



SHANGHAI MAGIC PHOTOELECTRIC TECHNOLOGY CO.,LTD

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PART 01

Company History



上海蛮吉光电科技有限公司

SHANGHAI MAGIC PHOTOELECTRIC TECHNOLOGY CO., LTD.



Company Profile

Founded in 2018, Shanghai Magic Photoelectric Technology Co., Ltd. is a core supplier of microscopic imaging, laser processing equipment and integrated solutions. With deep roots in the field of optical inspection and processing, the company focuses on technological innovation and provides high-precision customized optomechatronic solutions.

The company has built a 1,500-square-meter integrated base for R&D, production, sales and office in Shanghai, establishing a full-stack independent R&D and production system covering optics, mechanics, electronics and software. It owns independent AOI intelligent detection algorithms and an interdisciplinary R&D team, realizing full-process control from core technologies to system integration. It can provide deeply customized turnkey solutions to ensure high precision and reliability of equipment.

Based on cutting-edge technologies, the company continues to expand its boundaries. In 2025, it strategically established Dingyuan Biotechnology in Suzhou, focusing on the R&D and production of biological live-cell imaging equipment, improving its cross-field layout and empowering biomedical research.

In the future, Magic Photoelectric Technology will uphold the philosophy of "Mastering Precision with Light, Innovating through Intelligent Manufacturing", work together with global partners to promote the advancement of optical technology and industrial upgrading.

Leadership Care



Lu Zufang, Executive Deputy District Mayor of Jiading District, Shanghai, visited the laboratory.



Zhu Xiaojie, Deputy District Mayor of Jiading District, Shanghai, visited the company.

Leadership Care

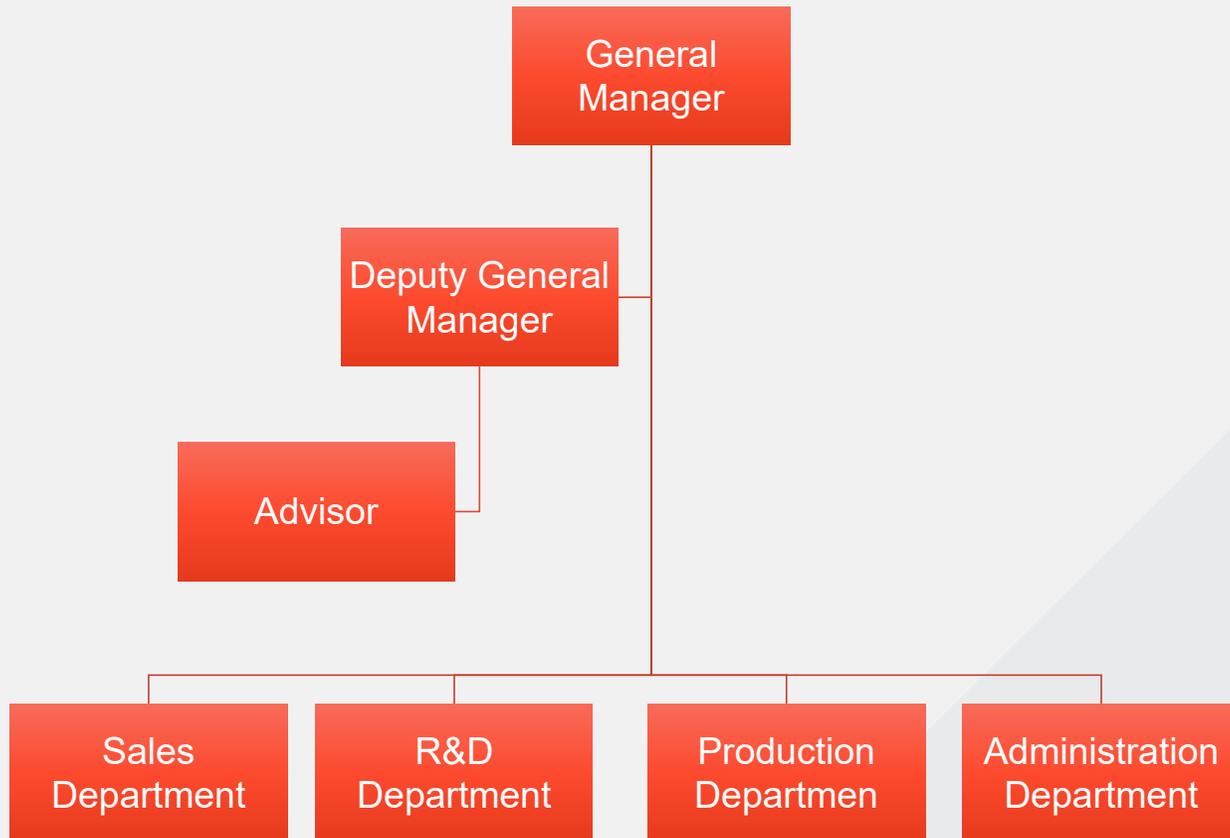


Qian Weiqin, Deputy Secretary of the Party Committee of the State-owned Assets Supervision and Administration Commission (SASAC) of Jiading District, Shanghai, visited the laboratory.



Zhong Bin, Executive Vice President, and Zhai Lixia, Secretary-General of the Jiading District Federation of Industrial Economics, visited the company.

Organization Structure



Personnel Composition

Total number of employees

As of December 31, 2025, the company has a total of 23 employees, including 19 in Shanghai and 3 in the Wuxi Branch.

