Connect with us and build a legacy of success

If you have any interest in our Quality Control System or require further information.
Please do not hesitate to contact us.
We look forward to collaborating with you to build a promising future.

WeChat public account

Official website

Good Vision & Motion(Shenzhen)Co,. Ltd.

Tel: +86 0755 2641 5314

Address:Room 612, 6/F, HKUST Shenzhen IER Building 9 Yuexing 1st Road Hi-Tech Industrial Park South Nanshan District Shenzhen China

Technical Support: good@gvmtech.com Official Website: www.gvmtech.com

Good Vision & Motion Technology Ltd.
固德视控

Safeguard Quality, Precisely Escort Your Needs



PRINTING QUALITY INSPECTION SYSTEM

Good Vision & Motion(Shenzhen)Co,. Ltd.

www.gvmtech.com

Every Sight,
Every Flaw.

Delivering high-efficiency,
precision vision inspection solutions for the global flexible packaging industry
propelling industrial automation and intelligence forward.

COMPANY INTRODUCTION

20 Years

With over 20 years of photonics-based vision systems R&D expertise, we consistently pioneer industry-leading detection algorithms.

AOI

This vision-based printing quality inspection system specializes in automated detection of roll-to-roll materials, with extensive applicability across industries.





Good Vision & Motion（Shenzhen）Co,. Ltd. is a high-tech enterprise specializing in machine vision and precision motion control technologies. Holding proprietary industrial vision protocols and self-developed motion control IP, we achieved China's breakthrough in full-stack in-house high-speed machine vision inspection systems. Our vertically integrated solution includes: Fiber-interface high-speed cameras ; Fiber-optic acquisition cards ;High-power, military-grade reliability lighting ;Real-time image processing servers ;AI-driven system software ;(100% independent R&D, patented core technologies).

Good Vision & Motion's quality inspection system specializes in automated roll-to-roll substrate detection, delivering high-throughput, micron-accurate vision solutions across industries including: Printing & Packaging; Electrodeposited Copper Foils; New Energy Li-ion Batteries;Photovoltaics; 3C Electronics; Transportation Equipment; Medical Devices; Textile Manufacturing.

Application Scenarios:

Copperplate Press | Central Impression (CI) Flexo Press | Stack-Type Flexo Press | Inline Press with PDR | Multicolor Offset Press | Screen Printer

Plastic Film Blowing Machine | Casting Machine | Rewinding Machine | Slitting Machine | Laminating Machine | CIJ/DOD Coding System | Bag Making Machine

SYSTEM INTRODUCTION

The only full-stack, in-house developed solution in China

Printing Quality Inspection System

A printing quality inspection system utilizes machine vision to replace human visual assessment, performing precise measurements and judgments. Leveraging computer vision technology, it processes digital image inputs by extracting image features and conducting computational analysis to interpret and evaluate print quality. A complete system comprises:
Optical imaging lenses
Industrial cameras
Frame grabbers
Structured illumination systems
Image processing software
Human-machine interface (HMI) displays
Industrial communication modules



