



舜宇光学科技(集团)有限公司

SUNNY OPTICAL TECHNOLOGY(GROUP)CO.,LTD.

文件等级：密2

NINGBO SUNNY INSTRUMENTS CO.,LTD

宁波舜宇仪器有限公司

2021年4月

www.sunnyoptical.com

CATALOG



**Group
Introduction**
集团介绍



**Company
Introduction**
公司介绍



**Products Introduction of
Micro-Instruments Business**
显微事业产品展示



**Products Introduction of
Intelligent Equipment Business**
智能事业产品展示

01

Group Introduction 集团介绍

- Profile 概况
- Development History 发展历程
- Organization Structure and Products 组织架构及产品
- Future vision 未来愿景

Sunny Optical Technology (Group) is a global leading optical manufacturing enterprise and the first Chinese optical enterprise listed on the main board of the Hong Kong stock exchange. Sunny is mainly engaged in the R & D, manufacturing and sales of products in the three fields of optics, Opto-electronics and optical instruments.

舜宇是一家全球领先的光学制造企业，亦是**首家在香港联交所主板上市的国内光学企业**，公司主要从事光学、仪器、光电三大领域产品的研发、制造和销售。

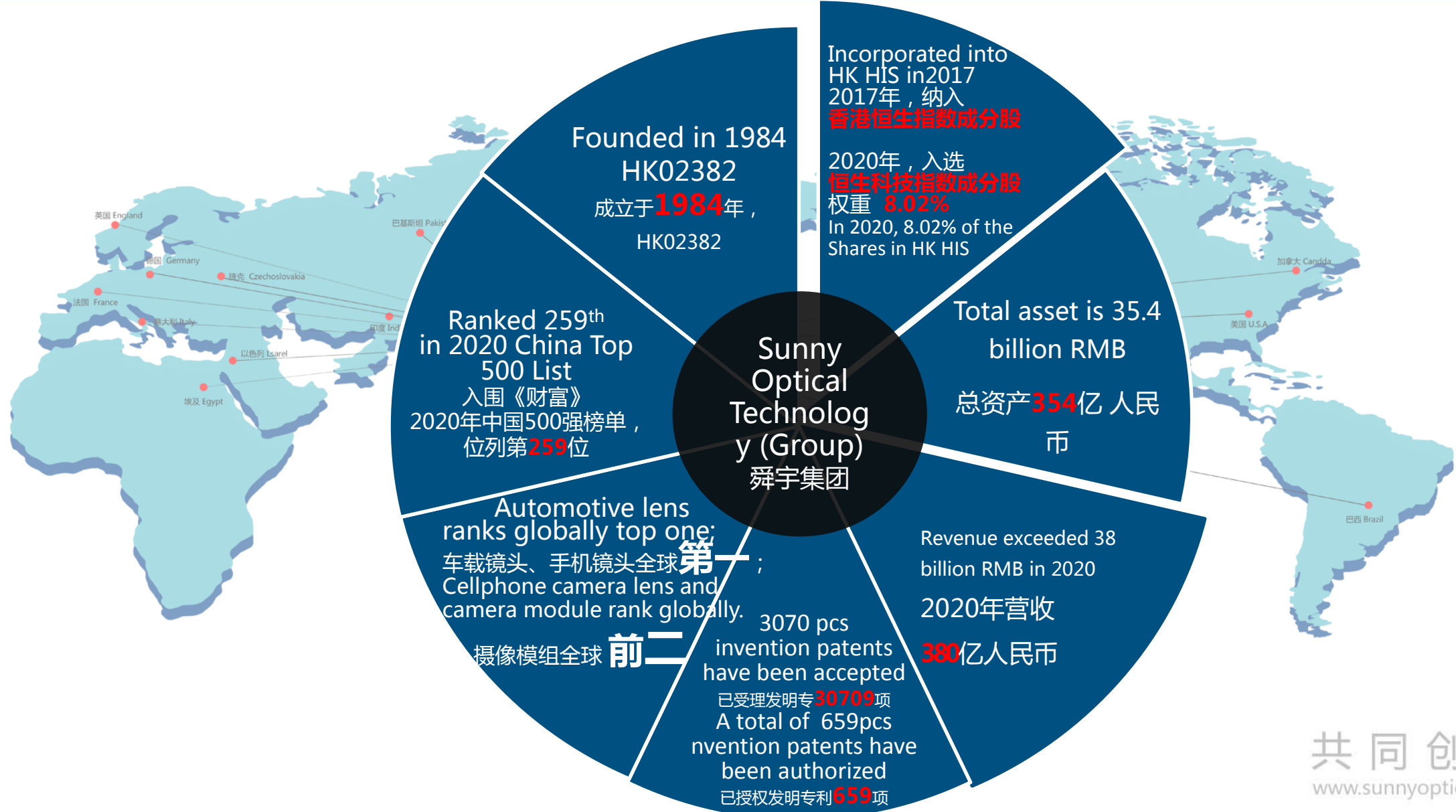
Sunny is a national high-tech enterprise with talents gathering, an excellent performance enterprise with excellent management, and an honest and responsible enterprise that benefits the society.

舜宇是一家人才集聚的国家级高新技术企业，卓越管理的优秀绩效企业，造福社会的诚信责任企业。

Sunny has five production bases and five overseas technical service centers, with industry-leading manufacturing capacity.

舜宇拥有五大生产基地，五个海外技术服务中心，具有行业领先的制造能力。





近三年销售 (单位：亿元)

年份	2018年	2019年	2020年
销售	259.31	378.48	380.01
增长率	15.94%	45.95%	0.4%

(单位：万元)

近三年销售额: Sales Volume in Recent Three Years

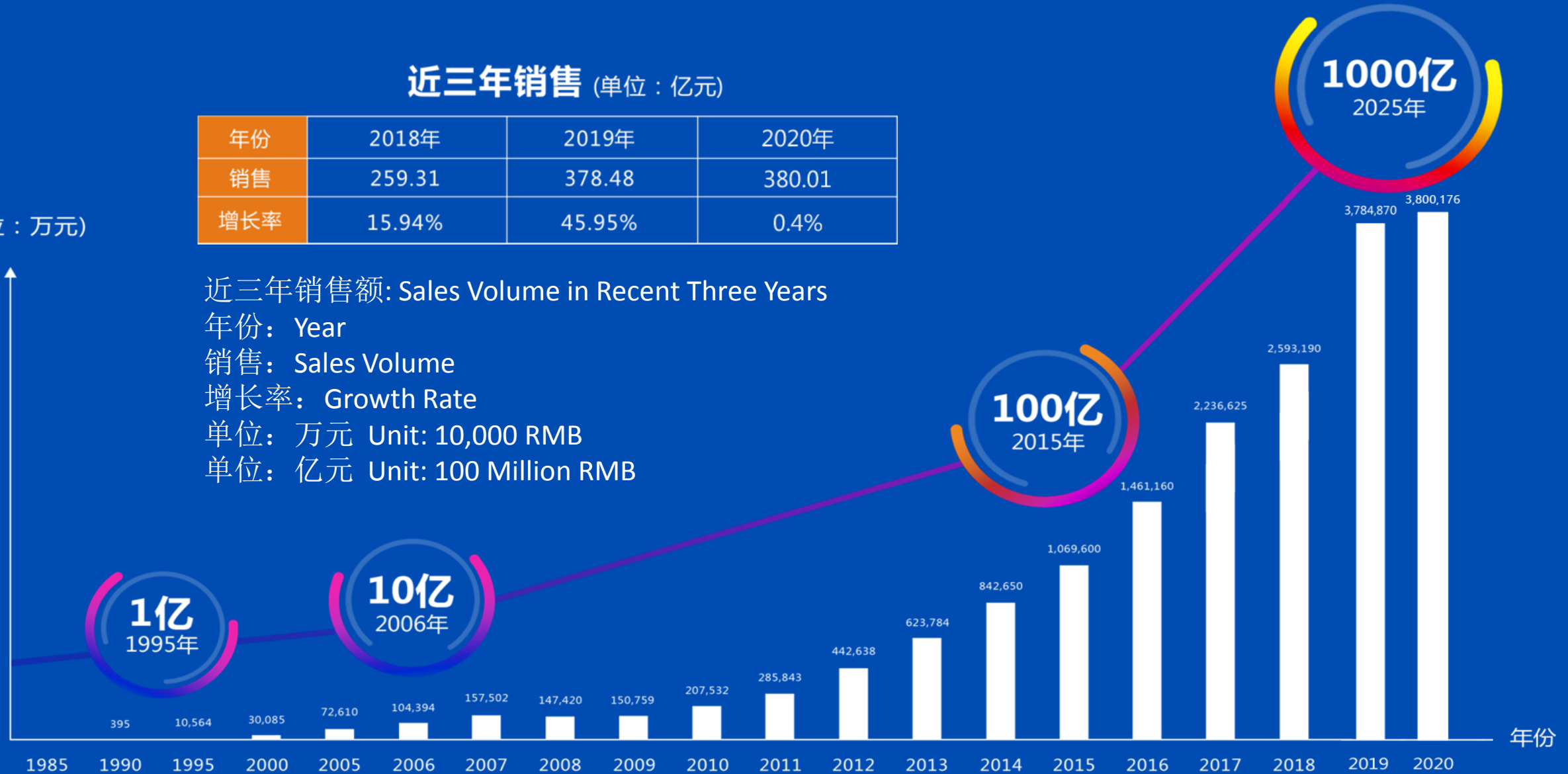
年份: Year

销售: Sales Volume

增长率: Growth Rate

单位: 万元 Unit: 10,000 RMB

单位: 亿元 Unit: 100 Million RMB



Traditional Optics 1984-2004 传统光学

Modern Optics 2004-2014 现代光学

Intelligent Optics 2014 -- 智慧光学

SLAM module
of sweeping
robot

2018

New factory and
new
company
established
in India在印
度设厂设立奥
来新公司

2017

Incorporated
into HK HSI
纳入香港恒生指
数成份股

2016

Sunny research
center established
成立舜宇中央研究院

2015

Zhejiang
Sunny Optical
Intelligence
Technology
Co., Ltd.
成立浙江舜宇智
能光学技术有限
公司

2012

Opotech US Sunny
Opotech Korea
established
在北美和韩国成立子
公司Sunny

2010

Security
camera
lens
安防镜头

2007

Listed in HK
香港联交所主
板成功上市

2006

Sunny Japan Co.,
Ltd established
在日本成立子公司

Enter the
automotive lens
area
进入车载镜头领域

2004

The realization of
mass production
of cell phone
camera module
手机摄像模组 实现量产

Cellphone
camera lens
手机镜头

2003

Projector lens
投影仪镜头

2001

Scanner lens
扫描仪镜头

1997

Microscope
显微镜

1991

Camera lens
照相机镜头

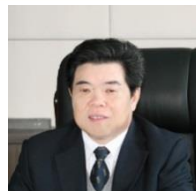
1987

Camera lens
照相机镜片

1985

Enter the optical
industry
进入光学产业

1984



Wenjian Wang 王文鉴
创始人、名誉董事长
 Founder , Honorary Chairman



叶辽宁 Liaoning Ye
执行董事、董事长
 Executive Director , Chairman



王文杰 Wenjie Wang
执行董事、常务副总裁
 Executive Director , Executive Vice President



Yang Sun 孙泱
执行董事、总裁
 Executive Director , President

Optics 光学事业

浙江舜宇光学有限公司 Zhejiang Sunny Optics	宁波舜宇车载光学有限公司 Ningbo Sunny Automotive Optics
舜宇光学(中山)有限公司 Sunny Optics (Zhongshan)	韩国力量光学有限公司 Power Optics (South Korea)
信阳舜宇光学有限公司 Sunny Optics (Xinyang)	上海舜宇阳明精密光学有限公司 Shanghai Sunny Yangming Precision
宁波舜宇红外技术有限公司 Ningbo Sunny Infrared Technology	宁波舜宇奥来技术有限公司 Ningbo Sunny Olay Technology Co., Ltd.

Opto-Electronics 光电事业

宁波舜宇光电信息有限公司
 Ningbo Sunny optoelectronic
 舜宇光电信息(北美)有限公司
 Sunny optoelectronic (North America)
 浙江舜宇智能光学技术有限公司
 Zhejiang Sunny Intelligence Optical Technology
 浙江舜宇智领技术有限公司
 Zhejiang Sunny Smarting Technology
 舜宇光电信息印度有限公司
 India Sunny Optoelectronic

Instrument 仪器事业

宁波舜宇仪器有限公司
 Ningbo Sunny Instruments
 下设显微仪器事业、智能装备事业
 Including Micro-Instruments Business
 And Intelligent Equipment Business

研究、驻外及其他机构 Others

舜宇(日本)有限公司
 Sunny Japan Co., Ltd
 舜宇(台湾)办事处
 Sunny Rep. Office in Taiwan

舜宇光学(浙江)研究院有限公司
 Sunny (Zhejiang) Research Institute Co., Ltd.
 余姚市舜宇汇通小额贷款有限公司
 Sunny Huitong Microcredit Co., Ltd.