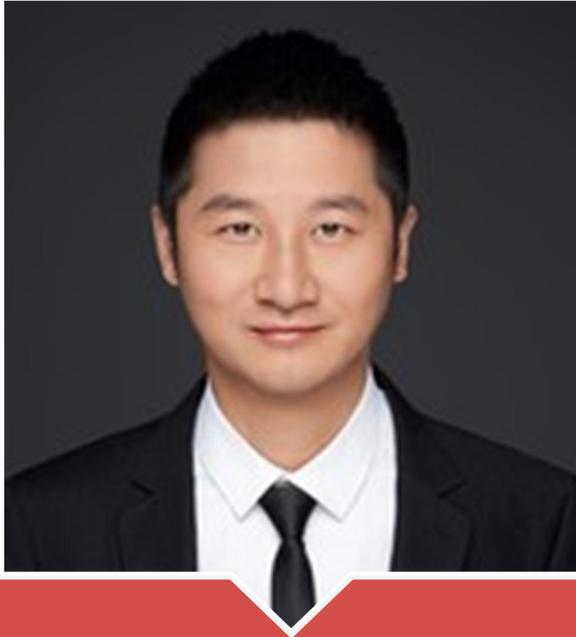
Department Composition

The company currently has four departments: Sales, R&D, Production, and Administration. The R&D department has 10 employees.

Educational Background Composition

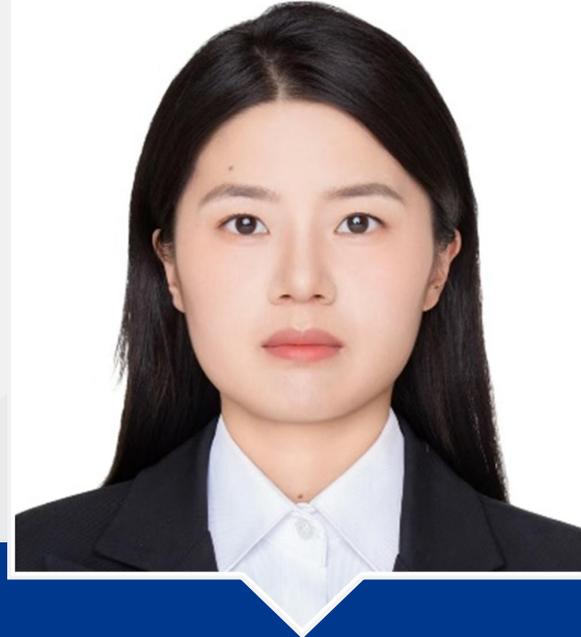
2 PhDs, 2 Masters, and over 80% of the team hold a bachelor's degree or above.

Technical Advisor



Fang Zhiwei

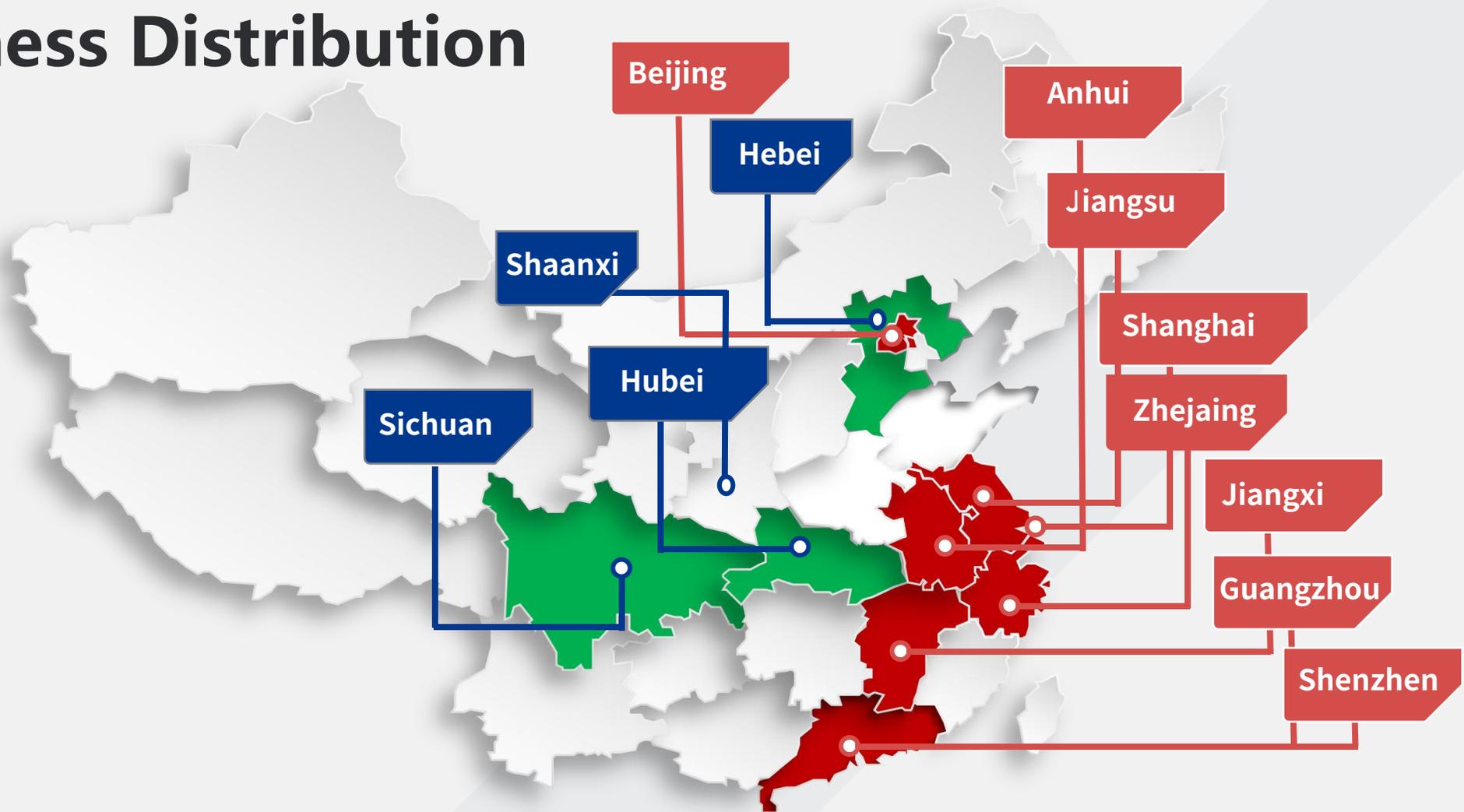
- Graduated from Anhui University, majoring in Optics, in 2013.
- 2013–2015: Master's degree at Shanghai Institute of Optics and Fine Mechanics.
- 2015–2018: Ph.D. at ShanghaiTech University.
- 2019–Present: Associate Professor at East China Normal University.
- Research focus: Laser micro-nano processing.



