20 km/h



operating speed: **0.1** km/h ~ **20** km/h

Speed ratio: **200**×

AUTOSTEERING SYSTEM – ADAVANTAGES



2.5_{cm}

Pass Accuracy

RTK-level guidance precision
keeping you on line every pass



85%

Overlap Reduction

Dramatically fewer duplicate
passes, saving seed, fuel &
chemicals



6%

Input Cost Savings

Direct reduction in fertilizer,
chemical and fuel expenditure



30%

Efficiency Gain

More acres covered per hour with
less operator effort



Fast ROI

Reduced Input Costs	6%
Lower Fuel Consumption	8%
Improved Operational Efficiency	30%
Reduced Labor Costs	25%



Lower Operator Fatigue

Autosteering reduces physical and mental
strain during long field days

AUTOSTEERING SYSTEM – FIELD WORK APPLICATIONS



Plowing



Seeding



Spraying



Harvesting



AUTOSTEERING SYSTEM – GALILEO HAS



Supports **Galileo HAS (Free PPP)** with **10cm** accuracy



No RTK base station
Eliminate hardware costs



No Network Required
Works anywhere, anytime



Single Device Operation
Simple and efficient setup

AS10 with HAS



Base Station:
Free



Subscription:
Free

VS

Traditional RTK



Base Station:
\$2000–3000



Subscription:
Subscription monthly

REFERENCE STATION



ARS20 Mobile Station



- Up to 20km Coverage (based on environment)
- All-day battery operation
- Ultra-fast RTK start-up
- Field-rugged IP68 design

ARS30 Fixed Station



- Season-to-season repeatable guidance
- Farm-wide RTK reference infrastructure
- Stable signal and power for 24/7 operation
- High-stability antenna for long-term accuracy
- Network-ready: single base to VRS expansion

04

PART FOUR

SURVEYING & MAPPING

GEODETIC GNSS RECEIVER WITH LASER – AL16



AL16 – Laser RTK

Geodetic-grade GNSS receiver integrating GNSS, IMU, camera and laser ranging technologies (IP68).



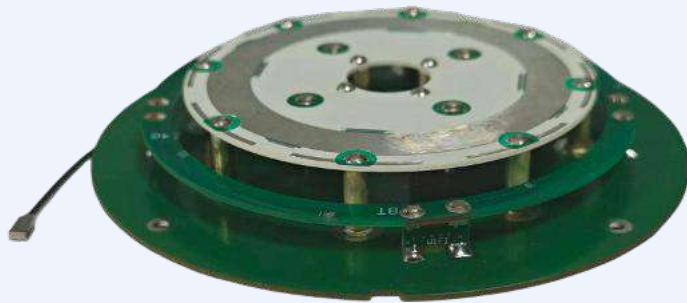
AL16 – HIGH FREQUENCY PCB ANTENNA



High Frequency PCB Antenna



VS



Low-cost Air-dielectric Antenna

High Frequency PCB Antenna features:

-  **More stable phase center**
(higher accuracy)
-  **Superior full-frequency performance**
(stronger signal)
-  **Better feed consistency**
(stronger antielectromagnetic interference capability)
-  **Less jitter**
(more stable fixed solution)
-  **Improved batchtobatch consistency**
(higher pass rate and longer industrial service life)