Ranks Globally Top One



Cellphone Camera Lens
手机镜头

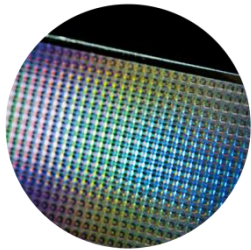
Ranks Globally Top Two



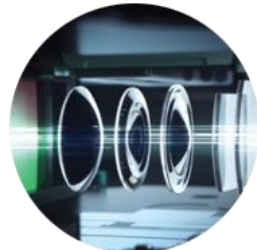
Cellphone Camera Module
手机摄像模组



Display Optics
显示光学元器件



Diffractive Optics
衍射光学元件



Imaging Lens
成像类镜头



Perceptual Lens
感知类镜头



Periscope Product
潜望光变产品s



New Packaging Module
新型封装模组



TOF Depth Measurement Module
TOF深度测量模组



Three-camera Optical Zoom Module
三摄光学变焦模组



Photography and Video
手机拍照摄像



AR Photo
AR相片



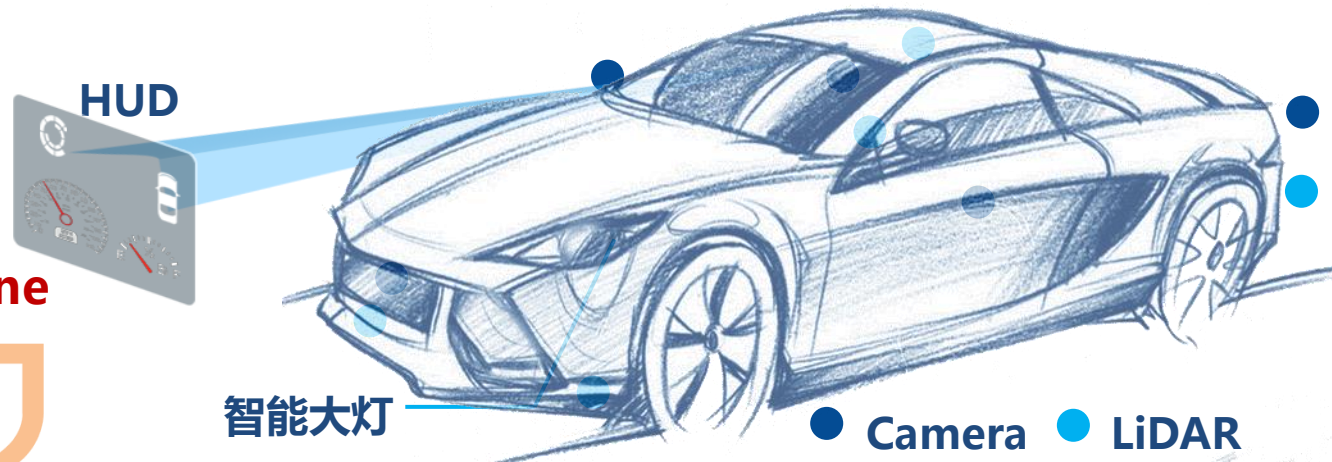
Face Recognition
人脸识别



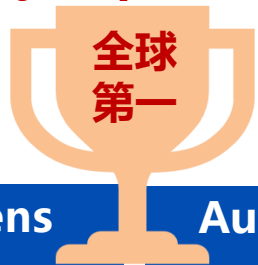
Background Bokeh
背景虚化



Gesture Recognition
手势识别



Ranks Globally Top One



Automotive Lens
车载镜头

Automotive Module
车载模组

Cabin Surveillance
舱内监视

Projection Display
投显

Laser Radar
激光雷达



Foresight Camera
前视镜头



Looking-around Camera
环视镜头



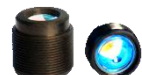
Foresight Module
前视模组



Rear View Camera
后视镜头



Electronic Rear View Camera
电子后视镜头



Inside View Camera
内视镜头



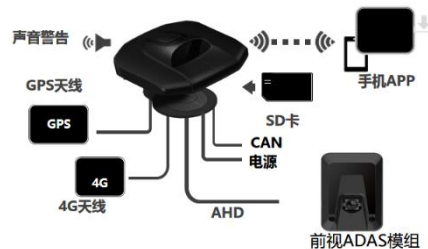
Looking-around Module
环视模组



DMS



OMS



DMS+ADAS(DVR)



TFT PGU



DLP PGU



MEMS PGU



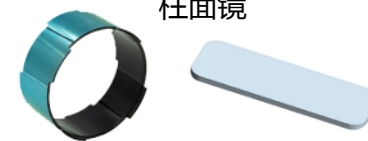
Smart Headlight
智能大灯



Laser Radar Lens
激光雷达镜头



Cylindrical Lens
柱面镜



Lidar Cover
激光雷达罩子

可见光安防

Visible Light Security



Security Lens and All-in-one Camera
安防镜头及一体机



红外安防

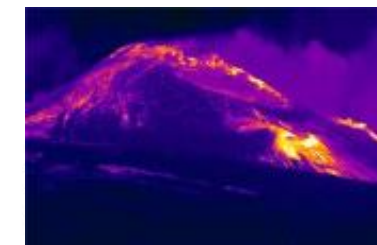
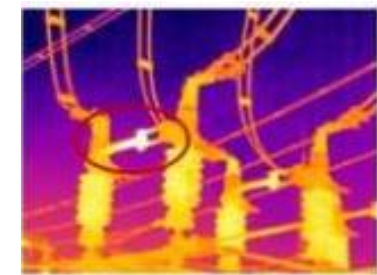
Infrared security



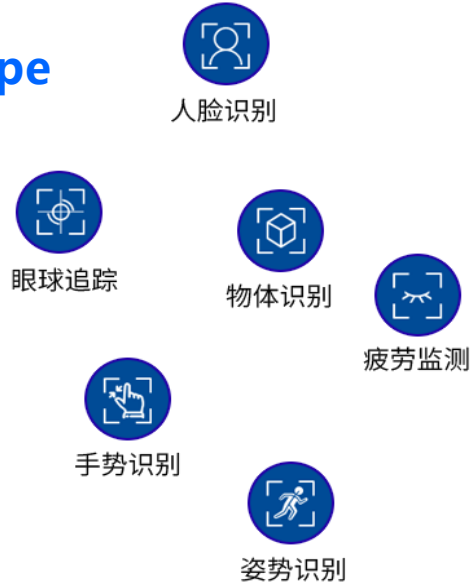
Chalcogenide Glass
硫系玻璃



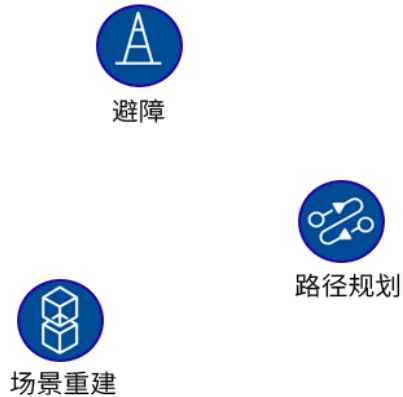
Imaging Lens
热成像镜头



Recognition Type 识别类



Location Type 定位类



Amazon Unmanned Supermarket
亚马逊无人超市

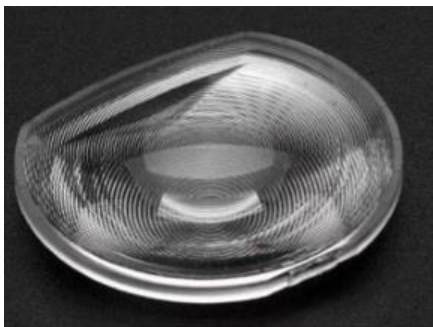


Binocular Obstacle Avoidance and Camera Module of DJI UAV
大疆无人机 双目避障与摄像模组



Sweeping Robot of iRobot, Millet, Coworth, Small BIU
iRobot、小米、科沃斯、小biu扫地机器人

VR(虚拟现实 Virtual Reality)



菲涅尔镜片



Oculus

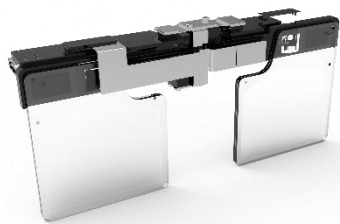


HTC VIVE



SONY PlayStation

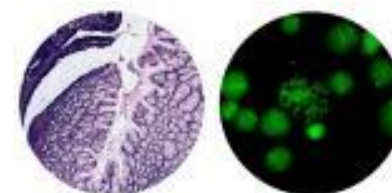
AR(增强现实 Augmented Reality)



光机



Biological
Microscope
生物



结肠腺瘤病理切片

角粒荧光细胞

Pathological Medical Treatment

Fluorescence
Microscope
荧光



Industrial Detection

Metallurgical
Microscope
金相



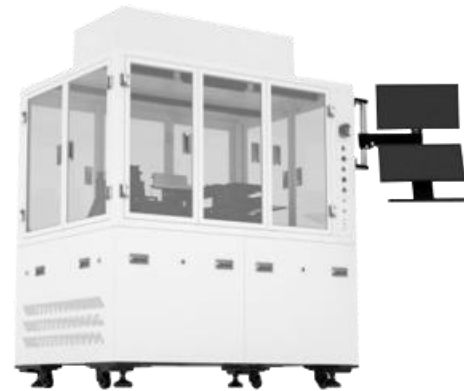
Stereo
Microscope
体视



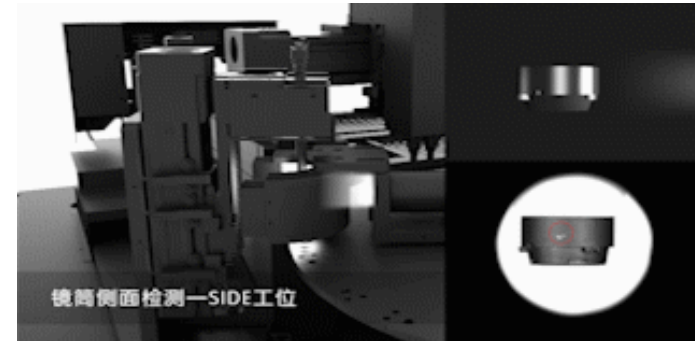
Research and Teaching

Intelligent detecting, processing and assembling equipment are developed based on large data and machine learning technology.

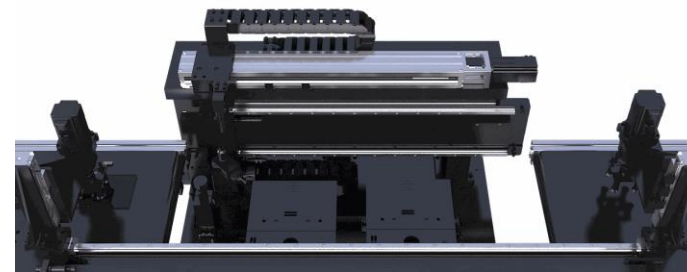
结合大数据及机器学习技术，开发更加智能化的检测、加工、组装设备。



Dust Detection Equipment in Cellphone Camera Lens
手机镜头内尘检测设备



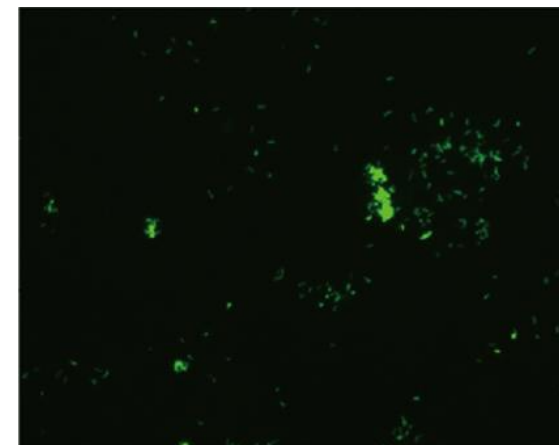
ACF Conductive Particle Detector
ACF导电粒子检测机



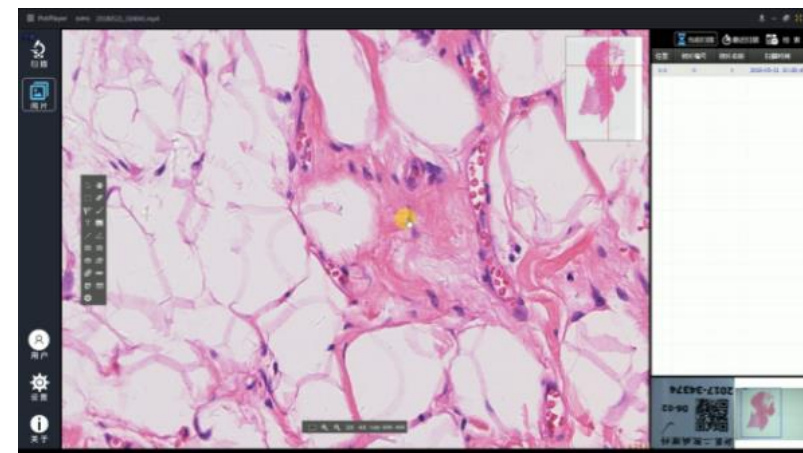
Provide one-stop system solution for life science and medical field.
为生命科学和医疗领域提供一站式系统解决方案



FS Mycobacterium Tuberculosis Micro-scanning System
结核分枝杆菌显微扫描系统



Pathological Slide Scanner
病理切片扫描仪



Sunny Vision 舜宇愿景

To be Stronger, bigger, further, and to become "hundred years' old brand" of optoelectronic industry.

