



 **Mstar**



01/ Overview



02/ Products



03/ Use Cases

MSSTAR



01/ Overview

MSTAR

Overview

One of technological pioneer of vision systems, software, and industrial cameras

Featuring an extensive and highly skilled R&D workforce, Mstar cooperates with many well-known universities and research institutes globally. We help companies improve product quality, eliminate production errors, lower manufacturing costs, and exceed consumer expectations for high quality products at an affordable price.

Our products are widely applied for electronics, automobile, logistics, food/medical packaging, textile, biomedicine and other industries, and make due contributions to the development of robots, high-end manufacturing and intelligent manufacturing industries.





02/ Products

MSTAR

Products



Software

HCAI



HCvisionQuick



Hardware

Infrared
industrial
camera



2D
industrial
camera



3D camera

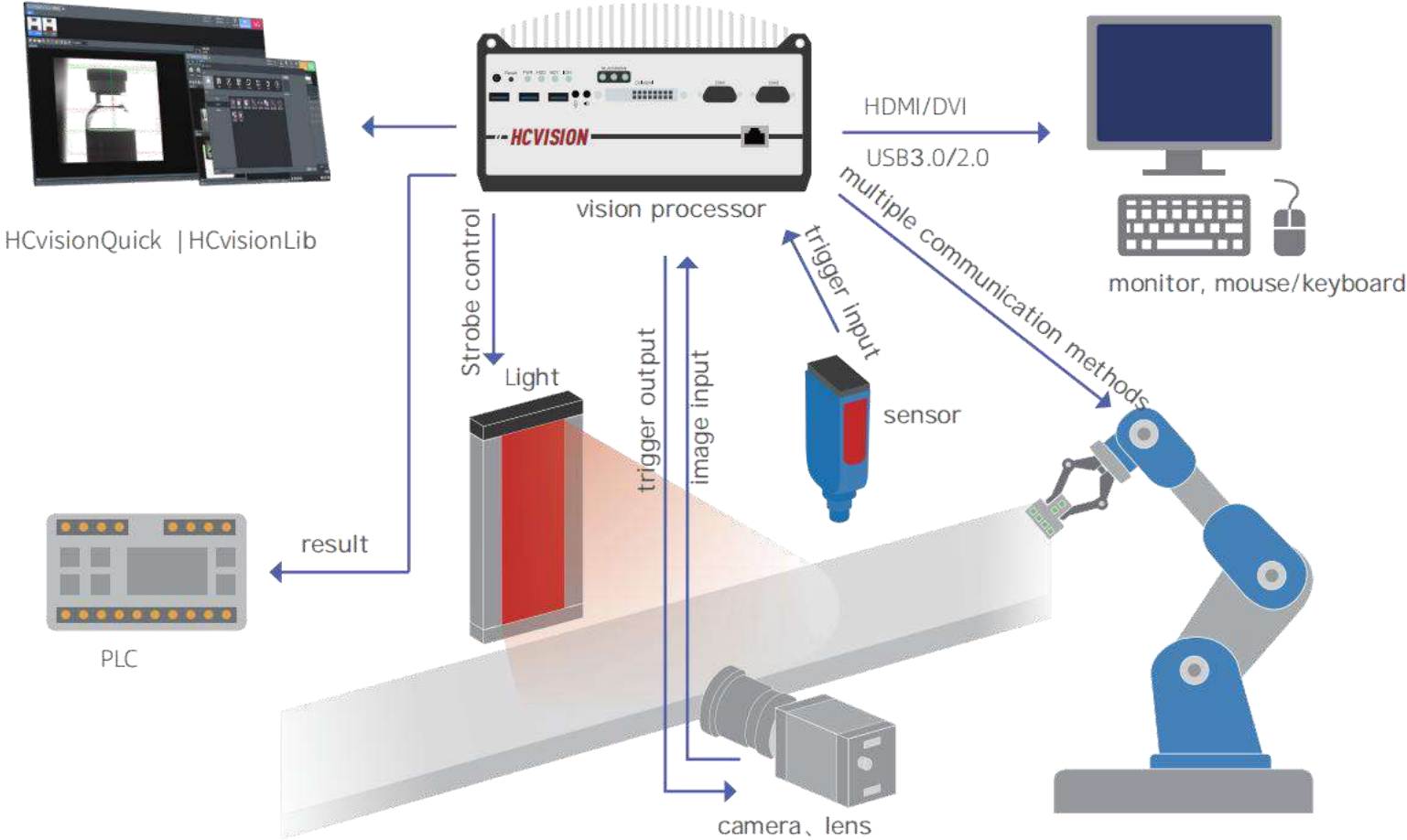


Smart
camera



HCvision System

All-in-one solution



General Intelligent Machine Vision Platform

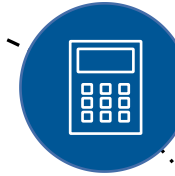