Integrated Control Cabinet

Advanced Industrial Design with Optimized Thermal Management

Premium Lighting System

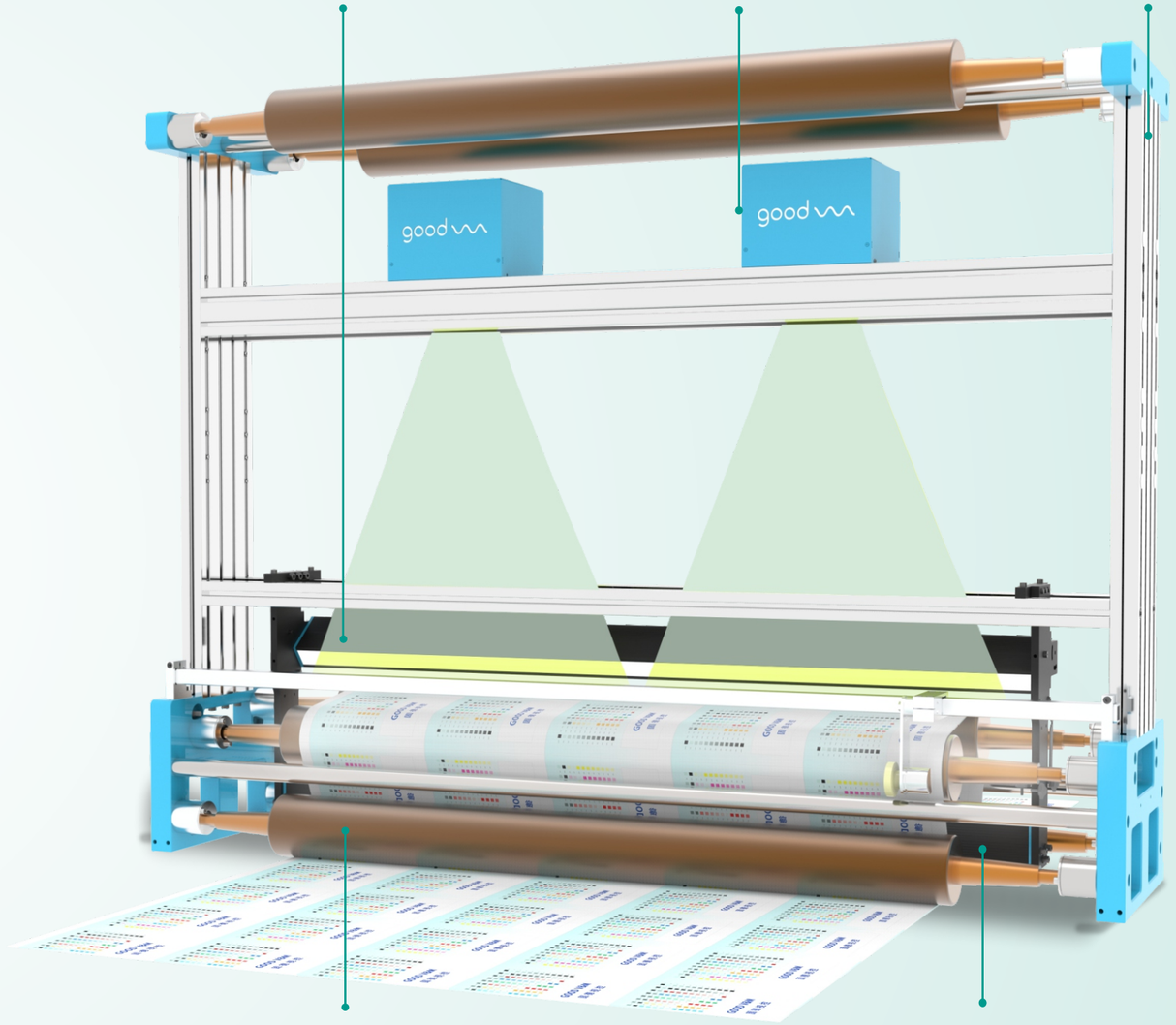
Premier-Grade Industrial LEDs
100,000+ hours lifespan

Dual-Fiber Optic Imaging

True-to-Life Color Reproduction with Enhanced Imaging Fidelity

All-Aluminum Chassis

Lightweight Robustness with Structural Integrity



Taper Guide Rollers

Precision Dynamic Balance with Tension-Sensitive Control

Line Backlight Source

High-Voltage Series Circuitry with Engineered Uniformity

SOFTWARE

Engineering Supremacy
Uncompromising Quality

GoodVisionUI Print Inspection Software employs high-speed image processing algorithms with multi-core parallel computing architecture. Beyond traditional imaging methods, it delivers: Custom-engineered detection modules for 100+ defect types, AI-enhanced feature learning and predictive analytics, Intelligent defect classification with adaptive neural networks, Comprehensive quality management: real-time SPC, traceable defect databases, and blockchain-secured data lineage.

High-Fidelity Data Analytics

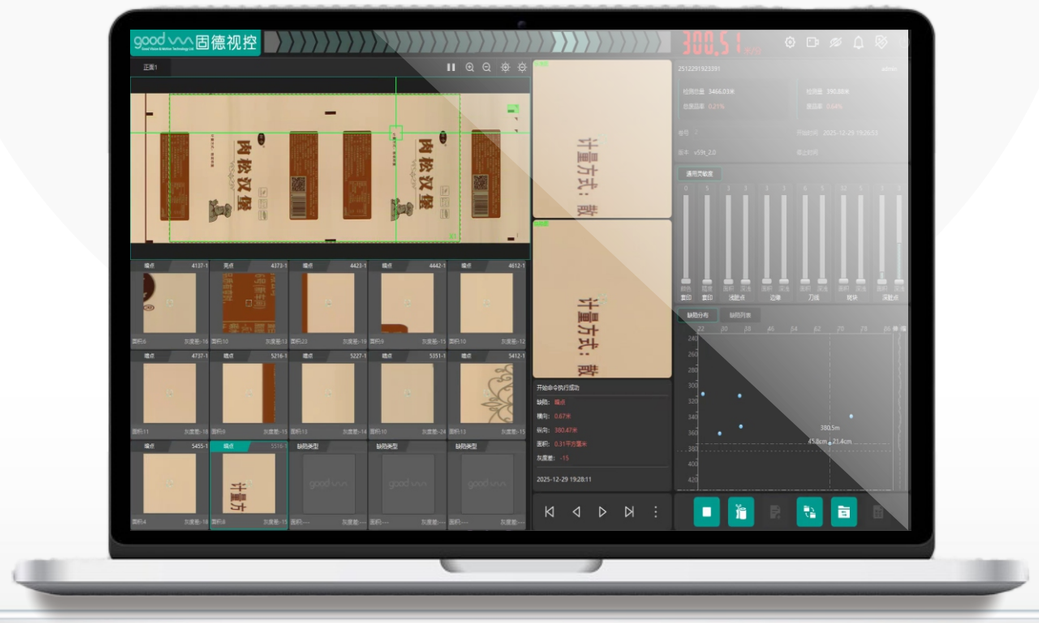
Utilizing advanced data analytics algorithms, the system processes inspection data with metrological precision to ensure certified quality control accuracy.