Liu Yaoxiang

- Graduated from Anhui University, majoring in Optics, in 2013.
- 2013–2016: Master's degree at Shanghai Institute of Optics and Fine Mechanics.
- 2016–2019: Ph.D. at Shanghai Institute of Optics and Fine Mechanics.
- 2019–2022: Postdoctoral researcher at Shanghai Institute of Optics and Fine Mechanics.
- 2023–Present: Associate Researcher at Shanghai Institute of Optics and Fine Mechanics.
- Research focus: Femtosecond filamentation & laser processing.

Business Distribution



Our business covers more than 12 provinces across China. We are actively expanding our sales network, with offices under preparation in Beijing, Nanjing, Shenzhen, Xi'an, Germany and Vietnam, laying a solid foundation for the company to further explore larger markets.

Development History

2018



Company Establishment

- Shanghai MAGIC Company was founded on September 14, 2018.

2019

Rapid Development

- Establishment of Hong Kong Magic Company

2020



Reach a New High

- Recognized as a High-Tech Enterprise in Shanghai
- Company sales increased by 100%

2021

Seek change while maintaining stability

- The company began to undertake customized business
- Company sales increased by 50%

2022

Entering a fast track of development

- The number of customers exceeded 2,000
- Mass shipment of customized projects achieved, including laser repair machines, online high-resolution & high-precision AOI, 3D microscopes, etc.

2023



Forge ahead against challenges

- Sales increased by 33%
- Established Yilian Semiconductor in Wuxi, focusing on the R&D and production of semiconductor inspection equipment

2024

Steady development

- The Shanghai headquarters factory put into use
- Wuxi production base put into use
- Five new products including laser direct writing and laser confocal microscopy launched into R&D

2025



Set Sail

- R&D investment accounts for more than 10% of sales revenue.
- The proportion of R&D personnel exceeds 43.5%.
- Laser repair machines have been batch-introduced to leading domestic semiconductor enterprises.
- Multi-angle spectral testing systems have been delivered in batches.
- Microscopic AOI systems have been delivered in batches.
- Wafer handling machines have been exported overseas for the first time.
- The 3D ultra-depth-of-field microscope has started its second-generation upgrade.
- Suzhou Dingyuan Technology was founded, focusing on label-free imaging and detection of living cells.

2026



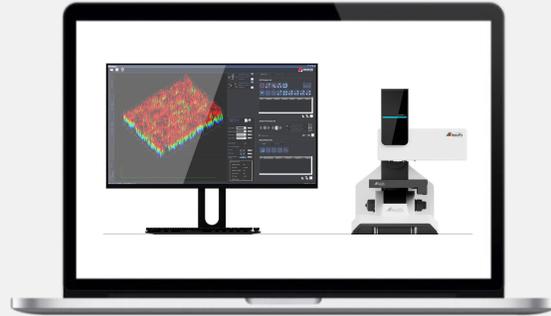
Planning

- Strengthen brand building.
- Continue to focus on the fields of microscope inspection and laser processing.
- Achieve a full layout in overseas markets including Europe and Southeast Asia.
- Expand the production and manufacturing team to enhance product delivery capacity.....

PART 02

Products and Customers

Product Introduction



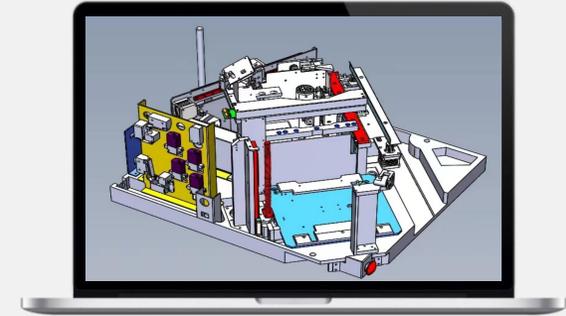
Microscopic Inspection

- Wafer Handling Machine
- Ultra-Deep Field Microscope
- Microprobe Station
- Micro-Raman Spectroscopy Testing System
- Micro Photoelectric Current Testing System
- Fiber Waveguide Coupling System
- Automatic Optical Inspection (AOI) Machine
- Gantry Inspection Microscope



Laser Processing

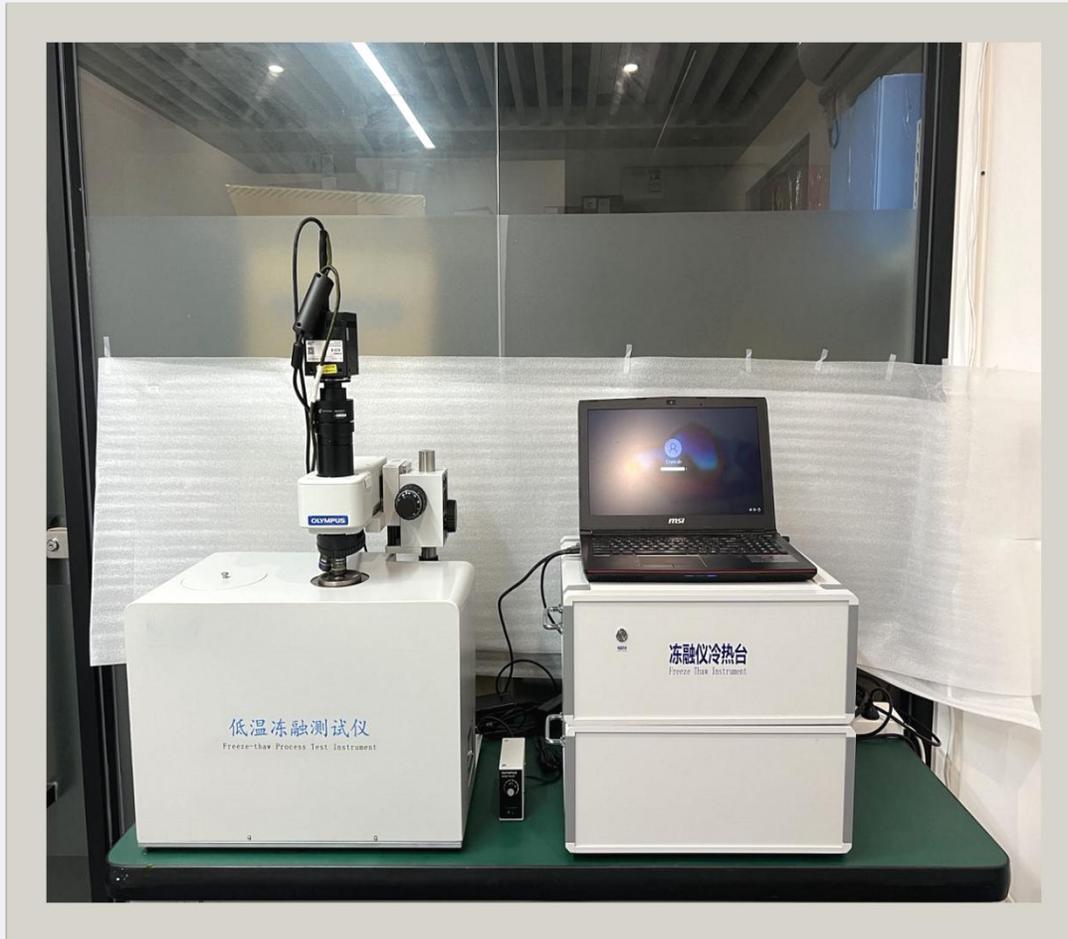
- Laser Repair Machine
- Femtosecond Laser Direct Writing Equipment
- Maskless Lithography Machine