AL16 – CLASS 3R GREEN LASER



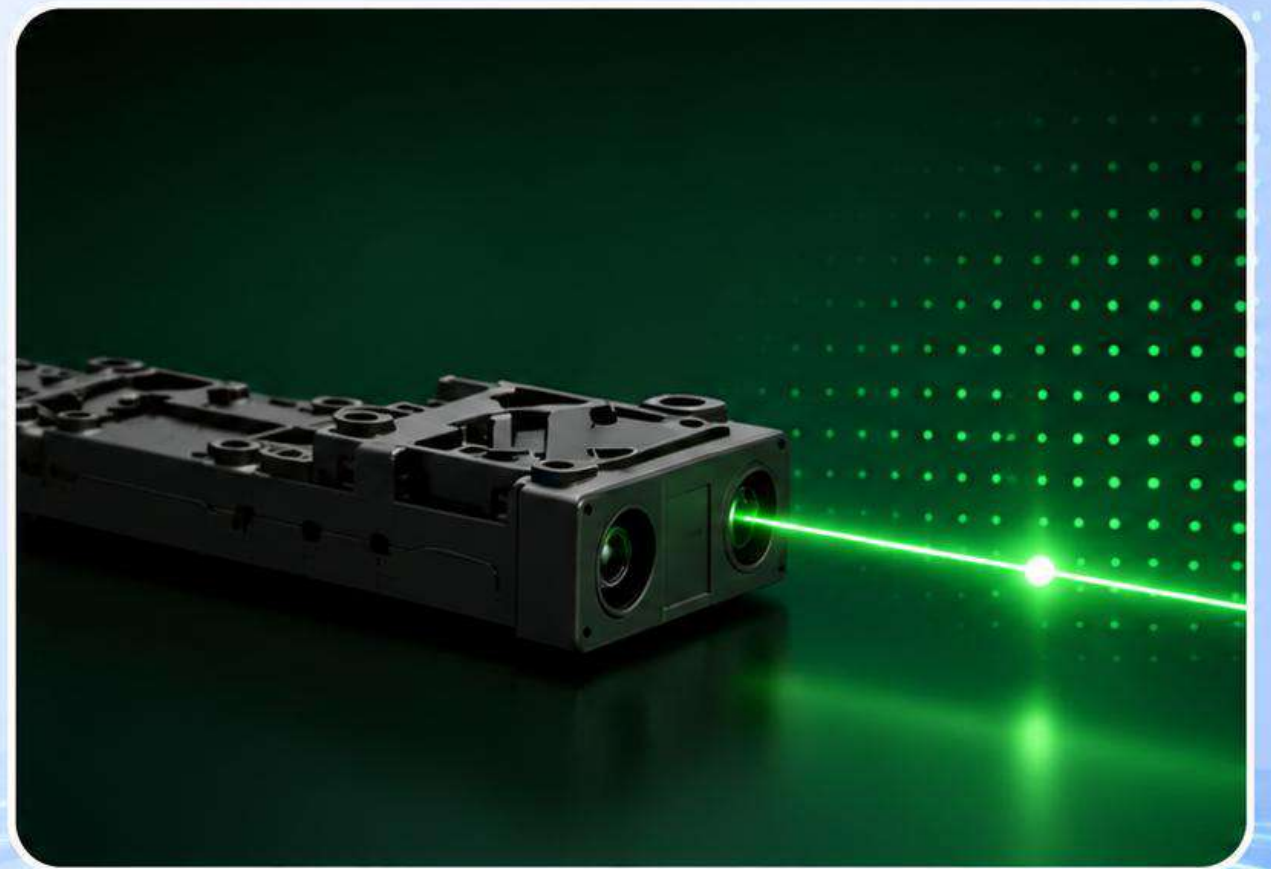
Power

CLASS 3R – Selected to balance human-eye safety with professional surveying demands

Green Laser

Green lasers are more visible to the human eye than red lasers.

With a specially selected laser-assisted camera, green lasers deliver a higher total raw signal volume than red lasers, resulting in brighter green laser spots in camera imaging.





FHD Laser Auxiliary Camera

13-megapixel: fine image details, sharply defined edges, and abundant pixel coverage for long-distance laser spots.