做强、做大、走远，
成为光电行业百年老字号！

Industry Orientation 产业定位

Based on the bright future of the optoelectronic industry, Sunny will seize the historic opportunity of digitization, interconnection of all things and the wide application of cognitive computing, so as to explore the development of China's optoelectronic industry!

立足于前景极其广阔的光电产业，抓住影像数码化、万物互联、认知计算广泛应用的历史机遇，为中国光电产业的发展探索腾飞之路！

Strategy Orientation 战略定位

Implement the strategy of best supporting actor of the world's leading enterprises, and to become a world-renowned optoelectronic enterprise.

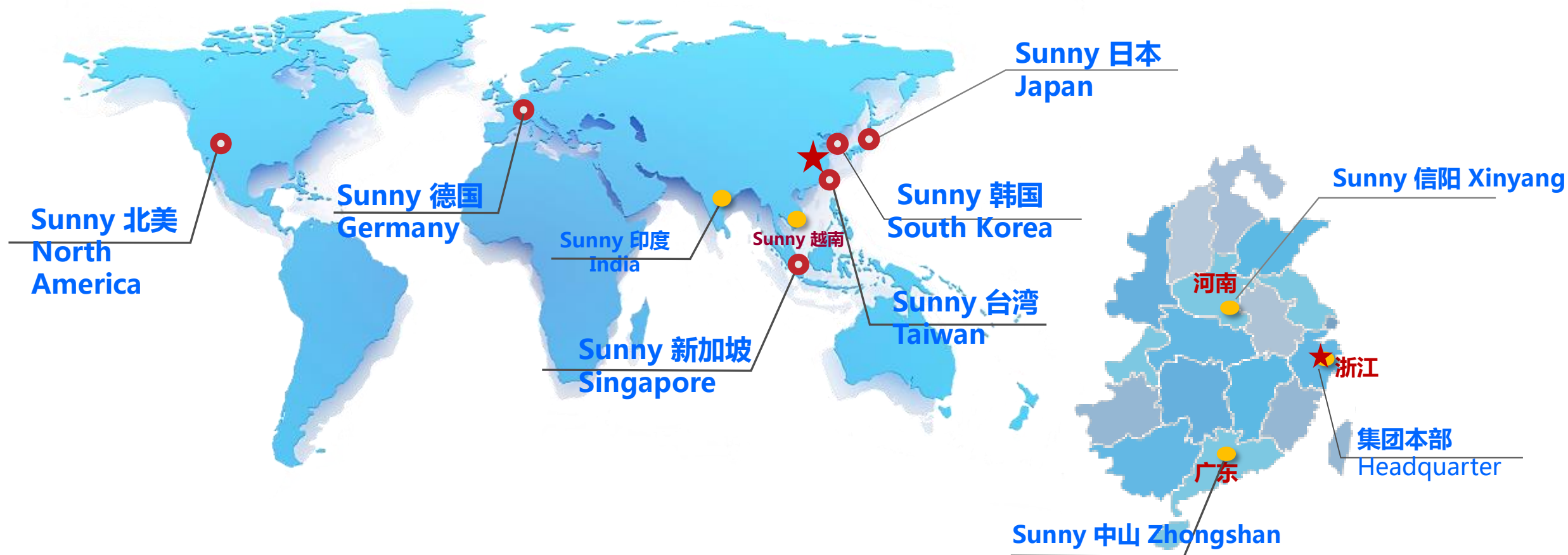
Business transformation is from an optical products manufacturer to an intelligent optical system solutions provider, from an instrument manufacturer to a system integrator, and change people's work and life style, make people's work more efficient and better life.

坚定不移实施**名配角战略**，打造**驰誉全球的光电企业**，实现从光学产品制造商**向智能光学系统方案解决商转变**，**从仪器产品制造商向系统方案集成商转变**，改变人们的工作与生活方式，使人们的工作更加高效、生活更加美好。

Strategy Goal 战略目标

In 2025, Sunny will have a sales volume of 100 billion, and set an average annual growth rate of 26%.

2025年达到**千亿级销售规模**，我们将未来年均发展速度设定为**26%**。



- ★ 集团本部
Headquarter
- 生产据点
Production Bases
- 销售据点
Sales Sites

Global Customers 全球合作伙伴



Yuyao Intelligent Opto-Electronics Town 余姚智能光电小镇

 宁波舜宇仪器有限公司
NINGBO SUNNY INSTRUMENTS CO., LTD.
文件等级：密2



02

NINGBO SUNNY INSTRUMENTS CO.,LTD 宁波舜宇仪器有限公司

- Profile 概况
- Quality Assurance System 品保体系
- Organization Structure and Products 组织架构及荣誉
- Production Site 生产现场

Ningbo Sunny Instrument co., LTD is a wholly-owned subsidiary of Sunny Optical Technology Group, with two business divisions of “Microscopy ”and “Intelligent Equipment”.
舜宇光学科技集团的全资子公司，公司设有“显微仪器”和“智能装备”两大事业部。



Micro-Instruments Business

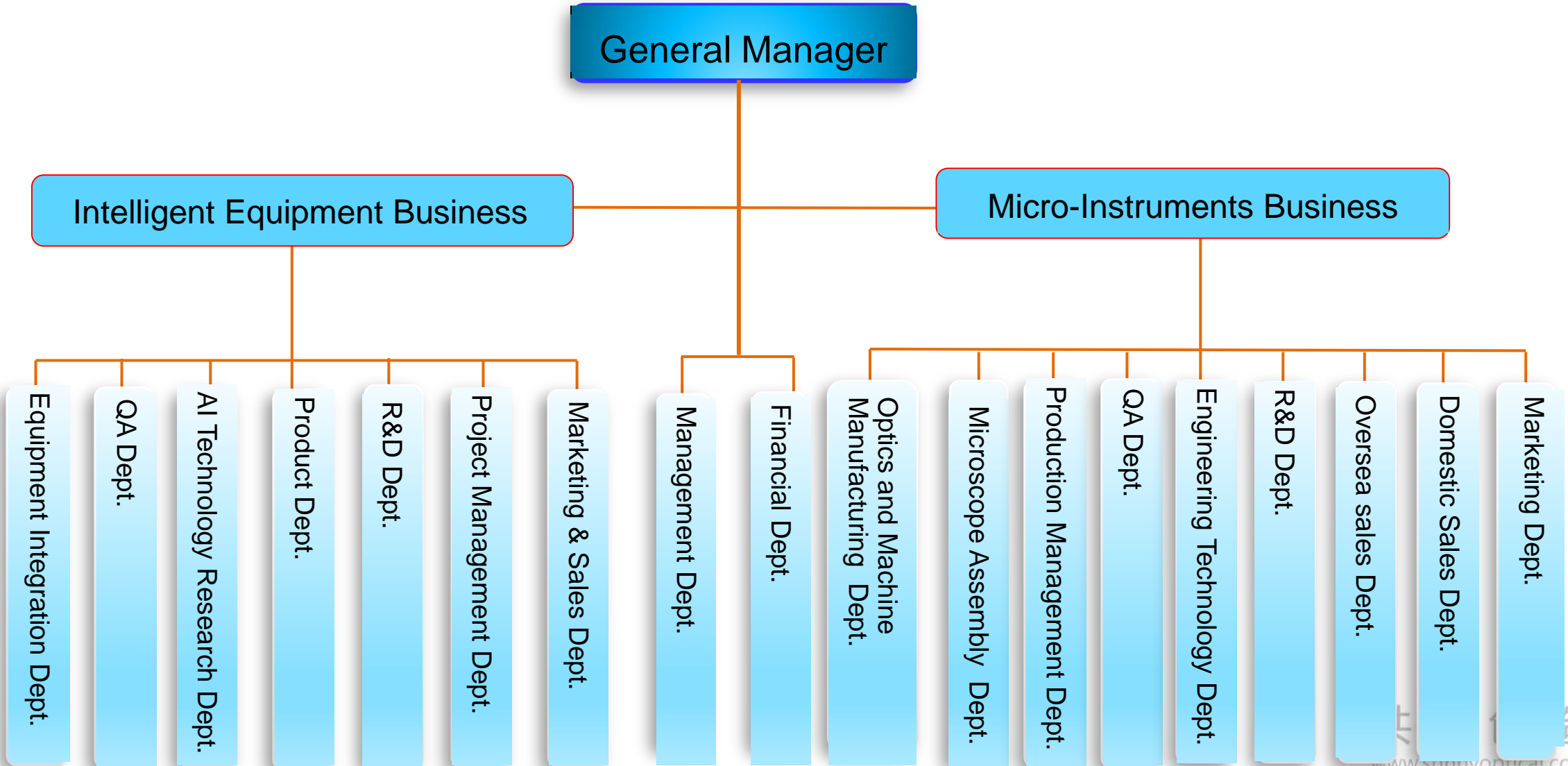
The division is mainly engaged in optical microscope, "three" (digital, automatic and intelligent) microscope research and development, manufacturing, marketing and service, and the products are widely used in scientific research, medical treatment, teaching, industrial and other fields. Sunny Instruments has built a long-term cooperation with the international famous optical enterprises – Germany ZEISS and Japan OLYMPUS etc.

主要从事光学显微镜、“三化”（数码化、自动化、智能化）显微镜的研发、制造、营销和服务，产品广泛应用于科研、医疗、教学、工业等领域，并与全球行业知名企业蔡司、奥林巴斯、徕卡等保持长期的合作关系。

Intelligent Equipment Business

The division focuses technology research and application , such as optics imaging, automatic control, deep learning, and is committed to development and manufacturing of high-end detection and precision assembly equipment. Products are widely used in mobile phone industry chain, automotive, medical industry chain, and other fields. The division is a market-oriented, technology-driven high-end equipment integrator.

专注于光学影像、自动化控制、AI深度学习等技术的研究与应用，并致力于高端检测和精密装配设备的开发与制造，广泛应用于手机产业链、车载产业链、医疗产业链、面板产业制造等领域。是一个以市场为导向、技术为驱动的高端装备集成商。



In order to keep the competition ability, the company adopts the international leading Japanese Toyota TPS "lean manufacturing" model to flexibly organize the production procedures. This can effectively avoid equipment, personnel, inventory, capital and other resources waste caused by overproduction.

公司采用国际领先的日本丰田TPS“精益制造”模式，可以柔性化组织多品种、小批量生产，有效地避免生产过剩所引起的设备、人员、库存、资金等一系列资源浪费，以保持企业竞争能力。