Real-Time Closed-Loop Control

Live data telemetry empowers real-time oversight of production line quality, enabling instantaneous parameter optimization.

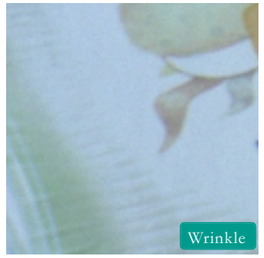
Intelligent Alert Management

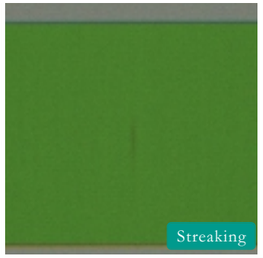
Upon detecting potential quality anomalies, the system triggers real-time alerts with AI-prescribed corrective actions to ensure immediate resolution.



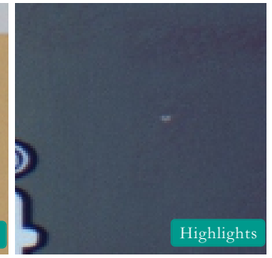
DEFECT DETECTION

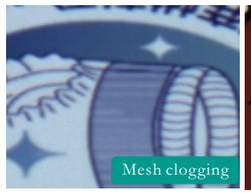
Missing Print, Different color spot (dirty spot), Scratches, Pinholes, Misregistration, Wrinkles, Cylinder Scumming, Ink Trailing, Character Deformation, Foreign Materials, Insect Contamination, Web Breaks.


Wrinkle


Streaking


Dirty spot

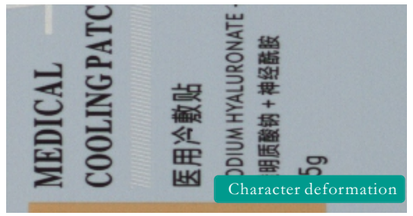

Highlights


Mesh clogging


Pinholes


Missing print


Insect Contamination



Character deformation


Ink Trailing

SOLUTION

The GVM-LC-CFL series represents high-precision automated inspection systems engineered for wide-web roll-to-roll printing substrates, delivering industry-leading quality control capabilities.

Direct Technical Translations

Raw material Inspection

Advanced inspection instrumentation enables rigorous screening of raw materials including paper stocks and printing inks, guaranteeing zero-risk material integrity.

Printing process monitoring

Track the running status of printing equipment in real time, monitor the color, registration and other indicators of printed matter to ensure the stability of the printing process.

Packaging inspection

Use intelligent image recognition technology to inspect the appearance of packaged products in an all-round way, including size, label, bar code, etc., to ensure the accuracy and integrity of packaging.



GVM-P-CFL

ONLINE QUALITY INSPECTION SYSTEM

The GVM-P-CFL, part of Good Vision & Motion's online printing quality inspection series, is a high-precision and automated detection system specifically designed for wide-format roll-fed products.The system can be seamlessly integrated with platforms such as Gravure Presses, wide-format Flexographic Presses, and wide-format Industrial Coders. It monitors print quality and material integrity during wide-format roll-fed production, triggering audible and visual alarms for defects. By reducing material waste and preventing defective products from entering downstream processes, it ultimately enhances the quality management levels and profit margins of printing enterprises.The product series supports double-sided inspection during the printing of materials such as flexible film packaging, cigarette packaging, liquid packaging, connecting paper, and other substrates.

High Detection Accuracy

Good Vision & Motion's proprietary technology, using high-speed image processing algorithms for faster, more precise print quality inspection.

Real-time Monitoring

Real-time Scanning & Defect Visualization Enables operators to identify and respond promptly through simultaneous display of defect types, location, and size alongside complete image capture during printing.