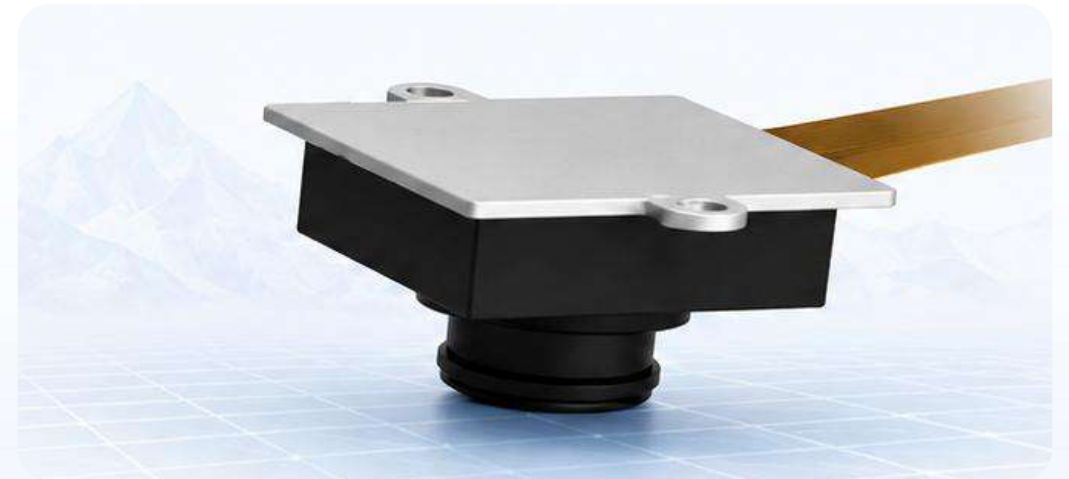
D=44°: narrow-angle telephoto field of view delivers greater image magnification at the same distance.

Distortion < 1%: Low geometric deformation of the image with small positional offset error of laser spots

Ultra-low Distortion Near-range Camera

2-megapixel resolution with a 70° wide-angle field of view: ideal for downward ground observation, wide-range monitoring of the surroundings around the pole tip and AR-aided stakeout.

Distortion < 0.38%: ultra-high accuracy for AR perspective and coordinate mapping, resulting in minimal geometric errors.



AL16 - GNSS AND IMU MODULE



All-constellation Multi-frequency GNSS Module

Ultra-fast fixed solution.

Support RTK, PPP, Galileo HAS and BDSB2b PPP services for global centimeter-level positioning.

Multiple Brands of GNSS module available

Survey-grade IMU

Magnetic interference resistance (100% magnetic shielding)

Superior environmental durability

One-step tilt surveying, doubling work efficiency while guaranteeing precision



AL16 - RADIO AND BATTERY



Low-power & Long-range Radio

Compatible with mainstream radio communication protocols on the market.

Lora supports low-power and long-distance transmission. With a transmit power of only 2 W, field-tested communication distance reaches 4.5 km in urban environments (Shanghai Inner Ring area, with buildings, trees and mobile network base stations).

Battery with Panasonic cells

Adopts Panasonic cells for stable power supply, reliable safety and consistent quality.

30W PD fast charging, full charge takes less than 3 hours in fast-charge mode.

Third-party certified test reports are available.