显微仪器组装现场
MICROSCOPE ASSEMBLING

显微仪器超净房
CLEAN ROOM

机械生产现场
MECHANICAL PROCESSING

光学生产现场
OPTICAL PROCESSING



Reliability Fatigue Test Area
可靠性疲劳试验区

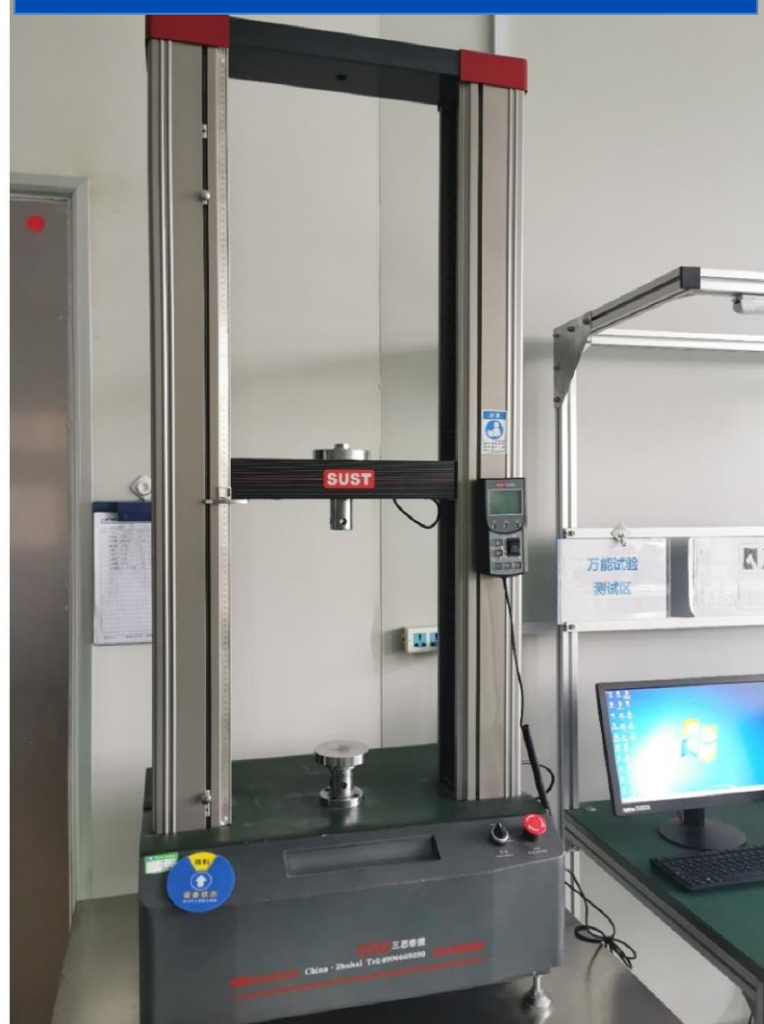
Electrical Equipment Test Area
电器试验区



Metrological Calibration Area
计量校准区



Electronic Universal Testing Machine
电子万能试验机



ZYGO- Horizontal Interferometer
ZYGO-卧式干涉仪



ROSH
能量分散型荧光X射线分析仪



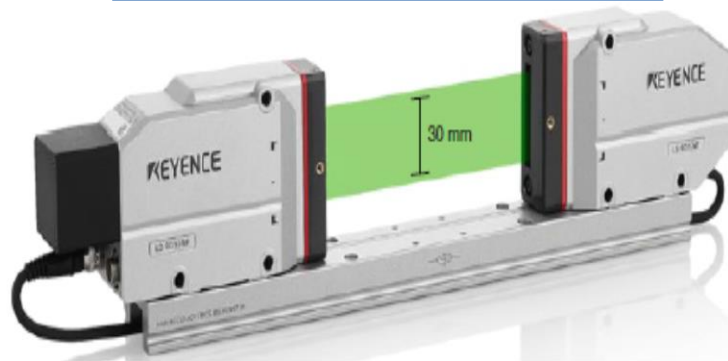
Faro Flexible Manipulator
三坐标机械测量臂



CMM
三坐标测量仪



Keyence Optical Micrometer
高精度测微计



Pneumatic Measurement Instrument
浮标式气动显仪





STAR-1300AR Vacuum Coating Machine
STAR-1300AR 真空镀膜机



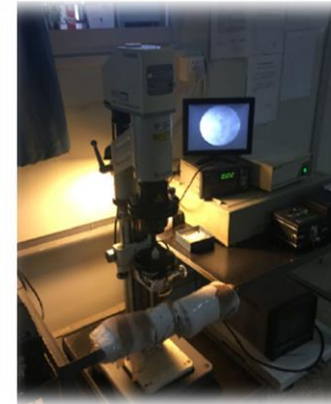
Zygo Interferometer
美国ZYGO干涉仪



Ultrasonic Cleaning Machine
科净达超声波清洗机



Mechanical Centering and Edging
Machine (Korean Sadai)
韩国定芯磨边机



Japanese Fuji Energy
Interferometer
日本富士能干涉仪



Edging Machine
(Korean Kwangjin)
韩国光进 磨边机



Japan MAZAK Horizontal Machining Center
日本MAZAK 卧式加工中心



Japan FANUC Vertical Machining Center
日本FANUC 加工中心



Japan Takahashi
Precision CNC Lathes
日本高桥 精密数控车床



Japan Hasegawa
Precision CNC Lathes
日本长古川 精密数控车床

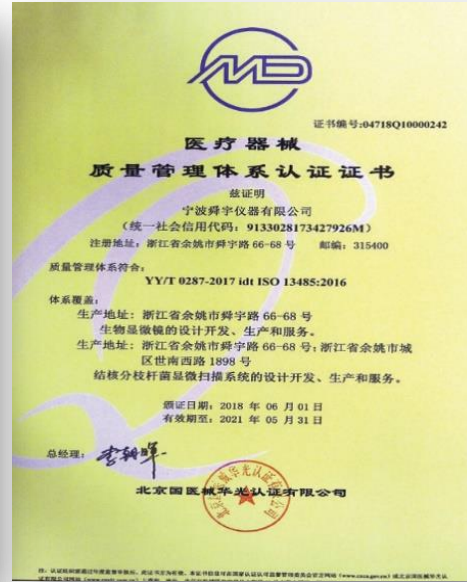




Quality Management System Certification
ISO9001:2015
质量管理体系认证



Environmental Management System Certification
ISO14001:2015
环境管理体系认证



Certification of Medical Equipment Quality Management System
ISO13485:2016
医疗器械质量管理体系认证



Certification of Process Management System for Hazardous Substances
QC080000
有害物质过程管理体系认证



Occupational Health and Safety Management System Certification
OHSAS18001:2007
职业健康安全管理体系认证

03

Main Products Display (Micro-Instruments Business)