100% Independent research and development

Years of development and optimization



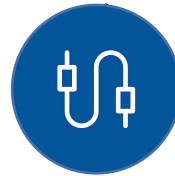
Rich algorithms and tools

More than 2,000 machine vision and AI algorithms



High compatibility

Compatible with a variety of industrial cameras and can work together with various robots and PLC systems



Leading technology and high stability

Excellent performance and high reliability



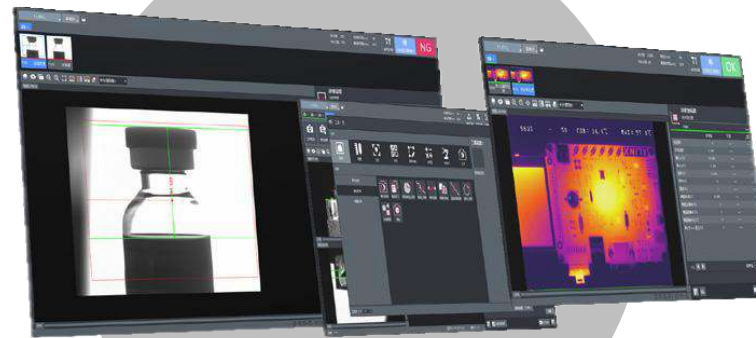
Support 5G edge computing

Supports acceleration algorithms such as GPU and multi-core parallelism



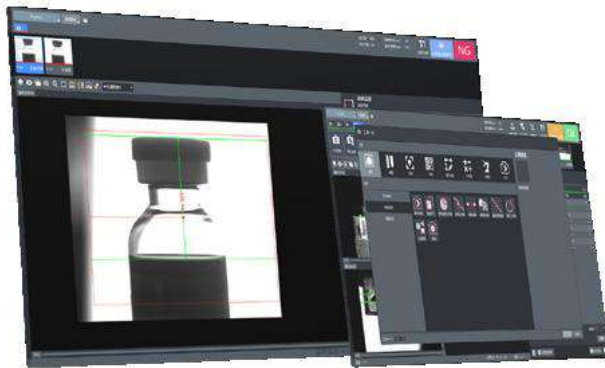
Support multiple operating systems

Smooth migration among Windows, Linux and other OS



Machine vision software module series

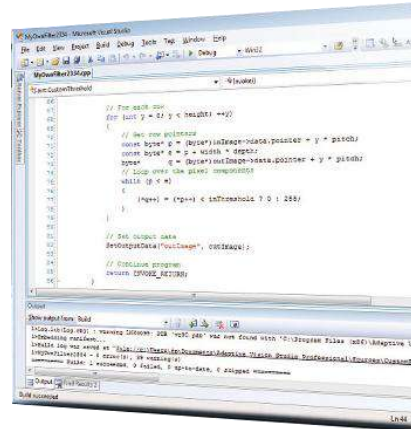
HCvision Quick



Several versions to choose

No programming skills are required.

HCvision Library



More than 2,000 visual algorithms

Support multi-core acceleration

HCAI

Deep Learning



Solve problems such as defect inspection, locating, classification, and segmentation in various complex scenarios.