Enhance Efficiency

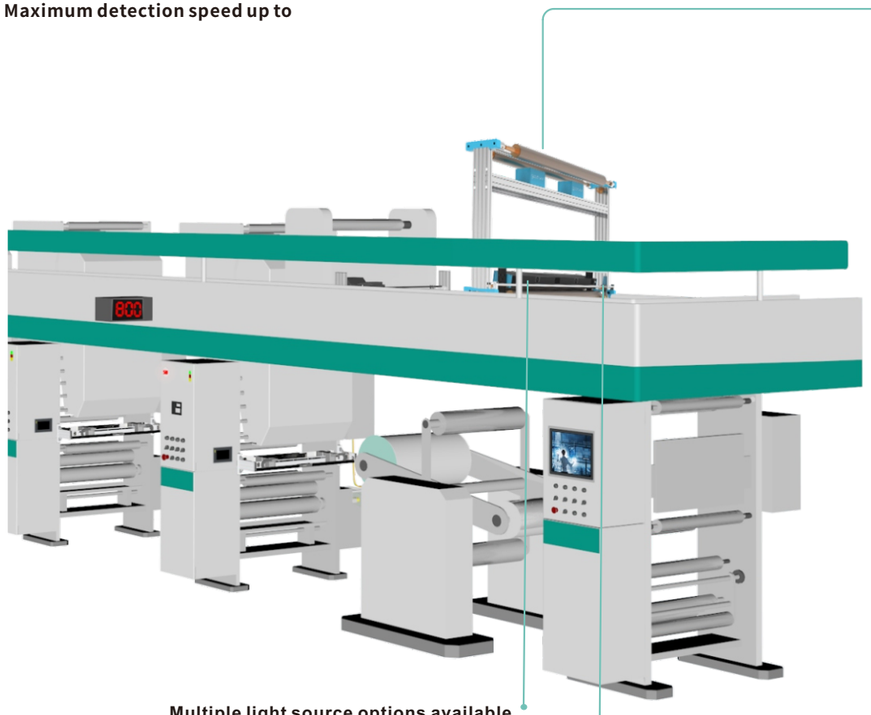
Simultaneous Production & Inspection Reduces press setup time and material waste through integrated operation with Good Vision & Motion's Still Image System, enabling single-device control of dual systems to boost operational efficiency and production throughput.

Traceable Inspection

Automated Quality Reports Generates defect-specific print roll reports with actionable data, enabling traceable quality process control for printed materials.

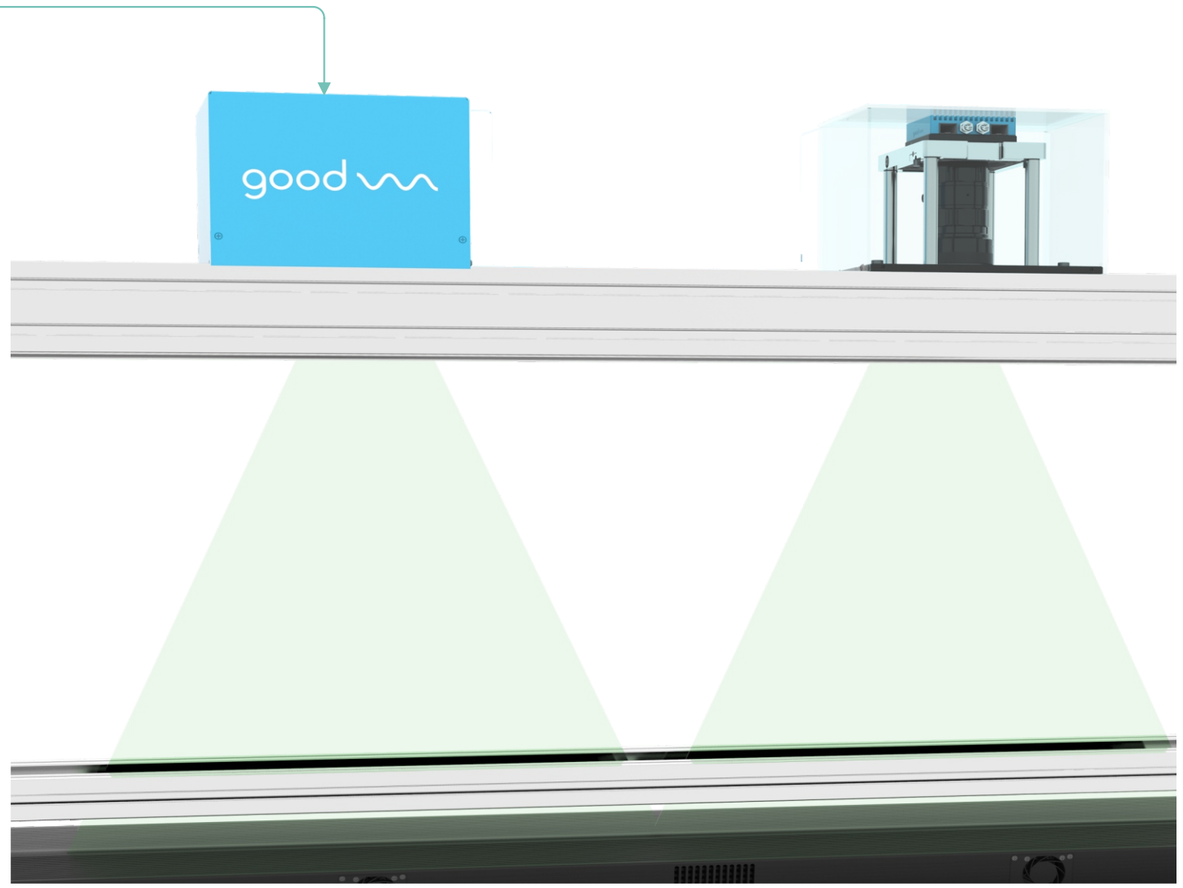
800m/min

Maximum detection speed up to



Multiple light source options available to meet inspection needs of various materials