显微事业产品展示



工业检测显微镜

Industrial Detection Microscope

半导体/FPD检查显微镜

Semiconductor/ FPD Detection Microscope

晶圆检查系统

WAFER LOADER

体视显微镜

Stereo Microscope

金相显微镜

Metallurgical Microscope

偏光显微镜

Polarizing Microscope

生命科学显微镜

Life Science Microscope

近红外二区活体显微影像系统

Second Near-infrared Window

Living Microscopic Imaging System

研究级生物显微镜

Biological Microscope for Research

实验室级显微镜

Biological Microscope for Laboratory

教学级生物显微镜

Biological Microscope for Education

显微数码互动教学与管理系統

Digital Microscope Class for Education
& Management System

显微摄像模组

Microscope Camera

显微视频摄像模组

Microscope Camera with Screen

互动教室/实验室

Interactive Classroom/Laboratory

产品配套

Product Ancillary Facility

设备配套

Equipment Supporting

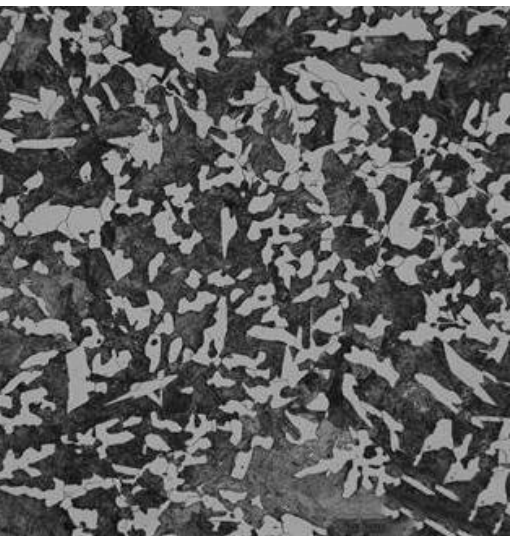
仪器配套

Instruments Supporting

物镜配套

Objective Lens Supporting

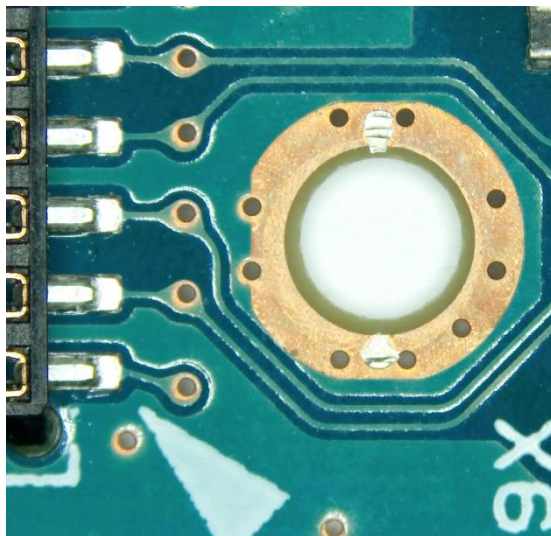
Industrial Detection 工业检测



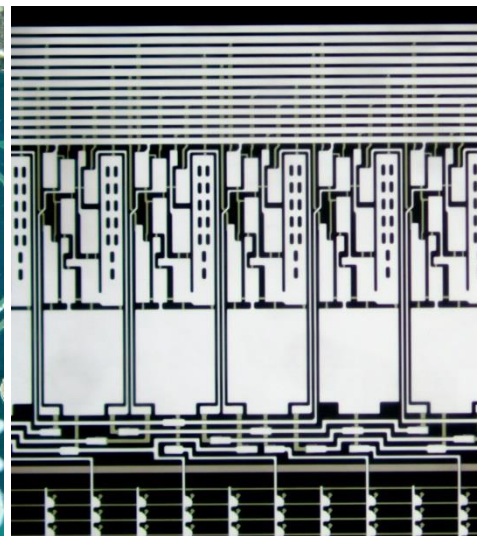
Metallographic
Organization
金相组织



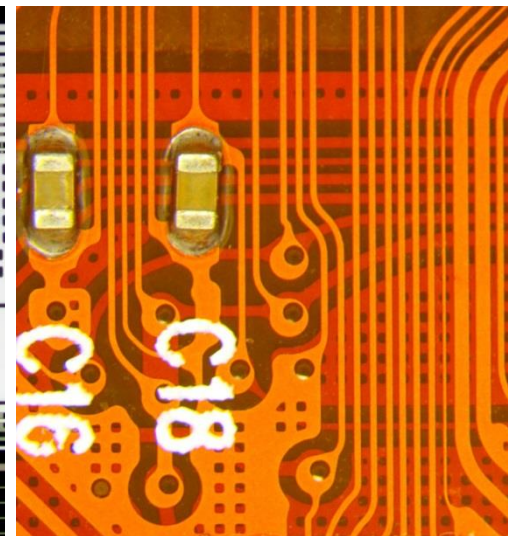
LCD



PCB

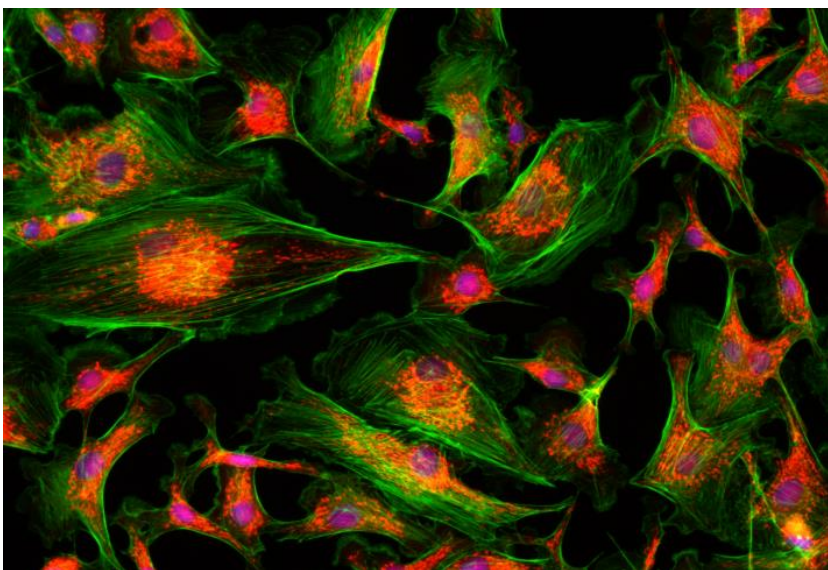


IC

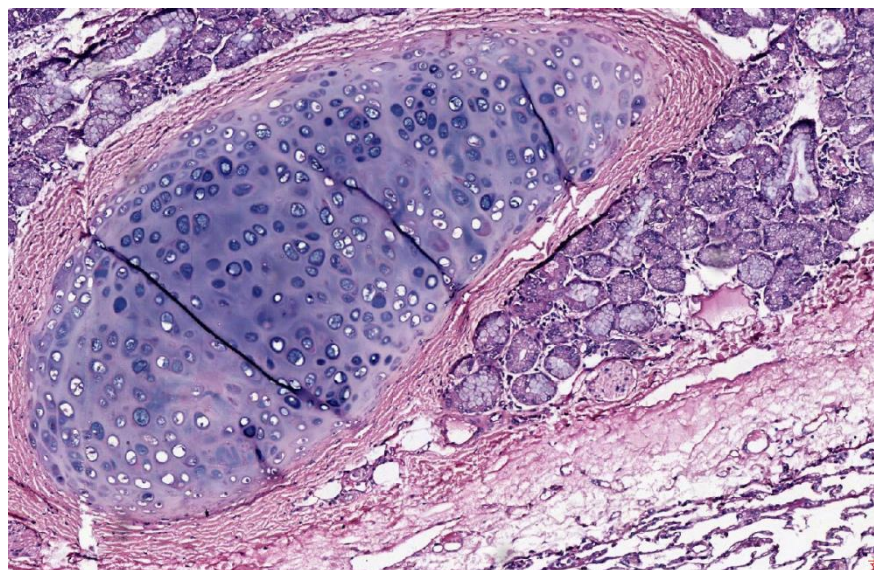


柔性线路板
FPCB

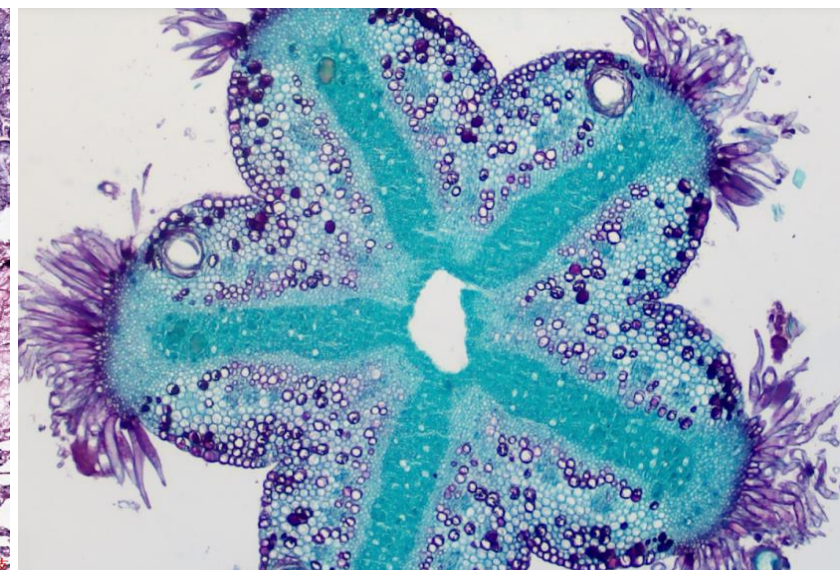
Life Science 生命科学



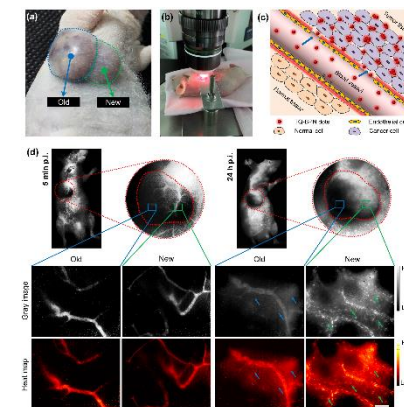
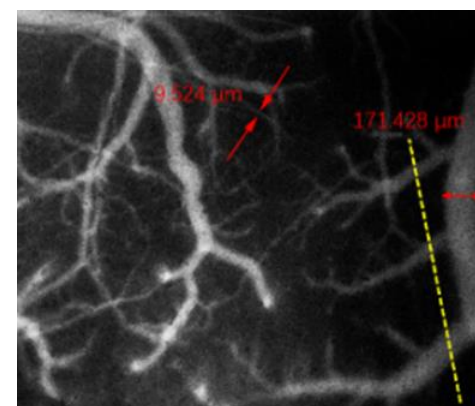
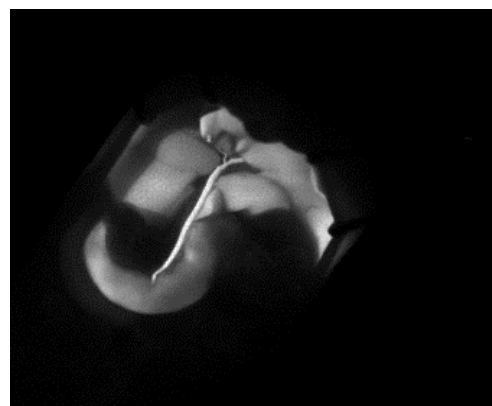
Fluorescence Detection
荧光检测



Pathological Research
病理研究



Teaching Experiment
教学实验



Second Near-infrared Window Living Microscopic Imaging System (NIRII-MS)
NIRII-MS 近红外二区活体显微影像系统

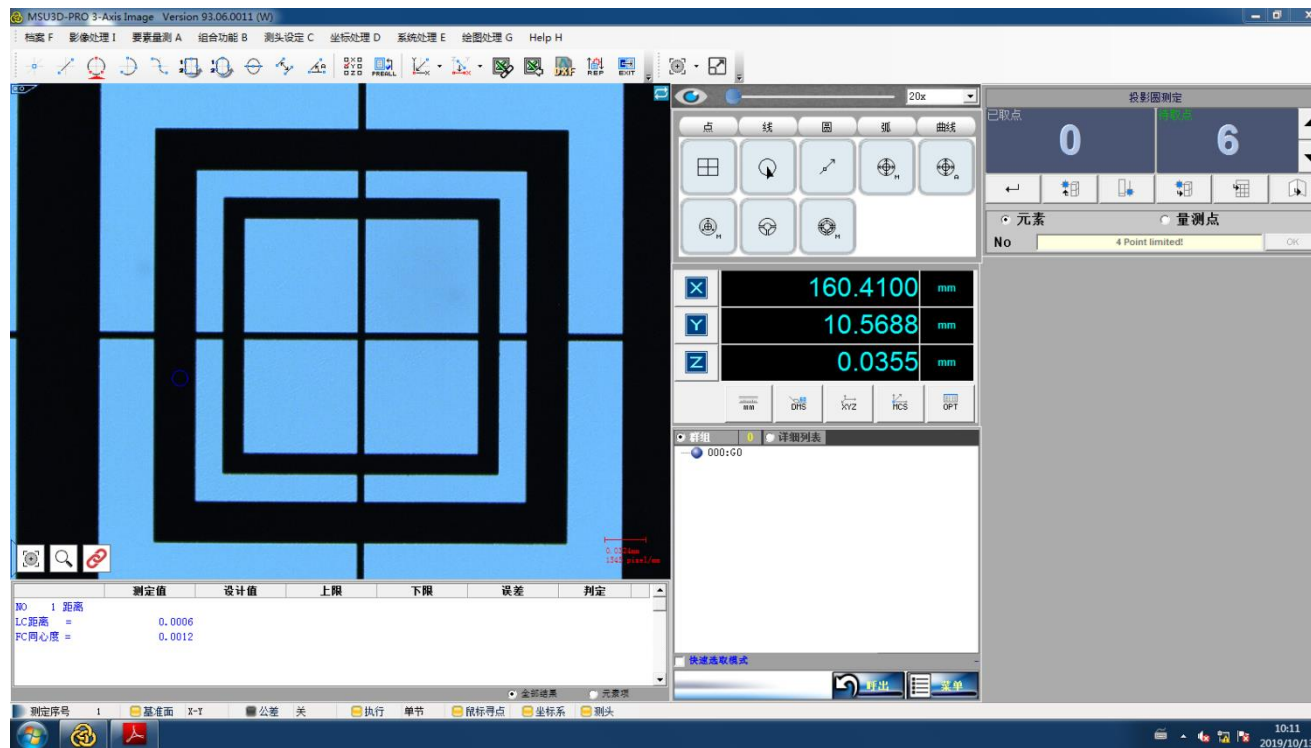


Full Automatic Microscope
RX50 MOT 全自动显微镜



Research Inverted Microscope
IRX60 研究级倒置显微镜

Measuring Microscope MS 测量显微镜





AWL046 Wafer Loader
AWL046晶圆检查系统



AWL068 Wafer Loader
AWL068晶圆检查系统



RX50 Series Deca-head Biological Microscope
RX50十人共览显微镜



RX50DO5 Penta-head Biological Microscope
RX50DO5 五人共览显微镜



RX50DO3 Triple-head Biological Microscope
RX50DO3 三人共览显微镜

Classical Teaching Microscope 经典教学显微镜



E3 Biological Microscope
E3生物显微镜



E5 Biological Microscope
E5生物显微镜



E20 Biological Microscope
EX20生物显微镜



E21 Biological Microscope
EX21生物显微镜



Biological Microscope
EX30 生物显微镜



EX31 Chinese first biological
microscope with continuous
adjustable color temperature
EX31 生物显微镜
国内首创连续色温可调



Upgraded Teaching Microscope
CX40 升级款教学显微镜



RX50 Research Biological Microscope
RX50 研究级正置生物显微镜



ICX41 Inverted Biological Microscope
ICX41 倒置生物显微镜



**ICX41 Intelligent LED Inverted
Fluorescence Microscope**
ICX41 智能 LED 倒置荧光显微镜



**EX30 LED
Fluorescence Microscope**
EX30 正置LED荧光显微镜



**RX50LED
Research Fluorescence Microscope**
RX50LED 研究级正置荧光显微镜



**RX50M Research Metallurgical
Microscope**
RX50M 研究级正置金相显微镜



**CX40M Metallurgical
Microscope**
CX40M正置金相显微镜



**ICX41M Inverted Metallurgical
Microscope**
ICX41M 倒置金相显微镜



MX12R Semiconductor/ FPD Detection Microscope
MX12R/68R
半导体/FPD检测显微镜





**SZX12 Large Zoom Ratio
(12.5 : 1) Parallel Light
Zoom Stereo Microscope**
大变倍比 (12.5 : 1)
平行光路体视显微镜



DMSZ Series Digital Microscope
DMSZ系列视频一体机



**SZN71 Zoom Stereo
Microscope**
SZN71 连续变倍显微镜



BHP Laboratory Polarizing Microscope
BHP 实验室偏光显微镜



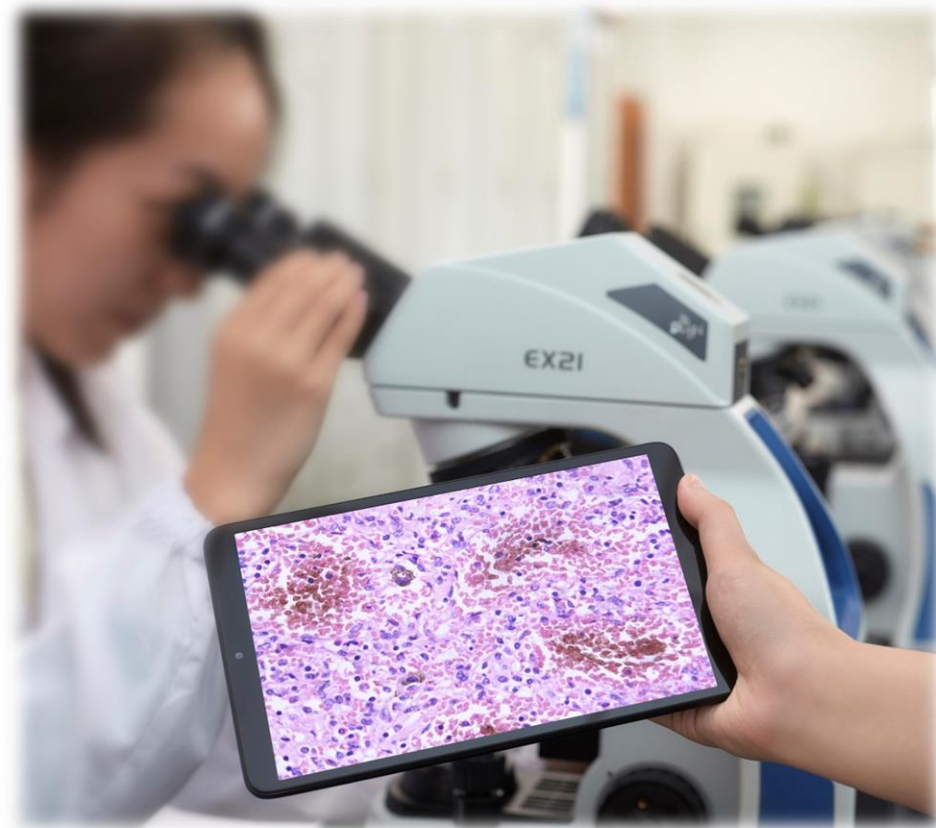
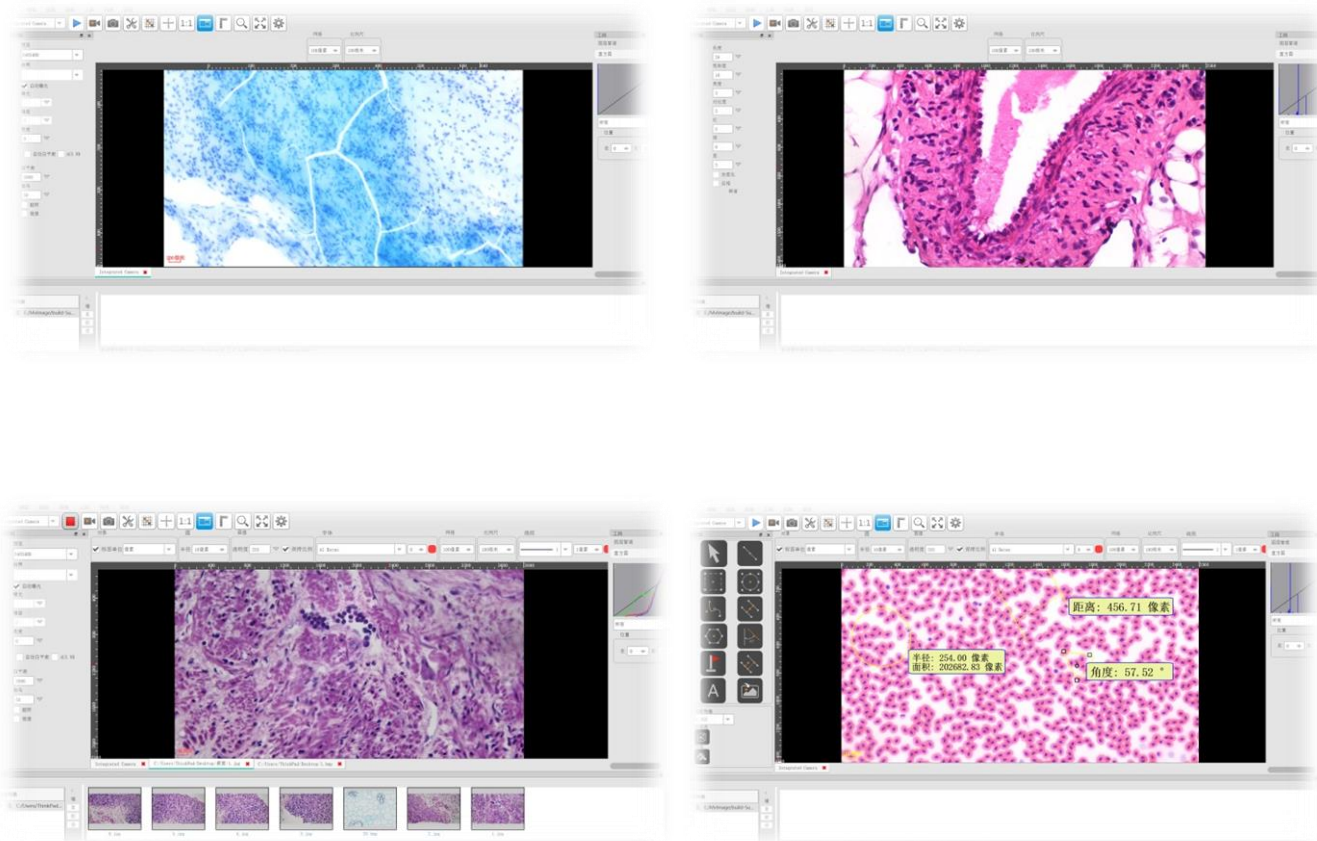
CX40P Polarizing Microscope
CX40P 偏光显微镜