HCvision Database




HCvision Database can create a database on the base of inspection data and image outputed by HCvisionQuick.

Supports search by date for analysis.

Functional modules

 Detection



 Measurement




 Location



 3D vision



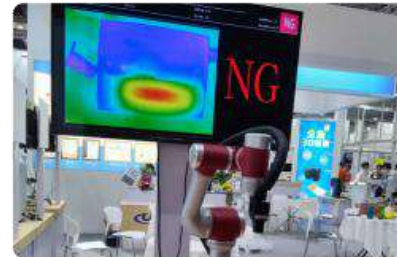
 Recognition



 Robotic Guide



 Infrared vision



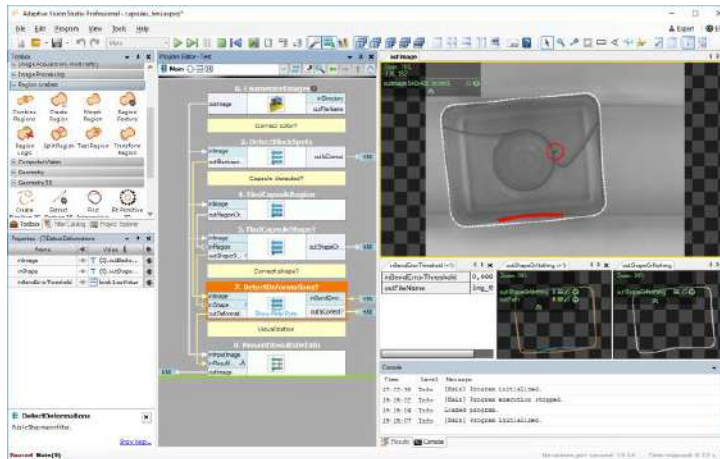
 Deep learning



Other software module series

Studio

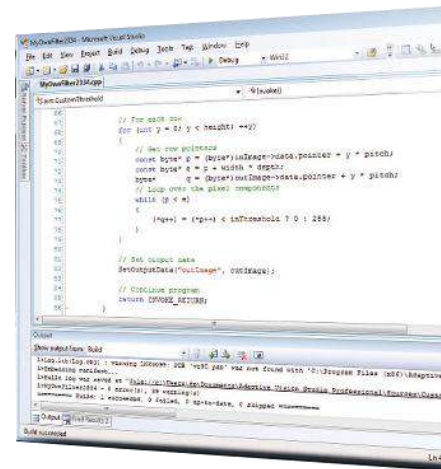
For rapid devGraphical, dataflow-based environment for rapid development



Designed for the needs of machine vision engineers. Highly powerful and intuitive at the same time.

Library

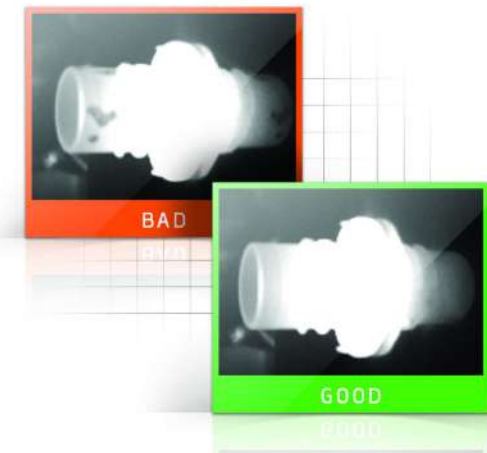
For C++ and .NET



A set of ready-to-use functions for C++ and .NET programming. Simple, modern and highly optimized for multi-threaded execution.

Deep Learning

Sample-based training



A set of seven ready-made tools based on deep learning technology.

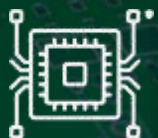
No programming skills are required.

Main Applications

Our system is widely used in various industrial automation, including electronic manufacturing, automobile, robotics, agriculture and food, cosmetics, textile, packaging, pharmaceutical and medical devices, glass manufacturing and processing, medical, military, security monitoring, etc.