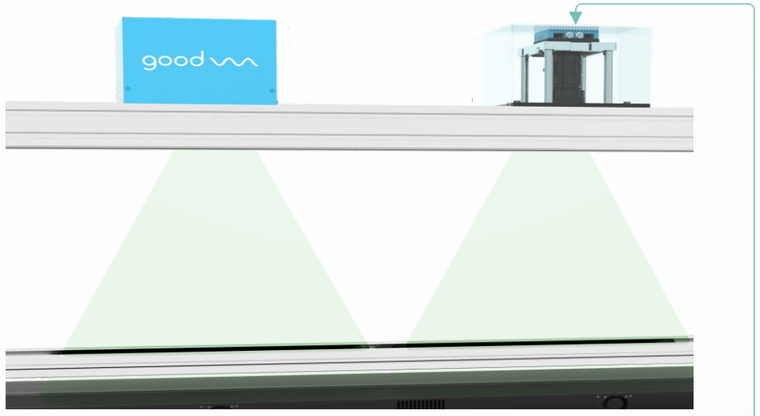
Lightweight & High-strength Stable, Easy to Install & Maintain



GVM-R-CFL

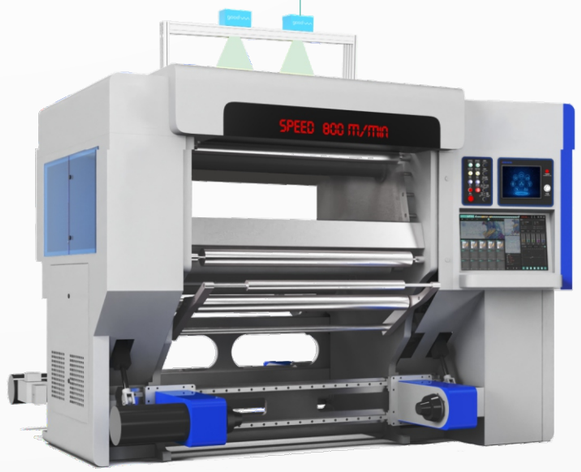
OFFLINE QUALITY INSPECTION SYSTEM

Can be installed on platforms such as rewinding machines, inspection machines, slitting machines, inkjet printers and coding machines. It performs high-speed, real-time, and comprehensive defect detection and quality control on printed rolls after the printing process. The system immediately displays detected defects with audible and visual alarms and generates defect inspection records.GVM-R-CFL supports functions such as labeling specified defects, forward inspection with reverse rejection, one-pass detection with sequential reverse elimination; or immediate, precise stopping and waste removal upon detecting critical defects. It serves as a primary quality control solution for printed materials before they proceed to bag-making or shipped as printed rolls.



800m/min

Maximum detection speed up to



Features

High Detection Accuracy

Good Vision & Motion's proprietary technology, using high-speed image processing algorithms for faster, more precise print quality inspection.

Comprehensive Solution Package

Precision Defect Interlock System
Integrated counting/metrics tracking and rewind control enable end-to-end detection-to-rejection efficiency, maximizing production throughput.

Traceable Inspection

Automated Quality Reports
Generates defect-specific print roll reports with actionable data, enabling traceable quality process control for printed materials.

Defect Editing Capability

Enables bidirectional detection/ejection with defect editing capabilities and sequential orientation control, optimizing rejection accuracy while reducing operator intervention.

Highly Integrated

Deeply integrated with host systems, the solution ensures signal sync, data unity, and coordinated control. It flawlessly fits the high-speed performance of machine tables.

Multiple optical solutions

Multiple light source solutions are available for different material inspections, customizable for various machine types, with a light source service life of up to 100,000 hours.

ONLINE STILL IMAGE LINKAGE SYSTEM

Legacy solutions operate print inspection and static imaging as discrete, unintegrated systems introducing defect escape risks and redundant verification steps.

Good Vision & Motion (Shenzhen) Co., Ltd. achieves true functional synergy between inline quality inspection and static imaging systems on printing presses eliminating legacy integration gaps.

Synchronized Dual-Station Operation

Online quality inspection can directly control the detection position, magnification and brightness of still pictures.The movement of that operator is reduce, and the work efficiency is improved.

Real-Time Defect Detection

On-line quality inspection can locate the static picture to the location of continuous defects, which is convenient for operators to quickly find and solve printing problems.