DME3 Wireless Digital Microscope
DME3无线数码显微镜

Digital Microscope
数码体视一体机

DME5 Wireless Digital Microscope
DME5无线数码显微镜



MvImage 2.0
SOPTOP Self-developed Advanced Image Analysis Software
MvImage 2.0 SOPTOP自主研发的高级图像分析软件



Interactive Classroom/Lab with IoT Microscope Mutual System
物联显微互动教室/实验室



Wireless Digital Interactive Classroom/Lab
无线数码互动教室/实验室



Wired Digital Interactive Classroom/Lab
有线数码互动教室/实验室



MPLAN Long Working Distance Plan Achromatic Objective
LMPlan 系列
长工作距平场消色差物镜



MPLANFL-BD Long Working Distance Plan Semi-apochromatic Objective
LMPlanFL-BD 系列明暗场长工作距平场半复消色差物镜



LCPlanFL Long Working Distance LCD Metallurgical Objectives
LCPlanFL系列
长工作距LCD金相物镜



Customized Objectives
H客户定制物镜



OIPN Plan Achromatic Objective
OIPN系列平场消色差物镜



LUPLPFL Long Working Distance Plan Semi-apochromatic Objective
LUPLPFL系列 长工作距平场半复消色差物镜



LUPLPFL Long Working Distance Plan field Semi-apochromatic Phase Contrast Objective
LUPLPFL系列 长工作距平场半复消色差正相衬物镜



APO Plan Apochromatic Objective
APO系列平场复消色差物镜



SAPO Plan Ultra-Apochromatic Objective
SAPO系列平场超复消色差物镜

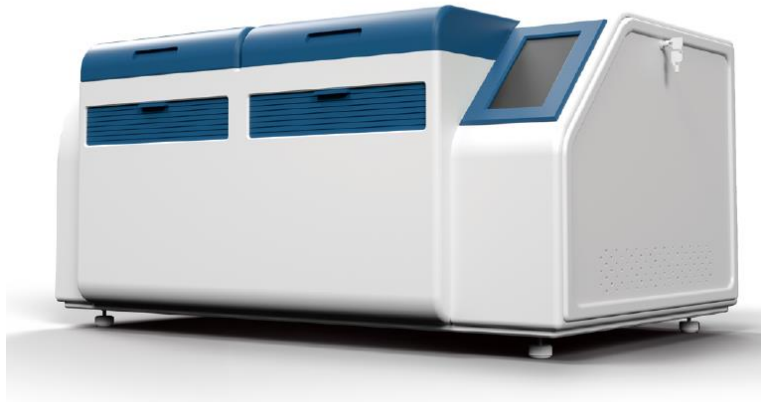
04

Main Products Display (Intelligent Equipment Business)

智能事业产品展示

It can be used for the production, staining and scanning of liquid-based specimens such as cells, bacteria and microorganisms

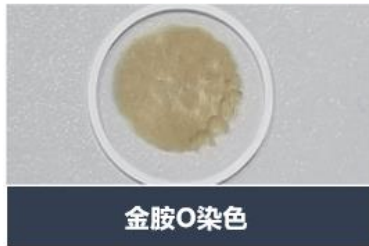
可用于细胞、细菌及微生物等液基标本的制作、染色、阅片



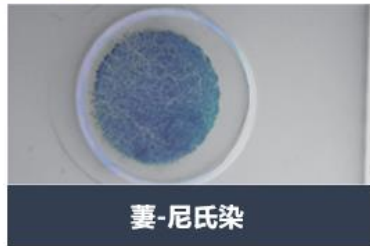
液基薄层
集菌技术

可用于
多种染色

大幅度提高
阳性检出率



金胺O染色



萋-尼氏染

适用于在结核病实验室和微生物实验室开展使用

Features

Fully automatic scanning, providing auxiliary diagnosis

Strong visibility, easy to store and retrieve

Can be intelligently scanned and analyzed



FS50 (50 slides)

FS200 (50 slides)

Mycobacterium tuberculosis microscopic scanning system

结核分枝杆菌显微扫描系统



FS50 (lignin-Nissl staining method and auramine O staining)

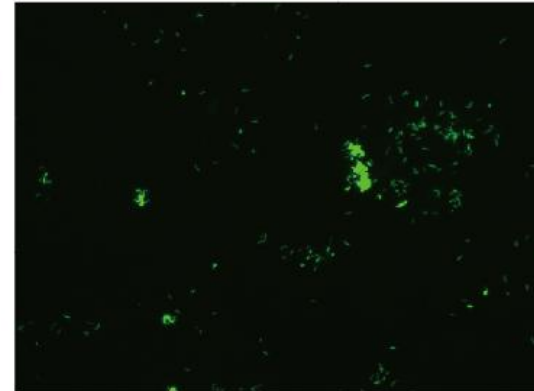
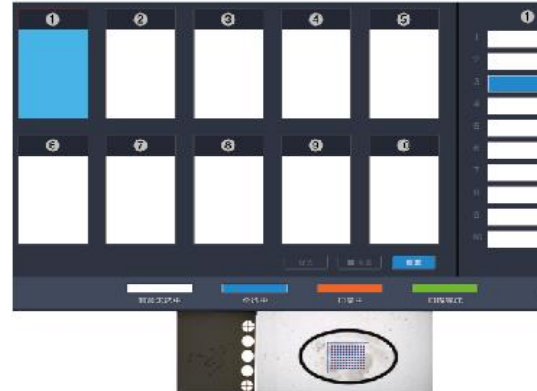


FS200 (lignin-Nissl staining method and auramine O staining)

Using a high-precision digital microscopy system for automatic image collection and storage of sputum smears, intelligent identification and analysis and processing, and an automatic scanning and auxiliary diagnosis system that gives recommendations for negative and positive grade judgments.

It is suitable for the micro-assisted diagnosis of Mycobacterium tuberculosis. It can be used for sputum smear inspection by lignin-Nissl staining method and auramine O staining method.

通过高精度数字显微系统对痰涂片进行自动图像采集保存、智能识别分析处理，给出阴性以及阳性等级判定建议的一个全自动扫描与辅助诊断系统。适用于结核分枝杆菌的显微辅助诊断。可用于萘-尼氏染色法&金胺O染色法痰涂片检查。



位置	切片信息	扫描结果	扫描时间
1-1	0	3+	2018-02-06 08:33:51
1-2	0	阴性	2018-02-06 08:37:03
1-3	0	3+	2018-02-06 08:39:26
1-4	0	4+	2018-02-06 08:41:50
1-5	0	3+	2018-02-06 08:44:13
1-6	0	3+	2018-02-06 08:46:36
1-7	0	3+	2018-02-06 08:48:59
1-8	0	3+	2018-02-06 08:51:21

(图像以FS200为例)

It is used for automatic scanning of pathological slices. Through digital slices, scenarios such as remote pathological diagnosis, pathological slices and digital dimensions, and intelligent analysis and application of digital slices can be realized.

用于病理切片自动扫描，通过数字化切片可以实现远程病理诊断、病理切片和数字化尺寸、数字化切片的智能分析与应用等场景。



HS6

HS50

HS200

Digital slide scanning high-definition images
数字玻片扫描高清图像



Sunny Instruments and Leica Bio
Digital scanning products of pathological collision optics

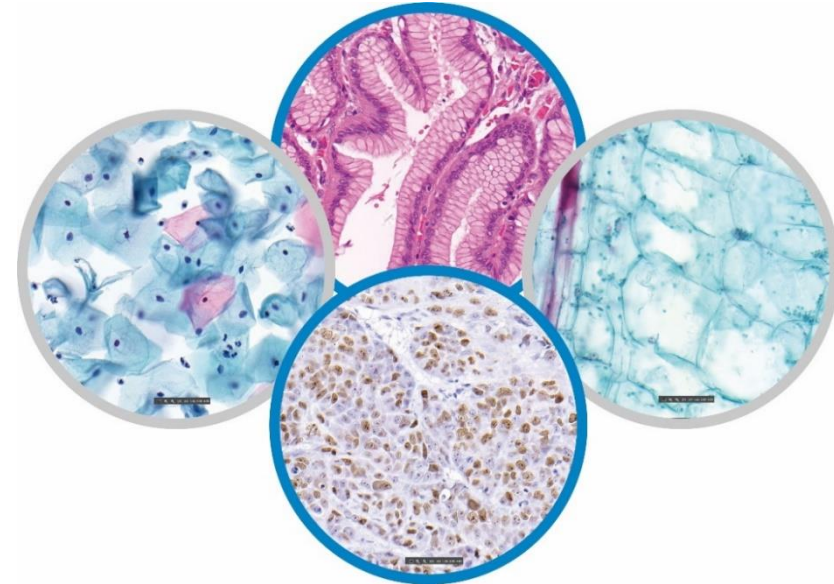
舜宇仪器与徕卡生物病理碰撞光学的数字扫描产品

Unique 3 CMOS
imaging technology
特有的三棱镜成像技术

High-fidelity color
reproduction technology
高保真色彩还原技术

Multi-layer focal depth
expansion to ensure true and
accurate images
多层焦深拓展确保图像真实准确

High-precision
platform
高精度平台



Microscopic image analyzer with Augmented Reality

AR显微影像分析仪

It can perform image acquisition and analysis of IHC membrane staining (HER2, etc.) and nuclear staining (Ki-67, ER, PR, etc.), cell counting and identification; it can achieve auxiliary diagnosis of TCT specimens, Fully meet the precise diagnosis and treatment needs of clinical and scientific research users in the field of pathological diagnosis.