Consumer electronics



Semiconductor



Automobile



Medical



Printing



Packaging



Zipper



Metal



Electrical appliances

Camera products line

high-speed area scan camera

10 GigE
CXP



area scan camera

GigE
USB3.0
USB2.0



line scan camera

GigE
10 GigE
256TDI



smart camera

ARM
X86
AI



3D structured light camera



3D line laser camera



Area scan camera



USB2.0 series

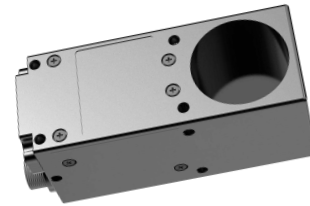


30-1000W Rolling / Global

Area scan camera



USB3.0 series



**30-1000W Rolling / Global
Support 90°**

Area scan camera



GigE series



30-2000W Rolling / Global
Support POE

Area scan camera



10 GigE series



**30-2000W Rolling / Global
Support POE**

Line scan camera

GigE series

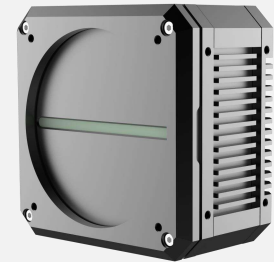
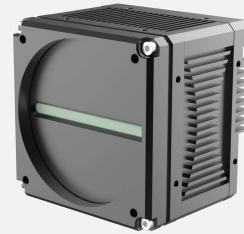
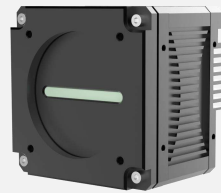


4k

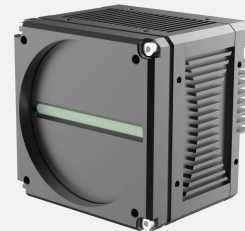


Line scan camera

GigE series



4K/8K/16K Mono 256TDI 250K frequency



8K / 16K Mono/Colour



Smart camera



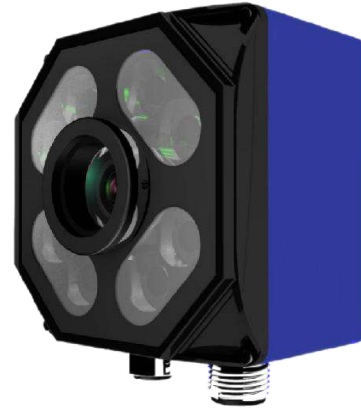
X86 smart camera



30-2000W Rolling / Global

Smart camera

ARM smart camera



30/130/200W Global

Smart camera



AI smart camera



**500W Colour Global
2T Hashrate**

Infrared camera



SWIR camera



30/130W

Infrared camera



Infrared camera



120/480W



380/640W

Infrared camera






NIR camera



30/200W

3D structured light camera

			
Degree of protection	IP 67	IP 65	IP 54
Scanning range(m)	0.3- 6.5	0.8- 3.0	1.25- 4.5
FOV(H/V)	62 °/ 49 °	60 °/ 48 °	62 °/ 46 °
Accuracy(mm)	5@2000	3.6@2000	2.92@3000
Weight(kg)	1.10	0.62	2.20
Size(mm)	140*94*70	140*51.4*96	538.4*85.5*89.6
Operating temperature (degrees)	0-50	-10-50	0-45
Power supply(V)	DC 24-48	DC 24	DC 24

3D line laser camera



SR5000

Rail transit



SR7000

Electronics/Lithium/
Photovoltaic/Hardware



SR8000

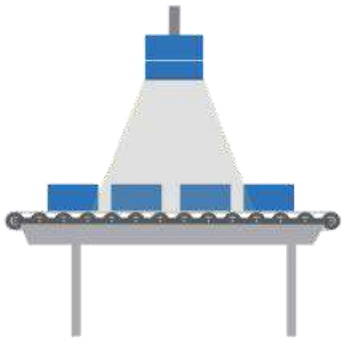
Electronics/Lithium/
Photovoltaic
Ultra-high-speed
measurement 67kHz