Ultra-Precision

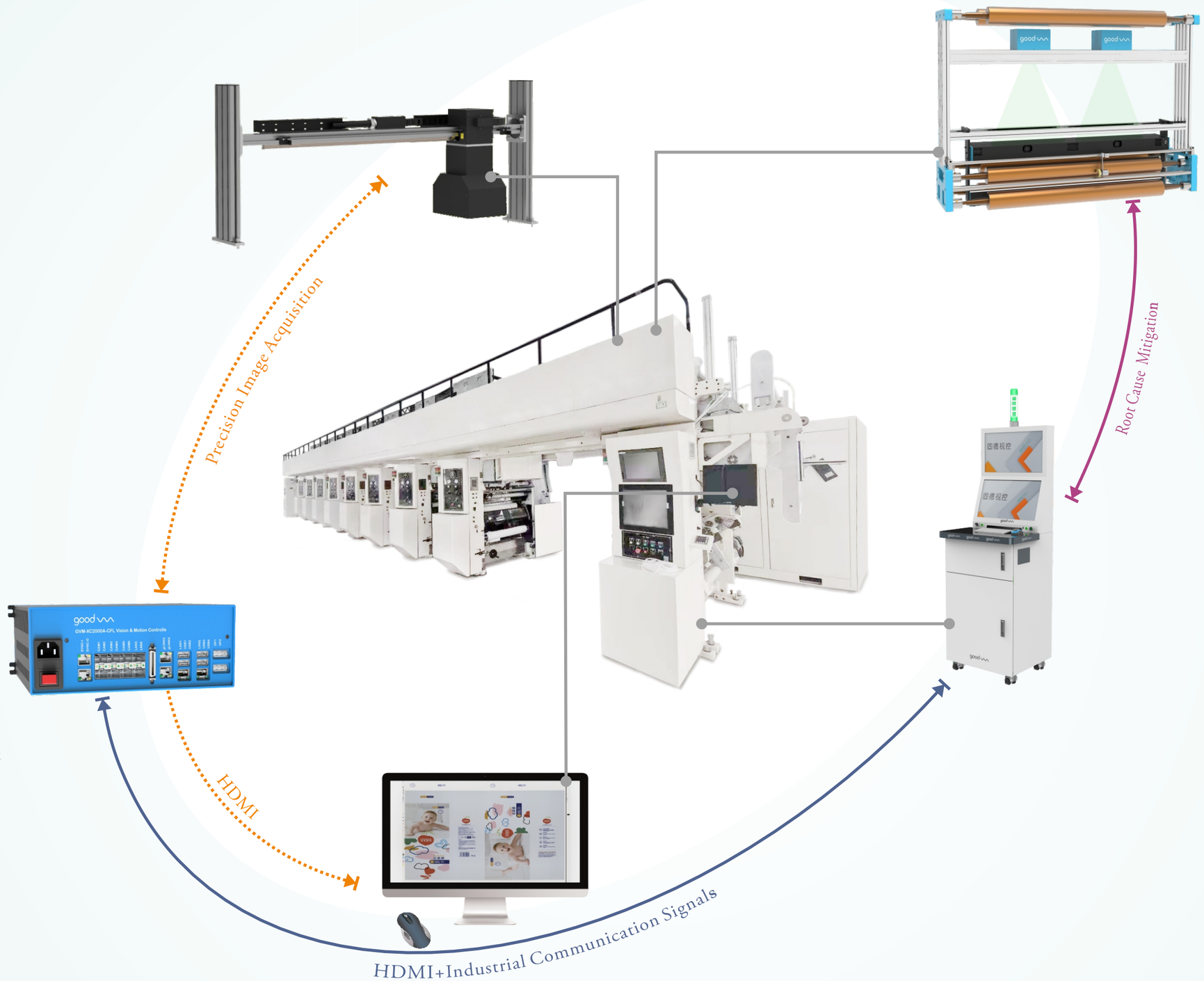
Support dual-station high-precision observation, and display the same fine effect picture as the still picture on the secondary screen of the quality inspection system.

Online

Magnification Resolution Productivity Enhancement

Precision Localization Root Cause Mitigation

Metrology-Grade Observation



ONLINE ALIGNMENT SYSTEM INTERLOCK

The quality inspection system achieves fully automatic print registration by capturing reference images, detecting misregistration deviations, feeding positional errors back to the control system for real-time lateral/circumferential correction.

Radical time-to-Stability reduction

Shorten the start-up time, reduce labor intensity and improve productivity.

Increase automatic production capacity

Improve the production capacity of automatic printing machinery, improve production efficiency and quality, and reduce material waste.

Realize automatic registration of printed products

Realize the automatic registration of printed products and improve the registration detection and control technology.