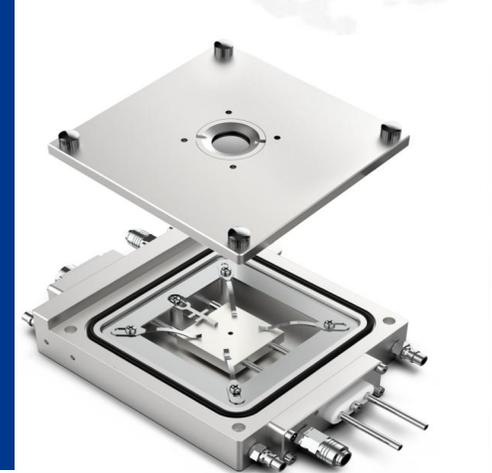
OEM Customization

- Customized according to customer requirements Microscopic inspection and laser processing equipment

R&D Equipment (Partial)



High and Low
Temperature Thermal
Stage



High and Low
Temperature Thermal
Stage



Low Temperature Freeze-Thaw Tester System

R&D Equipment (Partial)

Multi-angle Spectroscopy System

Mainly used in the MicroLED industry to measure the divergence angle of LEDs.

Main Features:

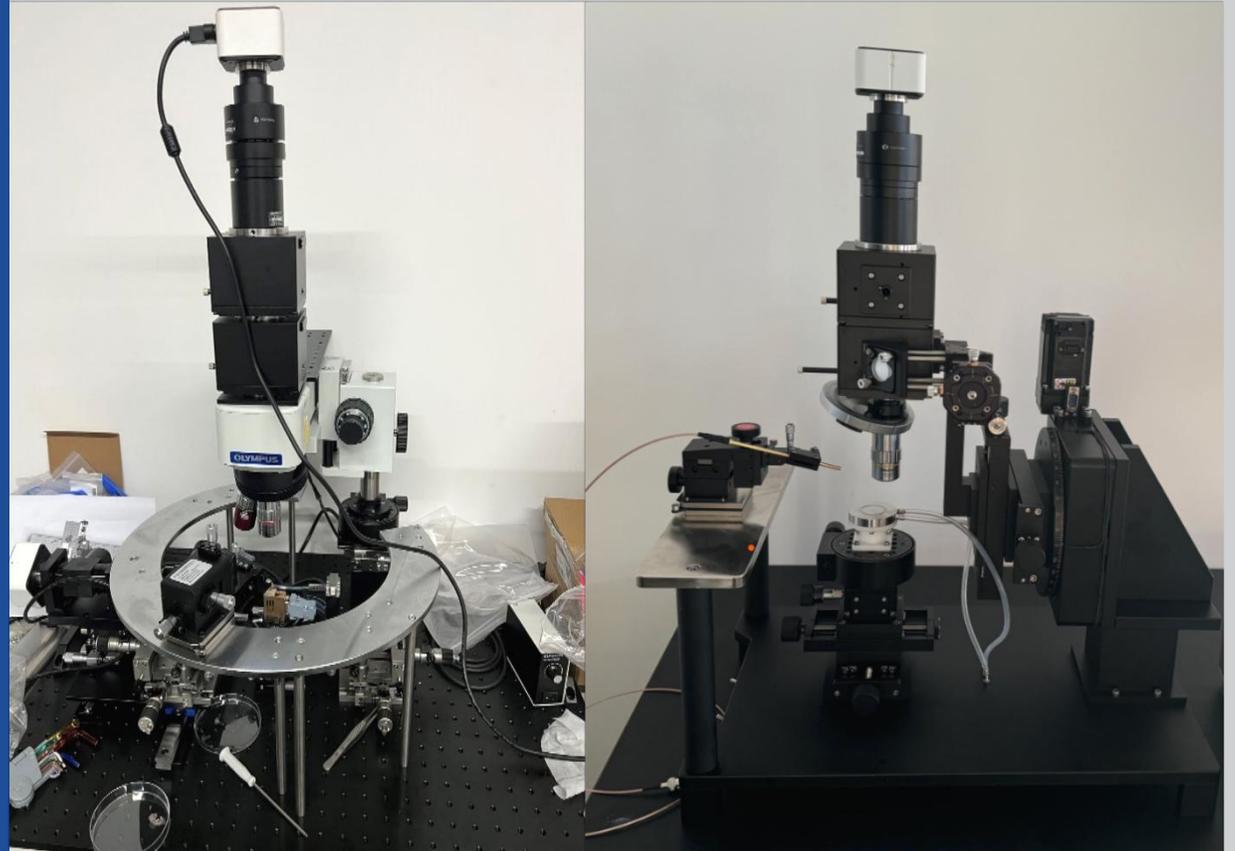
1. Multi-angle spectrum collection
2. 3D spectral imaging
3. 3D ultra-depth-of-field imaging, 3D profile measurement, linear and surface roughness measurement, large-field stitching
4. Electrical testing
5. Sample temperature control