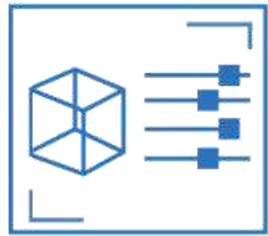
SR9000

Electronics/Lithium/Glass
Ultra-high precision
6400 points

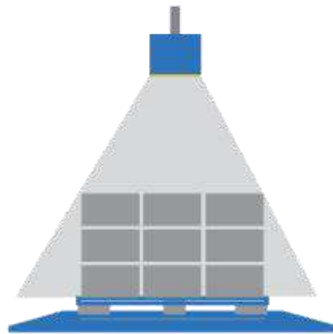
3D Applications



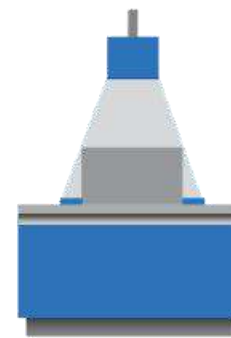
Integrity Check



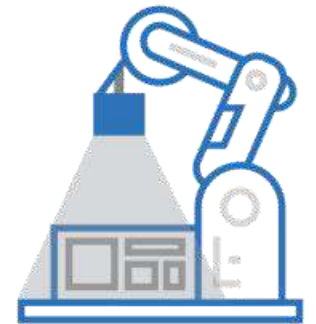
3D Content Generation



Palletizing / Depalletizing



Volume Measurement



Industrial Sorting

Mould monitor



- ◆ Linux operating system, long working hours
- ◆ GigE interface, POE power supply, strong anti-interference ability
- ◆ Protection grade IP65
- ◆ Support 1-2 HD industrial cameras
- ◆ Adopt industrial aviation plug with good connection and easy-plugging
- ◆ Built-in WiFi module, support online upgrade.



03/ Use Cases

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Electronics Industry

Take the images of chips, PC accessories, handset accessories, routers and other products by the industrial cameras, and then use HCVisionLib to process and analyze the images, and output information to make inspection or measurement, locate products and etc.

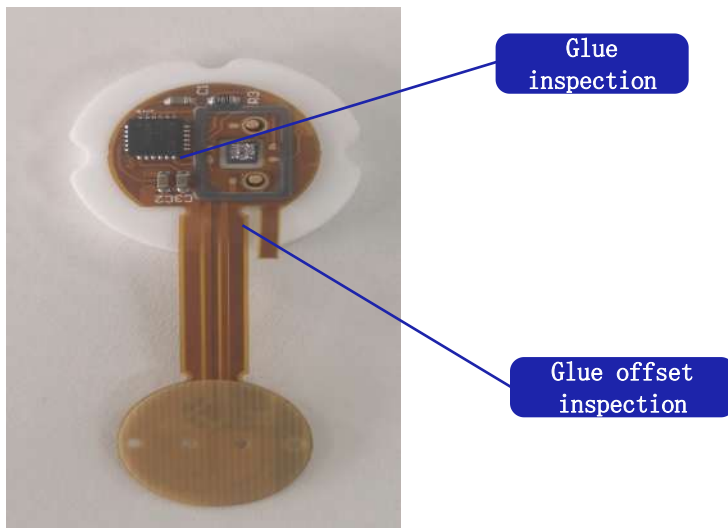
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Inspection of glue

Inspection requirements

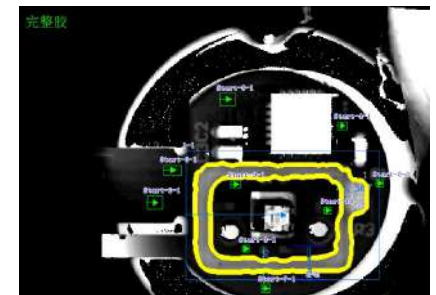
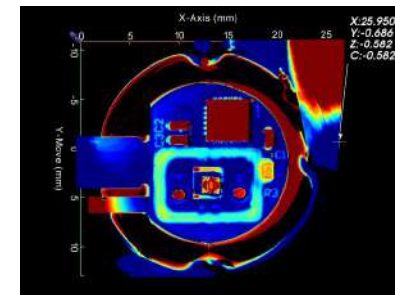
Inspect the presence of glue, cutoff, offset of glue and glue width on the PCB board.