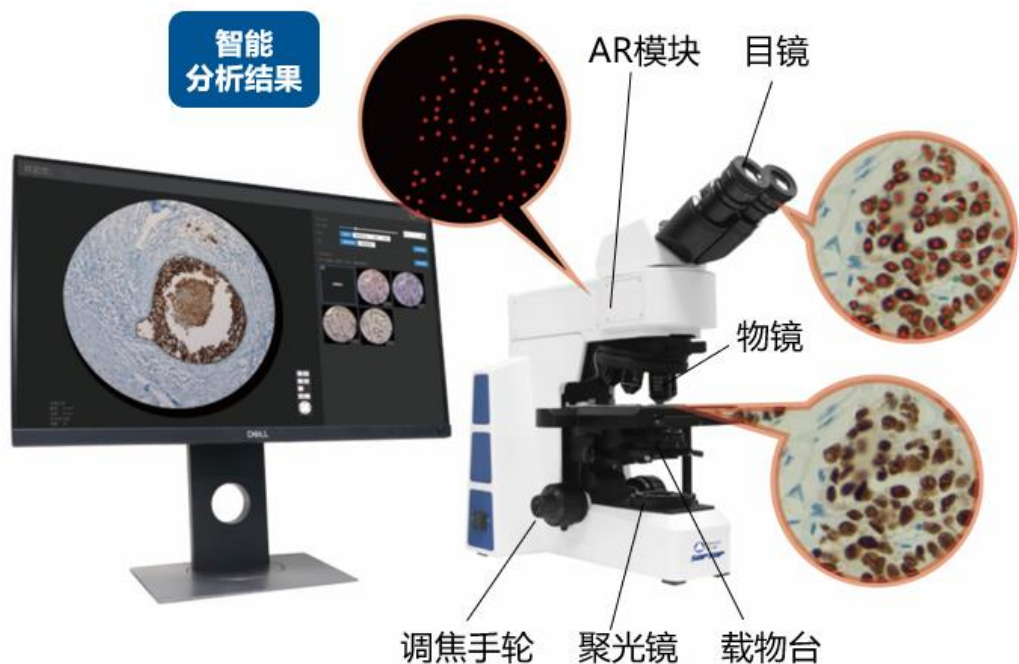
可进行免疫组化膜染色(HER2等)和核染色(Ki-67、ER、PR等)的图像采集分析,细胞计数与识别;可实现细胞病理宫颈液基薄层制片标本的辅助诊断,全面满足病理诊断领域临床和科研用户的精准诊疗的需求。

舜宇显微镜

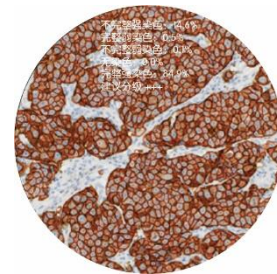


金域大数据

腾讯软件

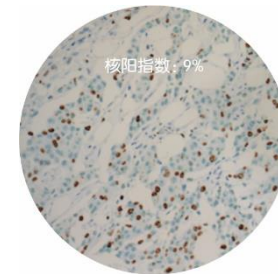


Sample original image
样本原始图



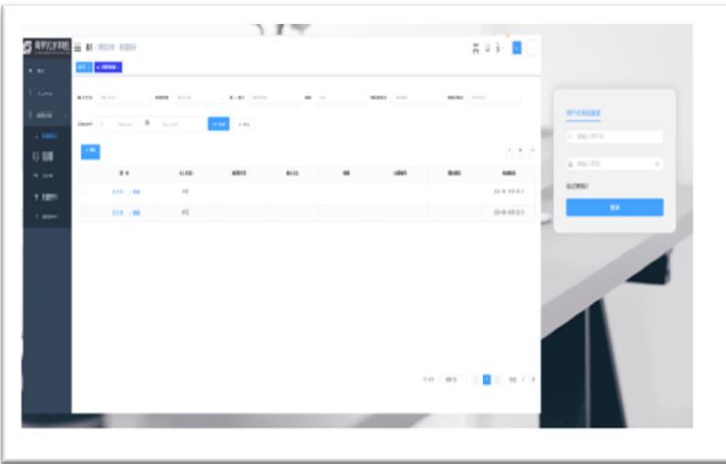
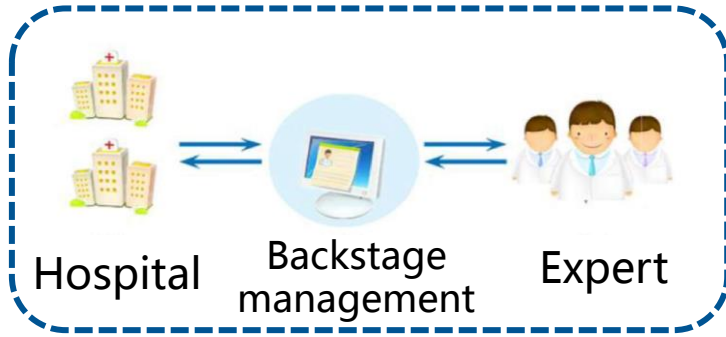
Membrane staining analysis results
膜染色分析结果

Eyepiece enhanced real image
目镜增强实图



Nuclear staining analysis results
核染色分析结果

For remote diagnosis of pathological slices



With the rapid development of network information technology, remote diagnosis has gradually become an indispensable platform for modern medicine. The digital pathology remote diagnosis system integrates modern medicine, computer network technology, modern communication technology and other high-tech into one, forming a platform system integrating medical treatment, education, scientific research, and information, and realizes the storage, transmission, and transmission of modern medical information. Applications with functions such as query, comparison, and browsing. Changed the original traditional single mode of medical treatment, improved the uneven distribution of expert resources, and allowed more patients and medical staff in remote areas to share expert resources, educational resources, medical science and technology resources more economically and efficiently, and improve the level of medical technology. Make high-tech in the medical field truly become the gospel of mankind.

Visualization

Visualize big data analysis, let the data get a deeper interpretation;

B/S architecture

The platform adopts B/S architecture, which is easier to deploy and better information resource sharing

AI-assisted diagnosis

Provide a variety of AI functional interfaces to assist experts in diagnosis and decision-making;

Browse online

Support online browsing of digital slices, realize functions such as synchronous operation, slice labeling and measurement;

Modular

Friendly and scientific modular function and interface management, which can be customized and modified;

Hospital interconnection

Can provide an interface to connect with the existing system of the hospital;

Multiple browsing

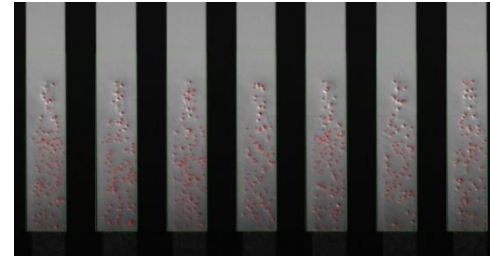
Support multiple ways of online browsing such as mobile phones, tablets, computers;

Transmission encryption

The data transmission process is encrypted, and there is more complete and lossless automatic verification function, and the data storage is safe and stable;

Indentation detection after display panel ACF BD (AI automatic detection)

显示面板ACF BD后的压痕检测 (AI自动检测)

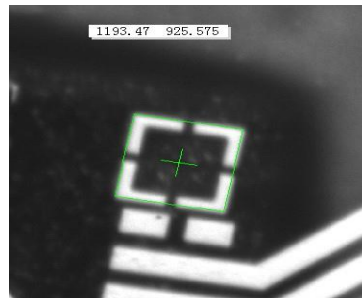
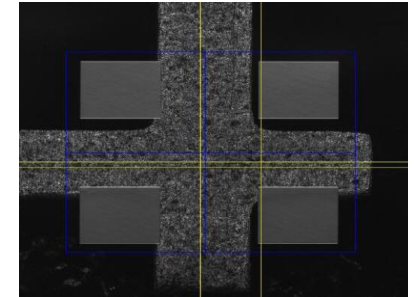


ACF particle detection

- Count the particles in each bump
- Current particle count deviation within the same bump ≤ 2 particles

IC bonding inspection

- Detect COG's X, Y direction deviation
- Using IR system
- Detection accuracy: $\leq \pm 2\mu\text{m}$ (IR detection accuracy $\leq 1\mu\text{m}$)



FPC deviation detection

- Detect the X-direction deviation of FOG
- Line scan system
- Detection accuracy: $\leq \pm 2\mu\text{m}$

IRCF module defect inspection equipment

IRCF组件检测设备介绍

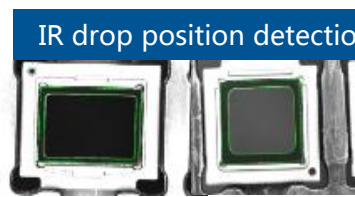
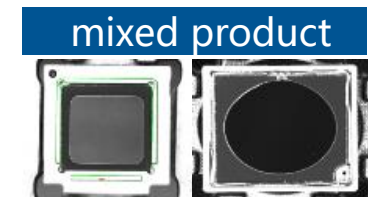
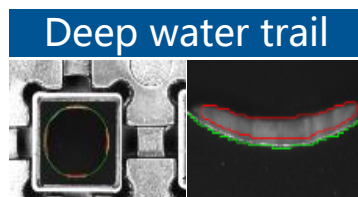
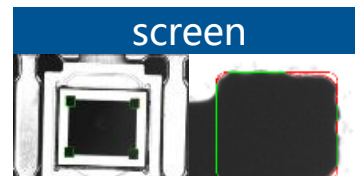
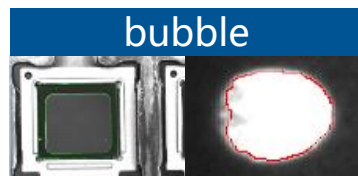
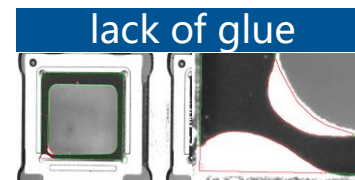
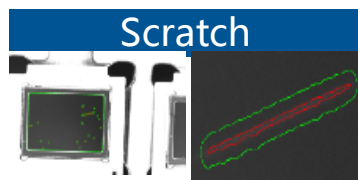
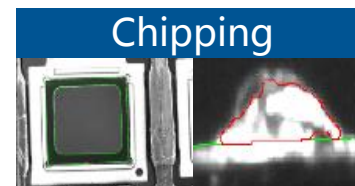
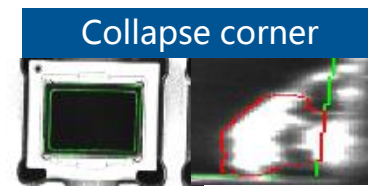
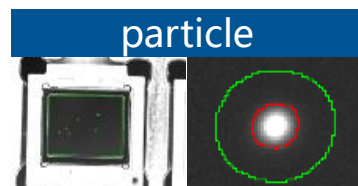
Automatic detection and sorting equipment for mobile phone IRCF module defects

手机IRCF组件缺陷自动检测、分拣设备



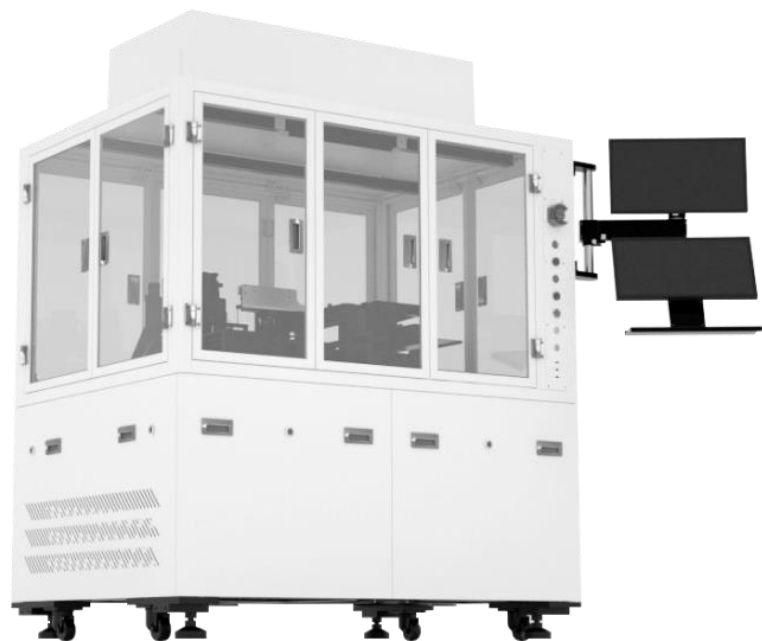
Detection accuracy $\geq 20\mu$
Missed inspection $< 1\%$

UPH ≥ 8000
Over inspection $< 5\%$



Used for automatic lens appearance inspection,
instead of traditional manual inspection

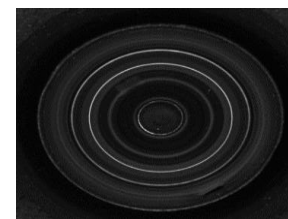
用于镜头外观自动检测, 替代传统的人工检查



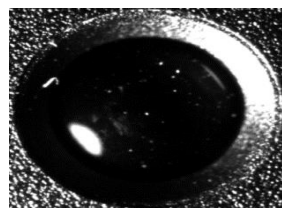
Detection accuracy $\geq 20\mu$ UPH ≥ 2000
Missed inspection $< 1.5\%$ Passed inspection $< 10\%$



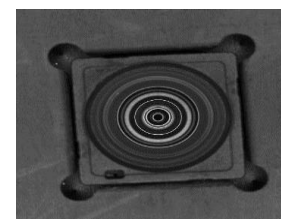
End face inspection
/mixing inspection



Internal dust and



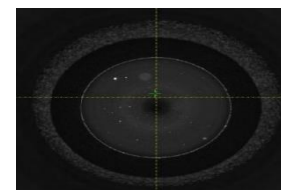
Superficial



overflow/spacer



Side defect



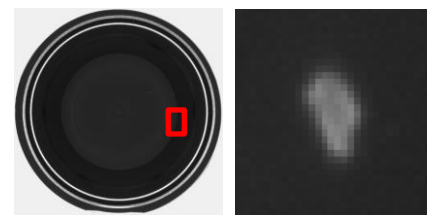
Demoulding inspection

Used for automatic lens appearance inspection,
instead of traditional manual inspection