R&D Equipment (Partial)

Optical Waveguide Coupling & Photocurrent Testing System

1. X/Y Microscopy Observation System
2. Hamamatsu Infrared Camera
3. Precision 6-Axis Stage
4. Integrated Probe Function
5. Customized Laser Injection Optical Path
6. Keysight Source Meter



R&D Equipment (Partial)

Wafer Automatic Handling & Inspection Machine

- Suitable for optical inspection before wafer dicing
- Compatible with 150mm and 200mm wafers
- Wafer thickness support: 80–1700 μm
- Supports transparent, translucent, and opaque materials

Macro Inspection:

Wafer front inspection: 360° rotation at various angles

Wafer back inspection: center and edge of wafer back

• Micro Inspection:

Objectives: 5X, 10X, 20X, 50X, 100X

Objective switching: motorized

Stage: manual / motorized (motorized required for AOI inspection)

Supports AOI automatic defect detection (optional)

Supports 3D profile analysis and measurement (optional)

Supports LIBS elemental analysis (optional)

Supports laser repair (optional)



R&D Equipment (Partial)

DMF1000IR Infrared Measuring Microscope

Mainly used for inspection in semiconductor, PCB, LCD, mobile phone industry chain, optical communication and other fields.

Combines infrared spectroscopy technology with the high-magnification observation capability of microscopes; features multiple observation modes such as bright-field, dark-field, and polarized differential interference contrast (DIC).

Main Features:

1. Motorized image stitching
2. Map navigation
3. Large-size measurement
4. Infrared transmission observation



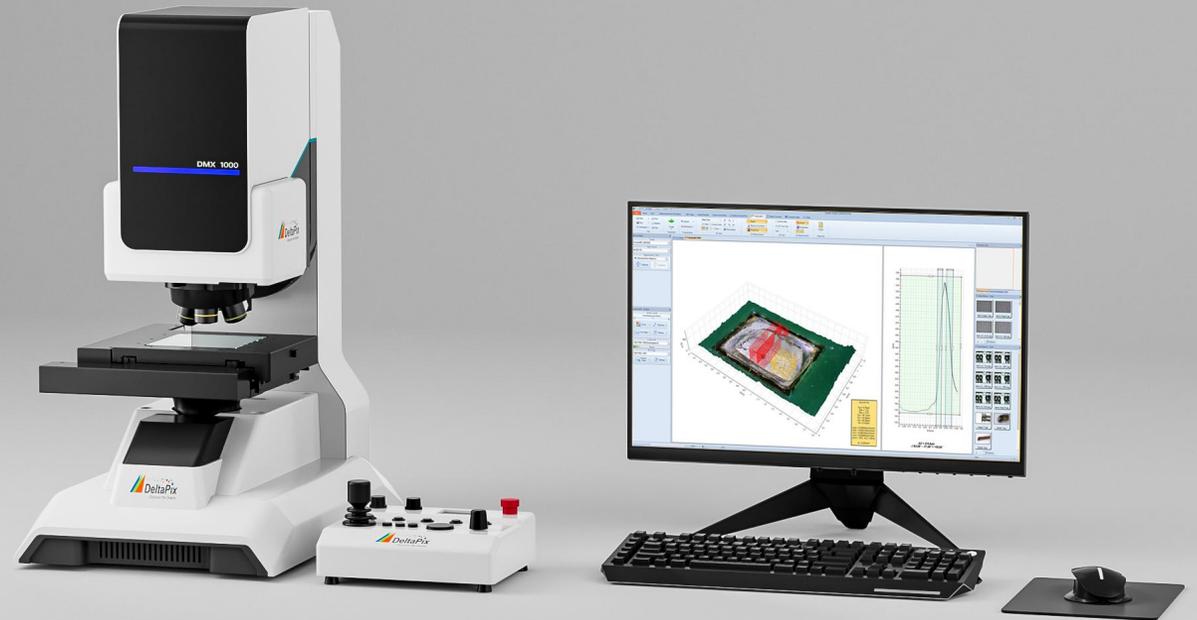
R&D Equipment (Partial)

DMX1000 3D Optical Digital Microscope

It integrates an optical lens group with an industrial high-definition camera, which directly images onto a display.

The microscope main unit is equipped with a built-in optical zoom mechanism to achieve the magnification required for observing different samples, and can generate 3D profile images via motorized scanning.

It is widely used in biology, precision machinery manufacturing, electronics, semiconductors, materials science and other industries.



R&D Equipment (Partial)

Image Measuring Instrument

Mainly used in the 3C industry for fast and automatic measurement of sample dimensions.

Main Features:

1. Travel range: 500×400 mm
2. Z-axis lifting travel: 200 mm
3. XYZ display resolution: 1 μm
4. XYZ measurement accuracy: $(2.5 + L/100)$ μm
5. Video magnification: 20×-128×
6. Programmable software
7. Customizable according to requirements



R&D Equipment (Partial)

Large Stroke Metallurgical UV Microscope

Mainly used in the panel industry for large-size measurement and RGB pixel excitation.