AL16 – LASER MEASUREMENT & LASER STAKEOUT



Unmeasurable points

→ Measurable



Unreachable Points

→ Measurable



Hard-to-measure Points

→ Easy-to-measure



Hazardous Points

→ Safe Measure



AL16 - AR STAKEOUT



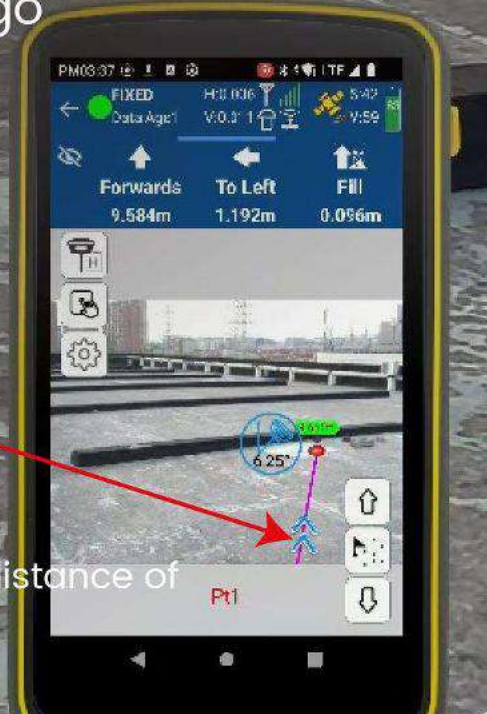
Augmented reality helps to easily find the exact location of stakeout points.

Front Camera:

→ Know where to go



Show the direction and distance of the stakeout point

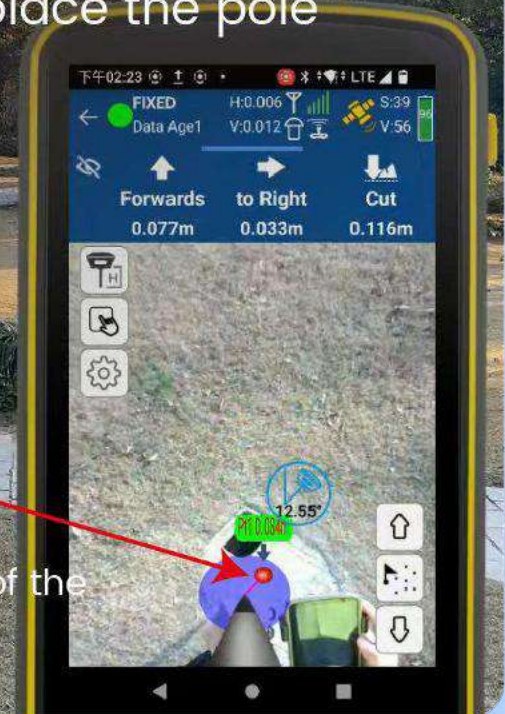


Bottom Camera:

→ Know where to place the pole



Show the exact position of the stakeout point



GEODETIC GNSS RECEIVER – AR15 & GeoPOD



AR15

Receiver with AR Stakeout



- AR Stakeout
- Tilt Measurement
- Full Connectivity
- Balancing Design

GeoPOD

Handheld GNSS Receiver



- Season-to-season repeatable guidance
- Farm-wide RTK reference infrastructure
- Stable signal and power for 24/7 operation
- High-stability antenna for long-term accuracy
- Network-ready: single base to VRS expansion

ANDROID SOFTWARE – GEOVENT



GEOVENT

- Clear Structure & User Friendly
- Compatible with Third Party Android Devices
- Sharp and Smooth CAD & MAP Display
- Multiple Languages And Multi-Country Coordinate Systems



CAD Draw



CAD Stakeout



CAD Calibration



Line Measure



Surface Measure



Elevation Control



Stake Line



Spiral Stakeout



Stake Road



PPK Measurement

05

PART FIVE

**GLOBAL CORRECTION
SERVICE**

Synfix

A&I integrates with leading global CORS service providers to deliver centimeter-level high-precision positioning services based on NRTK technology, covering most regions worldwide. Operating continuously 24/7, Synfix provides users with real-time centimeter-level positioning data services.



Global Coverage

Covering major RTK markets worldwide



Rapid Expansion of Base Stations

New base stations can be deployed within as fast as one week



Flexible Service Types

Supports multiple Configurations such as full frequency bands and double frequency bands



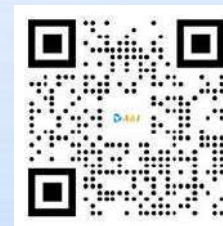
Integrated with A&I Hardware Products

Enjoy One-Stop After-Sales Service



Accelerating Global *Autonomy* & *Intelligence*

www.archi-inno.com



Website



Social Media