Beat: 1pcs/s Static shot

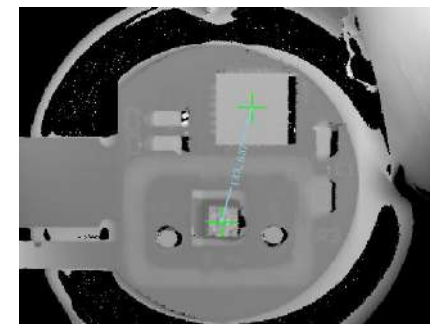
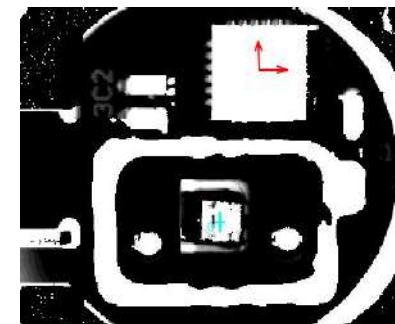


Inspection results

Inspection of glue



Inspection of glue offset



Packaging

Food packaging is a part of commodities. It is used to protect the quality of food when it delivers to the market. To ensure food safety under high speed and efficiency, visual solution are used to detect defective products.

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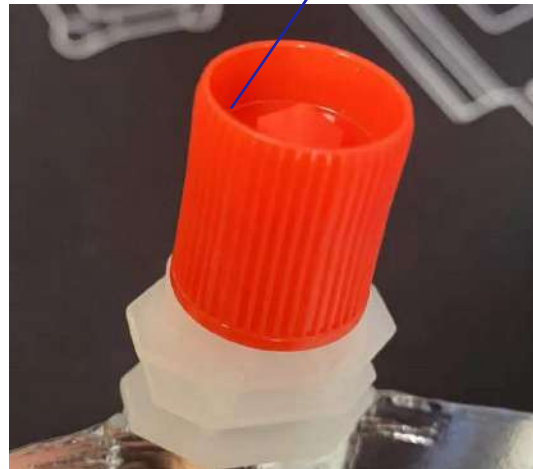
Inspection of bottle mouth hot-seal packing

Inspection requirements

Inspect aluminum film sealing deviation, aluminum film folding, aluminum film leakage, reversed aluminum film sealing.

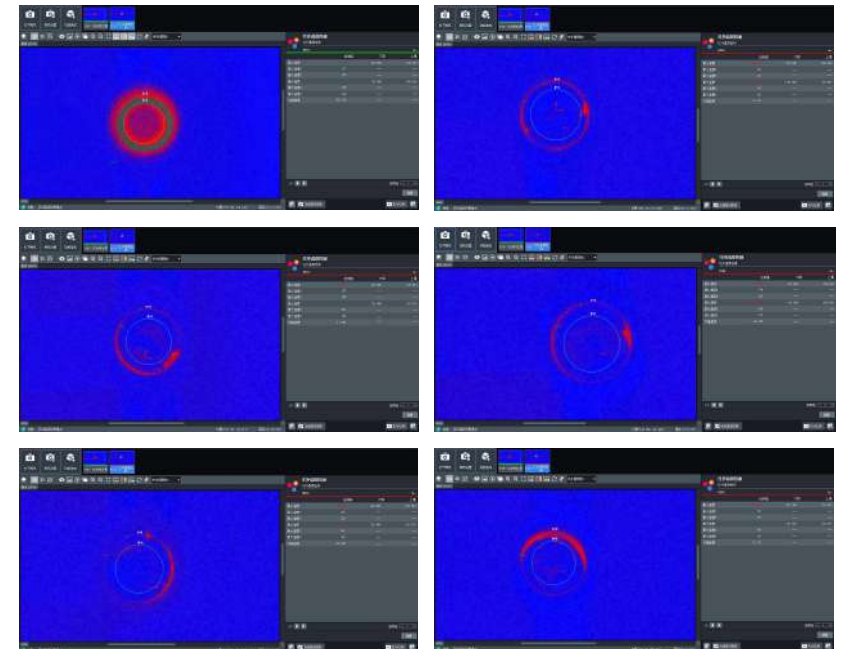
Beat: 1pcs/s Accuracy: 0.2mm/pix Action shot