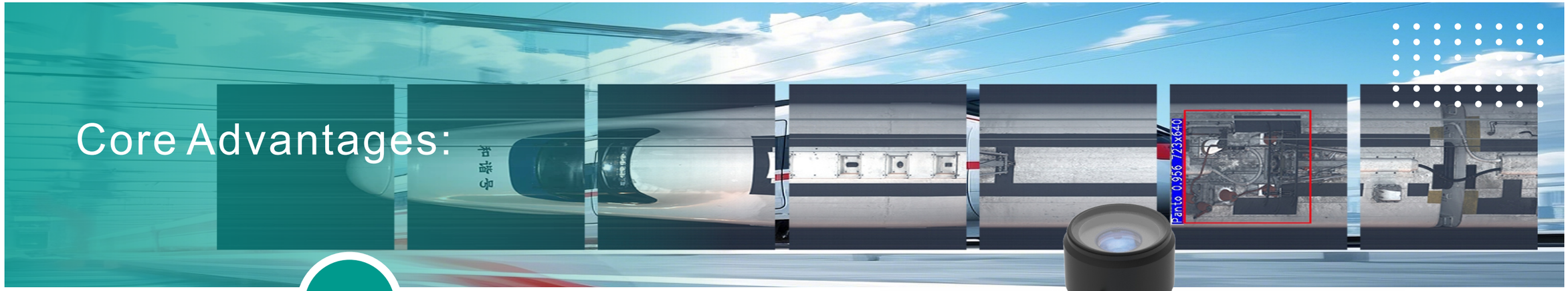
Online

losed-Loop Control Intelligent Automation

Precision Localization Real-Time Error Compensation

Radical Warm-Up Reduction





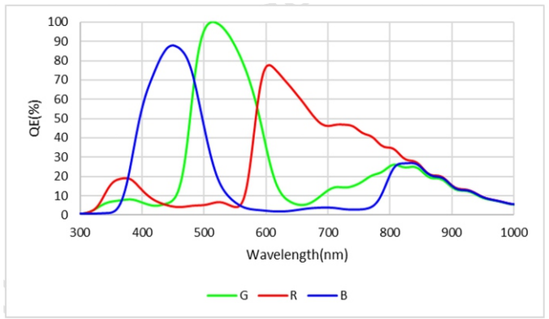
Core Advantages:

Camera

China's Pioneering 100% Independently Developed
Fiber Optic Interface Camera

True Color Innovation

Equipped with the latest RGB True Color CMOS sensor chip [Accompanied by: CMOS Sensor Performance Curve], delivering high color fidelity and intricate image detail.



Quality Assurance CurvesQuality Assurance Curves(color)

Ultra-High-Speed Data Transfer

Utilizing fiber optic technology, achieving up to 10Gbps transfer rates, ensuring lossless and delay-free image data transmission, even over extended distances.

Zero-Maintenance Robust Architecture

Ultra-low-power fanless design maintains near-ambient temperatures during continuous operation, ensuring long-term stability and extended product lifespan.

Advanced Trilinear Color Architecture

Advanced Trilinear color architecture, leveraging BSI global shutter technology, delivers extraordinary imaging fidelity with quantifiable performance supremacy.

Superior Image Processing

Integrating a proprietary FPGA main control chip with built-in algorithms such as FFC flat-field correction, gamma correction, black level correction, and noise reduction through interpolation, assuring precise image reproduction.

Delivering Unmatched Stability

Delivering unmatched stability, precision, and low-noise operation with high processing speed, our vision systems provide reliable, accurate, and consistent image data around the clock for quality inspection.



GVM-LC4096T-CFL

	Fiber Optic Camera	Conventional Camera
Interface Type	SFP+ Standard Interface	Ethernet Port / 26-pin Cable
Transmission Medium	Fiber Optic	Copper Cable
Bandwidth	Exceptionally High	Moderate
Transfer Speed	10 Gbps / 20 Gbps	1 Gbps / 2 Gbps
Transmission Distance	Up to 1000 m	Up to 10 m
Transmission Latency	1 m	1 ms
EMI Resistance	Strong (Nearly Immune to Interference)	Weak
Reliability	High	Low
Built-in ISP Algorithm	Supported	Not Supported
Built-in High-Speed Cache	Supported	Not Supported
Maintenance Cost	Low	High (Long-Term)

SYSTEM ADVANTAGES

Image Processing System

100% Self-Developed with
National Patent Certification

Lighting System

100% Self-Developed with
National Patent Certification

Special Design for Image Processing

Special design for image processing developed with a proprietary industrial computer optimized for high-speed image processing.

High-Efficiency Data Processing

Features a proprietary FPGA controller paired with high-speed caching, employing DMA for direct, rapid memory transfer, reducing CPU load and significantly enhancing image processing efficiency.

Industrial-Grade Communication Capabilities

Incorporates the gLink industrial bus protocol and an integrated IO interface module, simplifying connections and enhancing system reliability in various industrial inspection scenarios.

Long-Term Stable Power Supply

Integrated self-developed high-power switching PSU: Delivering industrial-grade stable power with low-ripple design for continuous reliable operation.



GVM-XC1200A-CFL-X4

Advanced Cooling System

Combines heat pipes with aluminum construction for efficient cooling, complemented by high-speed fans and optimized airflow channels, preventing dust accumulation and heat retention within the host, suitable for harsh operating conditions.

Top-Tier Illumination Components

Utilizes imported LED bulbs with lifespans exceeding 100,000 hours, coupled with high-voltage series LED technology to maintain consistent current across each LED, ensuring uniform illumination.