Main Features:

1. Self-developed optical path
2. Customizable travel range
3. Shockproof airbag
4. Motorized XYZ axes
5. Electric software control



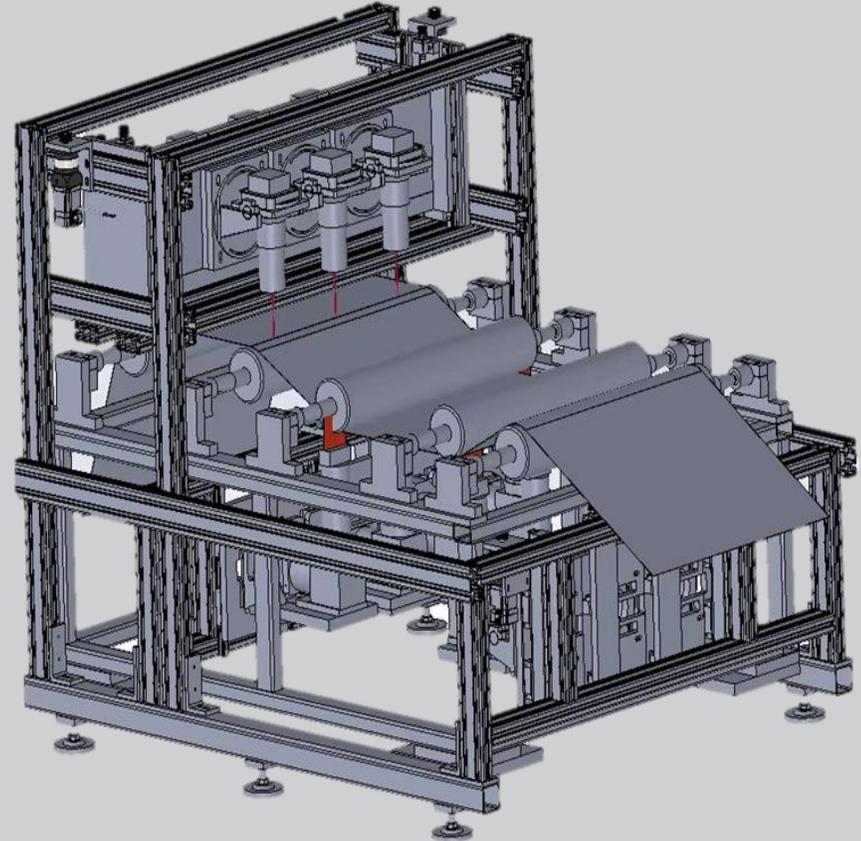
R&D Equipment (Partial)

Automatic Optical Inspection (AOI) Machine – In-line Type

Mainly used for defect detection, classification and statistics during the manufacturing process of photomasks.

Main Features:

1. The first set in China, surpassing foreign technologies
2. For flexible roll materials
3. Automatic defect recognition and classification
4. High-speed processing, resolution up to $2\ \mu\text{m}$
5. Connectable to factory CIM system
6. Customizable according to requirements



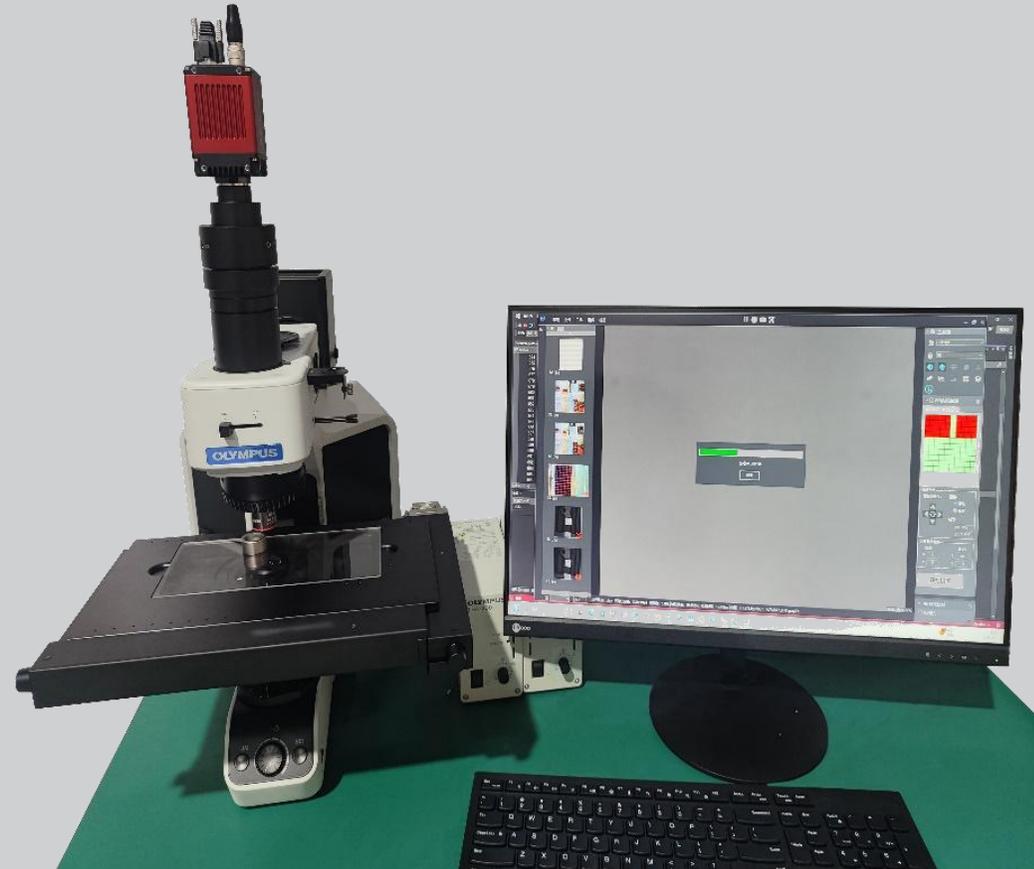
R&D Equipment (Partial)

Automatic Optical Inspection (AOI) Machine – Benchtop Type

Mainly used for defect detection, classification and statistics in the semiconductor industry.

Main Features:

1. Integrates bright-field, dark-field, infrared, UV and other observation modes
2. Automatic defect recognition, classification and statistics
3. Automatic mapping available
4. Can be equipped with a wafer handling machine for loading and unloading



R&D Equipment (Partial)

Laser Repair System

1. Customizable travel range
2. Equipped with microscope imaging function
3. 2-in-1 function: laser cutting & repairing
4. Cutting precision: 0.5 μm , top-level in China
5. Compatible with nanosecond and femtosecond lasers
6. Connectable to factory CIM system



R&D Equipment (Partial)

Nanosecond Laser

Mainly used for dicing, repairing and defect position marking of integrated circuits in semiconductor, panel, PCB and other industries.