aluminum film
heat sealing



Inspection results

Inspection of heat sealing



Metal

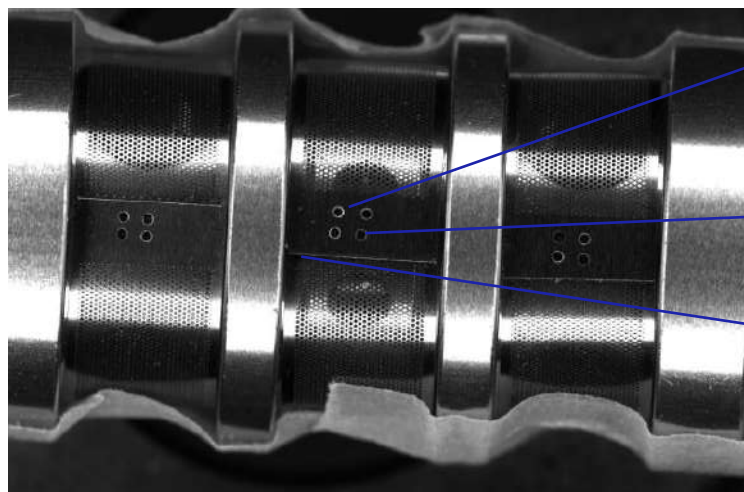
The metal industry provides key components for precision manufacturing and is extremely strict about product quality. Conduct appearance inspection, defect detection and dimensional measurement of precision parts by using HCvision systems to improve work efficiency and output quality.

Inspection of welded joints

Inspection requirements

Measure the diameter of solder joints, spot spacing and the distance from the spot to the edge.

Beat: 1pcs/s Accuracy: 0.05mm Static shot



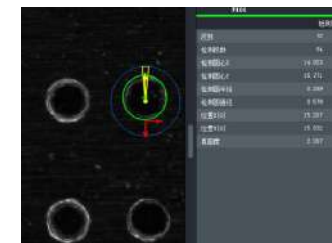
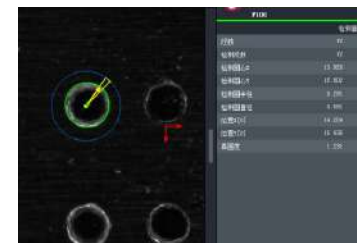
solder joints diameter

spot spacing

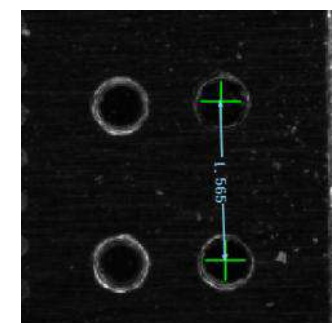
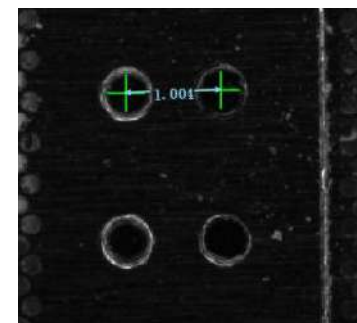
the distance from the spot to the edge

Inspection results

Solder spot diameter measurement



Spot spacing measurement



Automobile

All aspects of manufacturing in the automobile industry have been highly automated. The quality and efficiency in the automobile manufacturing can be effectively improved by using machine vision.

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Inspection of fine blanking press

Inspection requirements

Use a 3D line laser camera to locate the product on the streamline and obtain point cloud data of the product surface, then guide the robot to pick.