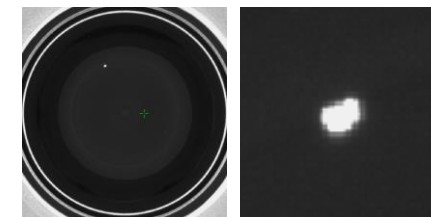
用于镜头外观自动检测, 替代传统的人工检查



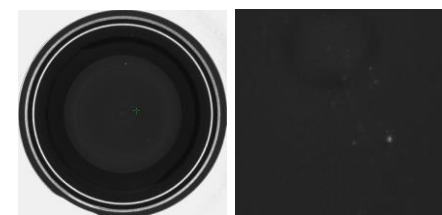
Detection accuracy $\geq 20\mu$ UPH ≥ 2000
Missed inspection $< 1\%$ Passed inspection $< 2\%$



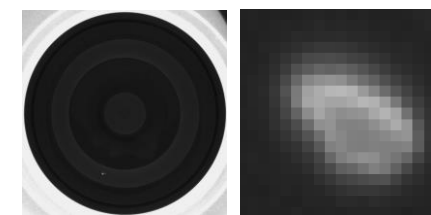
Demold



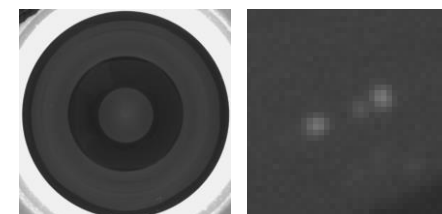
particle



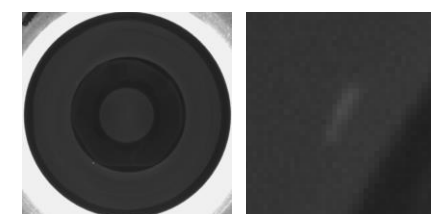
stain



Dark demoulding



Bruise



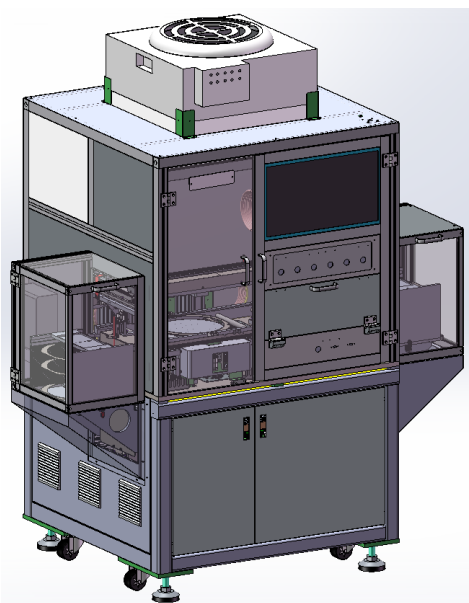
Scratches

On film IRCF defect detection equipment

膜上IR片检测设备介绍

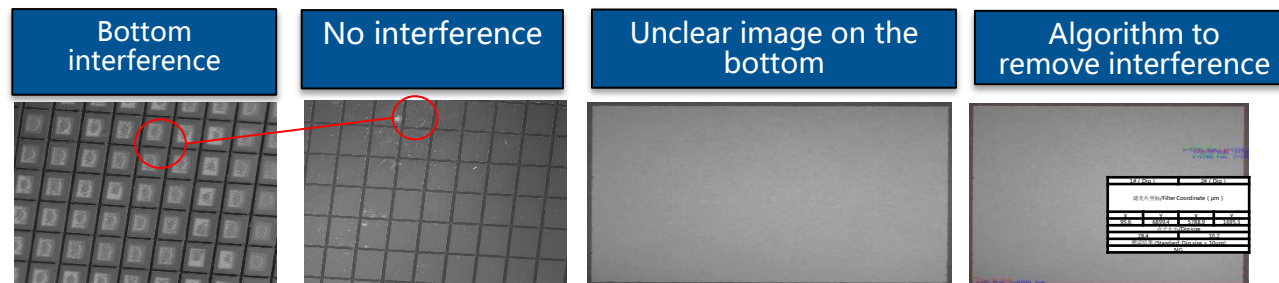
Used for automatic detection of IR film on Wafer disk, Replace traditional manual inspection

用于Wafer盘上IR片的自动检测，替代传统的人工检查

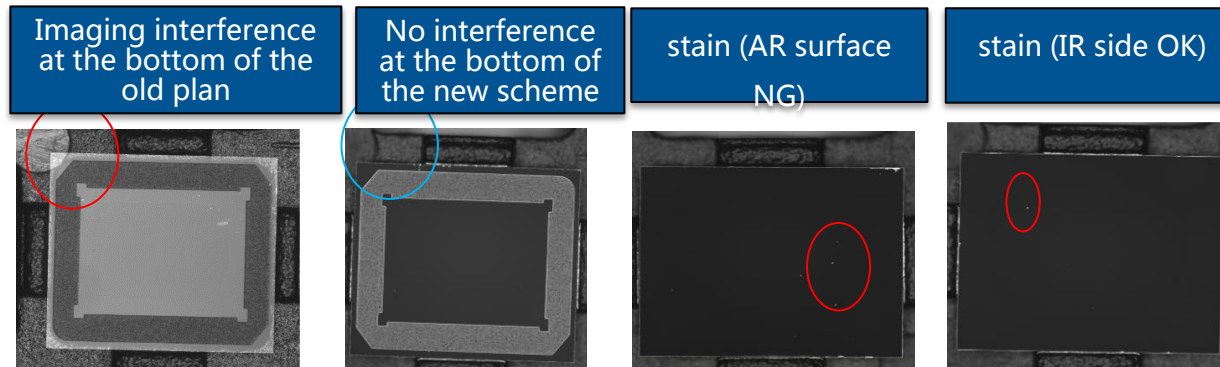


Detection accuracy $\geq 10\mu$ UPH ≥ 12000
Missed inspection $< 1\%$ Over inspection $< 3\%$

实际验证效果对比 Actual verification effect

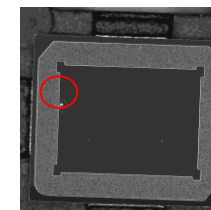
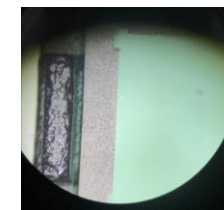


IR面膜上成像对比 Comparison of imaging on IR



Part of the sample verification result—watermark

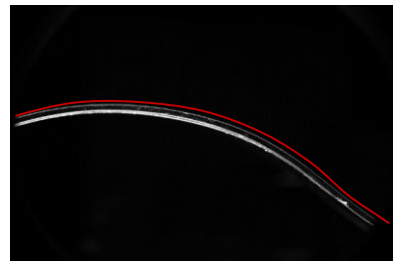
Original image of microscope



Inspecti on chart

High-precision detection, large-size display glass cover size, defect detection

高精度检测大尺寸显示玻璃盖板尺寸、缺陷检测



Glass side profile detection

- Contour size detection, real-time comparison with drawings
- Detection accuracy up to 20 μ



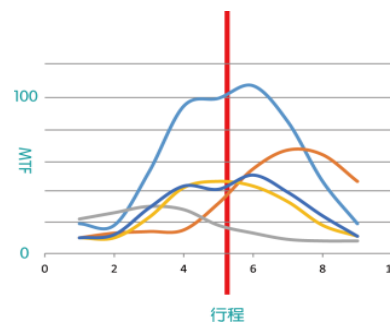
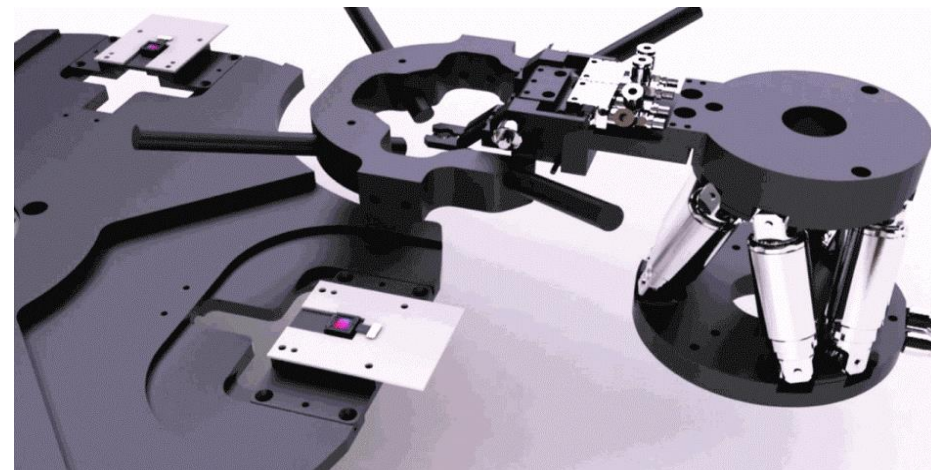
- 尺寸：800mm*110mm—1800mm*200mm



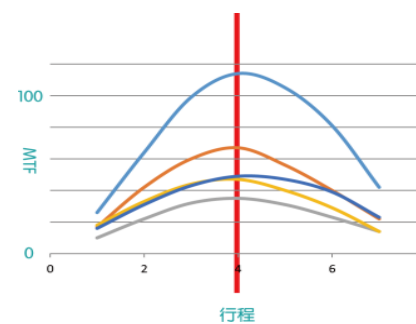
- Ductility crack detection Ink spill detection Ink out detection

Precise module optical axis active adjustment/assembly

精密模组光轴主动调整/装配

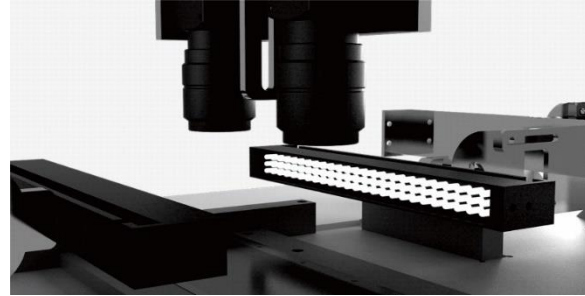


before



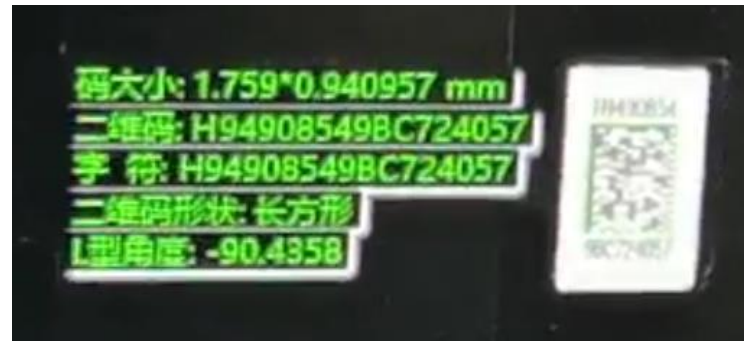
after

QR code scanner equipment 二维码扫描机



feature

- High scanning accuracy
- Fast recognition
- Strong flexibility

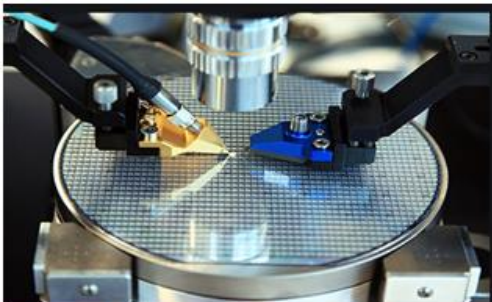


application

Scanning and reading of common industrial QR codes and barcodes

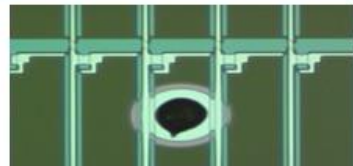
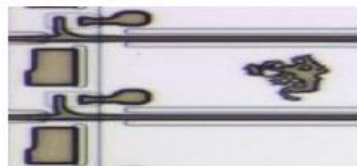
Real-time focus microscopic imaging detection

实时对焦微观成像检测



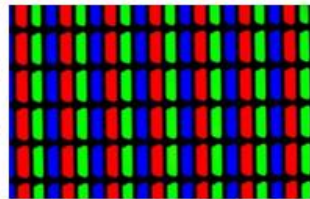
特点

- 对焦精度: 1/4 景深
- 对焦行程: ± 15 mm
- 对焦分辨率: $0.05\mu\text{m}$



应用

- 晶圆AOI设备
- 显示面板ACF BD压痕检测
- 各类精密AOI设备



共同创造

www.sunnyoptical.com

文件等级：密2



THANKS

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