Main Features:

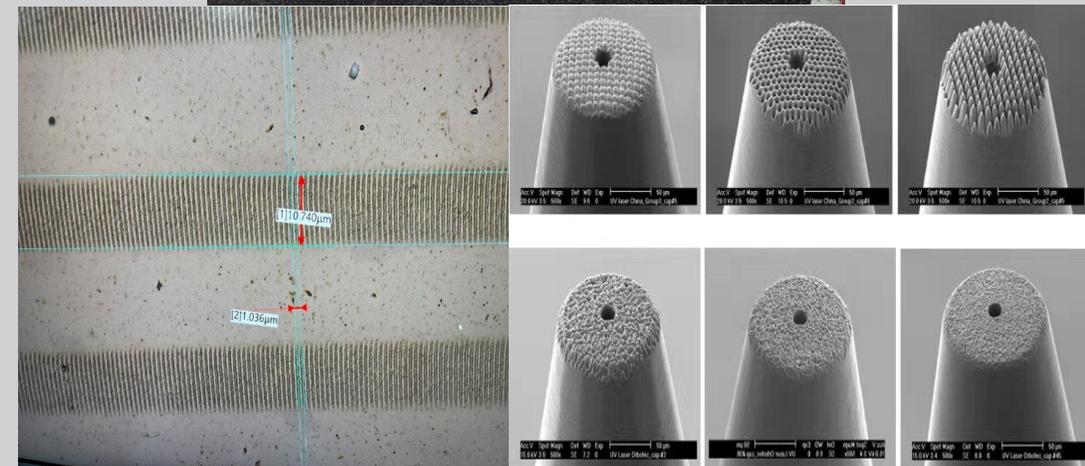
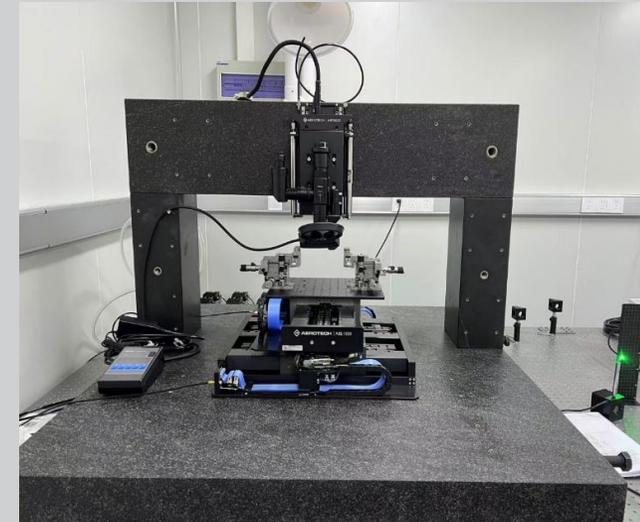
1. Solid-state LD-pumped Nd:YAG
2. Supported wavelengths: 1064/532/355/266 nm
3. Maximum energy: ≥ 5 mJ
4. Pulse width: 5 ns
5. Motorized 3 axes with $\pm 45^\circ$ rotating motorized slit adjustment
6. LD oscillation count: > 2 billion (G) pulses
7. Laser energy stability: $< 1\%$



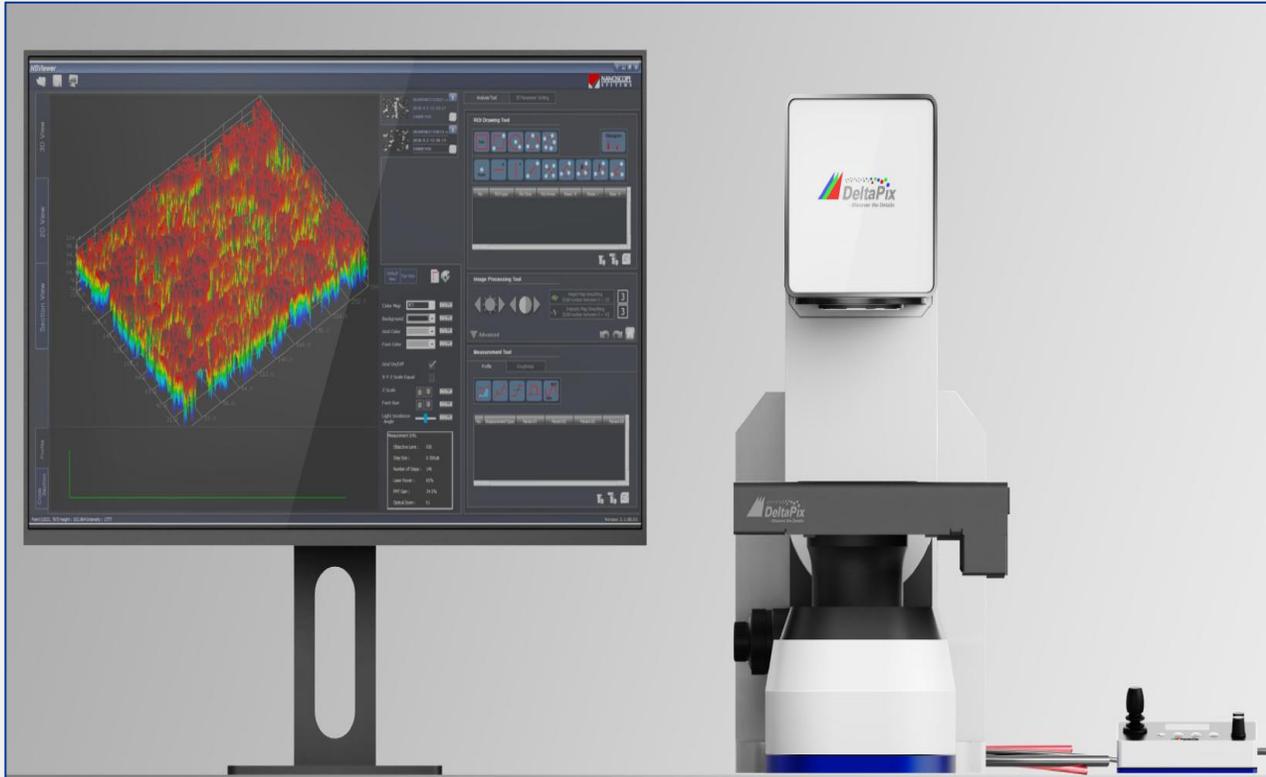
R&D Equipment (Partial)