Beat: 24 pieces/min Action shot

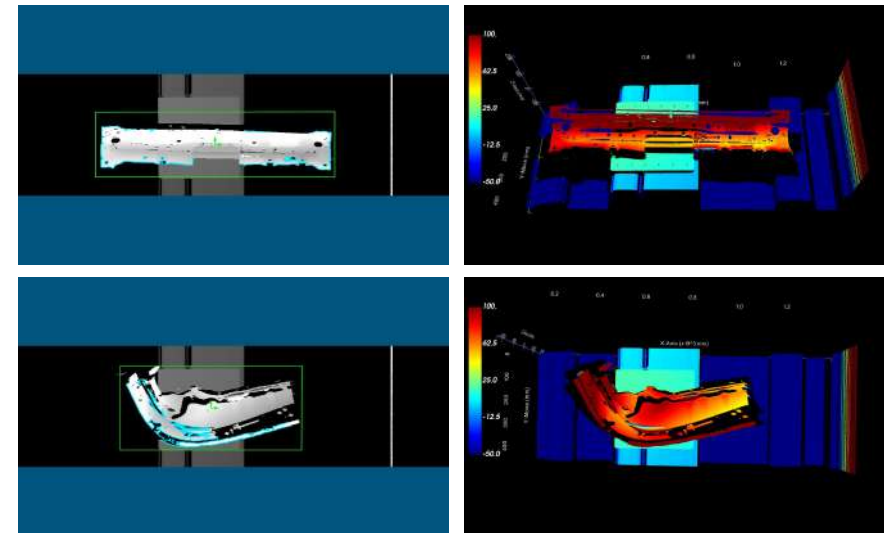


3D
inspection

Location
inspection

Inspection results

Locating



Textile

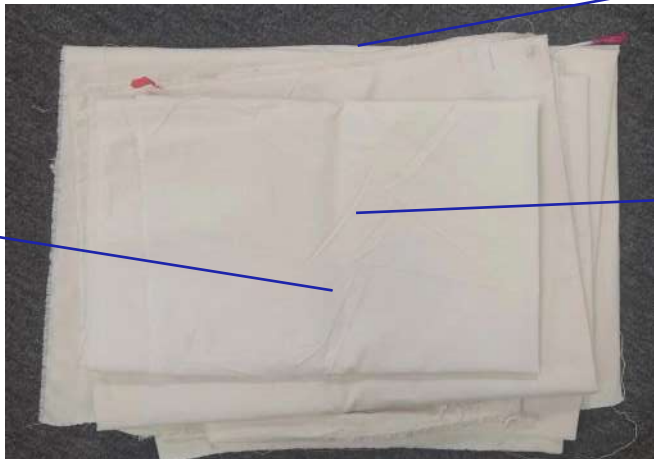
In textile production, the detection of defects in finished products is essential. The machine vision defect inspection system combines optical imaging, mechanical engineering and other technologies to help the production by positioning, detection, measurement and identification.

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Textile defect inspection

Inspection requirements

Inspect tight thread, knots and rough selvedge.
Beat: 1min/35cm Action shot



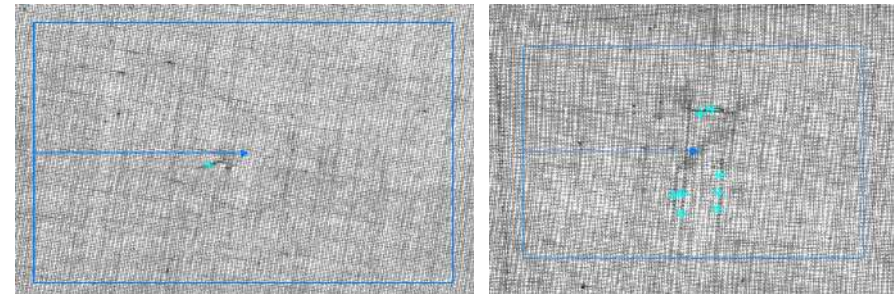
Rough selvedge

Knots

Tight thread

Inspection results

Inspection of tight thread and knots



Inspection of rough selvedge