Smart Thermal Control & Efficient Cooling

Custom all-aluminum molds with intelligent temperature monitoring enable real-time thermal regulation, alongside precision optical designs and automatic brightness calibration.

Versatile Light Control

Supports programmable triggering, adaptive voltage adjustment, and ultra-fast timing control, with a variety of combined light sources revealing even the smallest defects.

Flexible Driving Technology

Full digital control power supply compatible with multi-channel merging drive technology, catering to diverse application scenarios, featuring compact, high-efficiency drivers that simplify installation and arrangement.

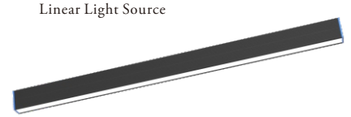
Light Source Adapter



Dome Light Source

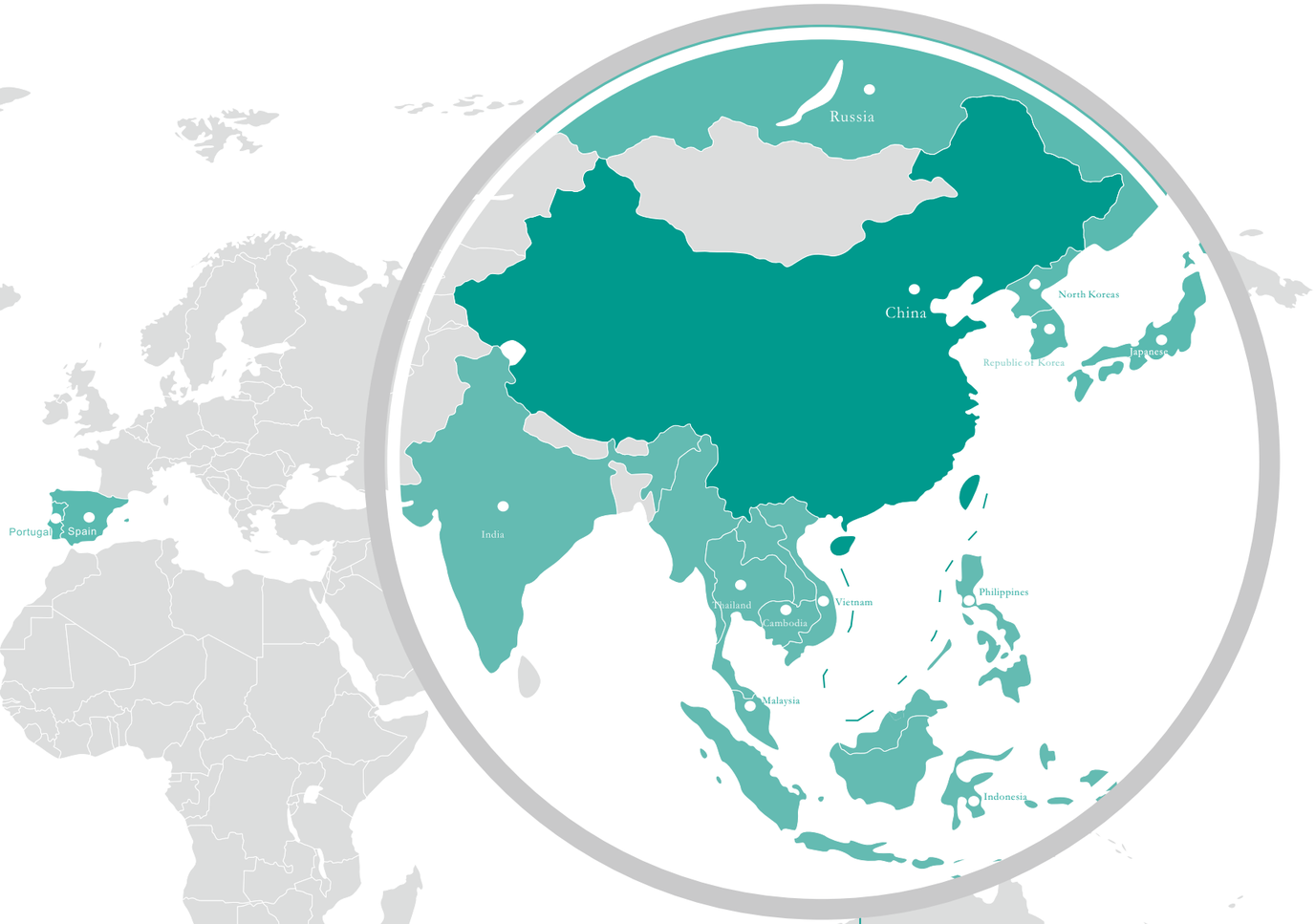


Linear Light Source



GVM-VC1200A-CFL-X6

CUSTOMER CASE



Backed by international certifications,
empowering customers with global layout

2-hour response
24-hour service

Quality Proven, Customer Trusted