Laser Direct Writing Equipment

The femtosecond laser direct writing system is equipped with a high-repetition-rate femtosecond laser amplifier (laser models are optional), high-precision, large-travel air-bearing guide linear motor stages, and high-numerical-aperture oil-immersion objectives for fiber Bragg grating writing. It is suitable for applications including microchannels, laser drilling, laser grooving, fiber Bragg grating (FBG) devices, waveguides, and metasurface fabrication.



Equipment under development



Laser Confocal Microscope



**Two-Photon
Polymerization 3D Printer**

Our Clients

Panel

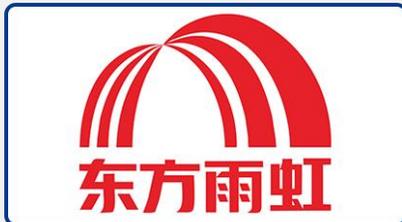
Semiconductor

**Scientific
Research &
Universities**

We focus on providing customized products and services for customers in the panel, semiconductor, scientific research and university sectors. At present, we have established cooperative relationships with many well-known enterprises and research institutions/universities at home and abroad.

Our Clients

Some of Our Clients (Enterprises)
2000+ Enterprises



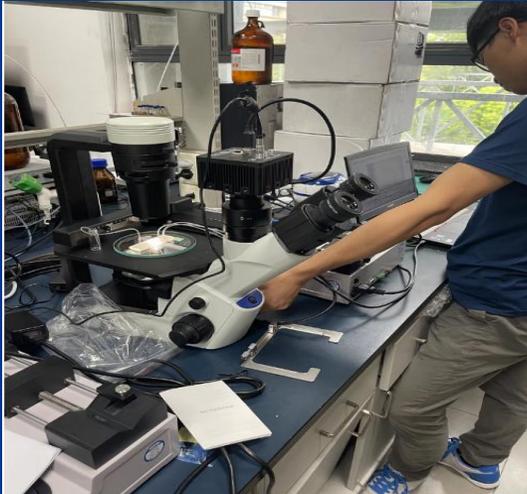
Our Clients

Some of Our Clients (Universities)
200+ Research Institutions



Installation and Commissioning Site

Installed equipment: 500+
All equipment installation and
after-sales service are performed
by our own technical team.



Exhibition Site



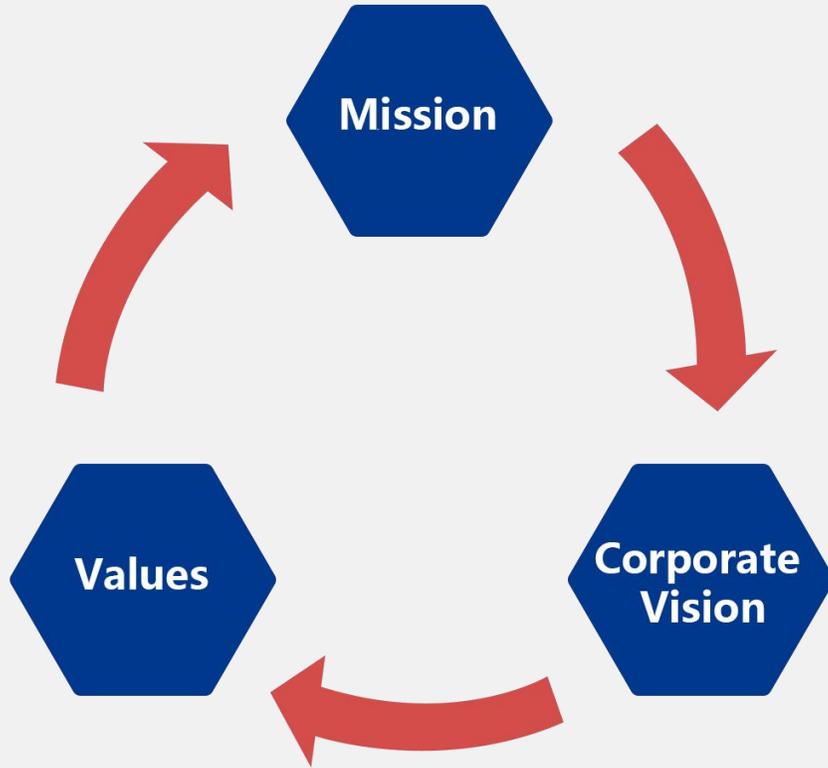
We have participated in major domestic industry exhibitions for many times, including: Shanghai Optoelectronics Expo, Shenzhen Optoelectronics Expo, Shenzhen Semiconductor Expo, Shenzhen Laser Expo, etc.



PART 03

Culture and Honor

企业文化



Mission: Provide high-quality products and services, and support the rapid development of China's science and technology.

Corporate Vision: To become the most honest and reliable service provider of testing equipment.

Values: Customer-centric, integrity and honesty, win-win cooperation, pursuit of excellence.

Company Honors and Qualifications



- The company was certified as a High-Tech Enterprise in Shanghai in 2020.
- The company currently has 28 patents, including 6 invention patents and 22 utility model patents, as well as 12 software copyrights.
- In 2023, it joined the Jiading Industrial Federation and became a member unit.
- In 2025, the company passed CE, ISO 14001 and ISO 9001 certifications.





Win-win cooperation sharing the future!

 4th Floor, Building 2, No. 688 Xuye Road, Jiading District, Shanghai

 +86 21 39971776

 www.smagics.cn