COGNEX

Advanced machine vision made easy

Machine Vision Product Guide

Vision Systems and Sensors
Accessories
Vision Software

Advanced machine vision made easy

The world's leading provider of vision systems, sensors, and software for automation

Cognex brings the power of vision to factory and warehouse automation of all kinds: detecting defects, monitoring production lines, guiding assembly robots, and tracking, sorting, and identifying parts. Our innovative technologies and focus on support throughout the customer journey make vision-based projects easier to set up, more effective, and more reliable.

Cognex machine vision solutions improve product quality and reduce costs at leading manufacturers and logistics providers worldwide, and our mature AI technology makes them more capable and easier to install, maintain, and operate.

Advancing automation is complicated enough already. We make it easier by providing industry-leading support that works the way customers want, from self-service resources to a global network of experts.

>40 years in business

25K+ global customers

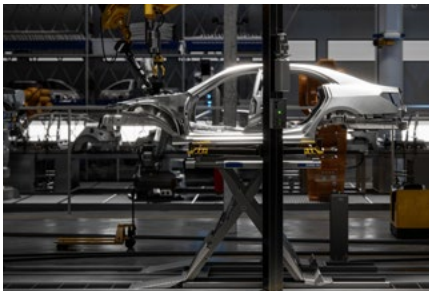
500+ global customer support resources

>1,100 technology patents

cognex.com

Automation for Every Industry

Cognex machine vision and barcode reading solutions enable companies worldwide to reliably automate production tasks and track and trace assets across a wide range of industries and applications.

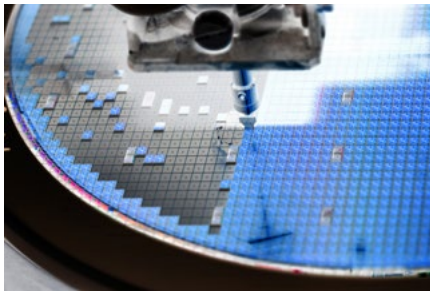


Automotive & EV

- Powertrain
- Tire and Wheel
- Safety Systems
- Chassis
- EV Battery
- Parts Traceability

Consumer Products

- Material Handling
- Automated Assembly
- Packaging Inspection
- Filling
- Labeling and Marketing
- Distribution

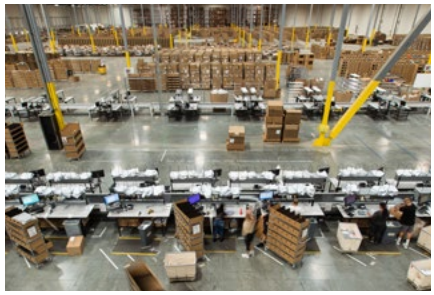


Electronics

- Semiconductors
- LED Manufacturing
- PCB Assembly
- Electronic Hardware
- Consumer Devices

Food & Beverage

- Product Quality Inspection
- Packaging Inspection
- Assembly Verification
- Allergen Management and Traceability
- Warehousing and Distribution



Logistics & Warehouse Operations

- Inbound Logistics
- Order Fulfillment
- Sortation
- Outbound Logistics

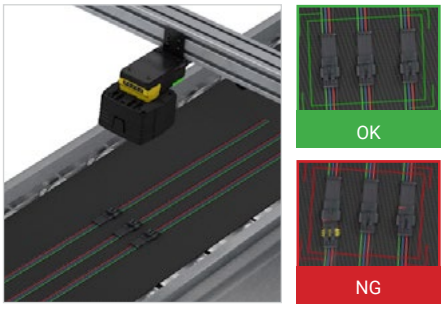
Pharmaceutical & Medical

- Medical Device Solutions
- Vials and Vaccines
- Tablet and Capsule Manufacturing
- Pharmaceuticals Protection
- Allergen Management and Traceability
- 21 CFR Part 11 Support

Vision Sensors and Systems

Over 1 billion products are made every day using machine vision. Cognex vision sensors and systems perform highly-detailed inspections at every stage of manufacturing to optimize quality, minimize waste, and maximize throughput.

Application examples

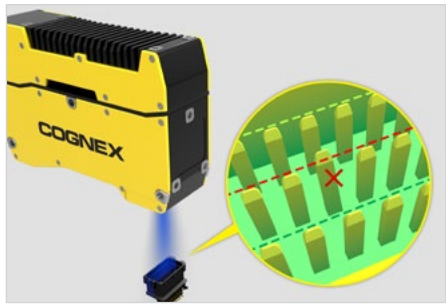


Automotive

Assembly verification: Ensure proper seating of wiring harnesses

Consumer products

Defect detection: Inspect labels on final product packaging

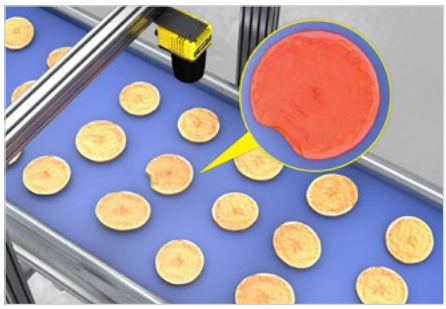


Electronics

Alignment check: Check if pins or components are correctly aligned

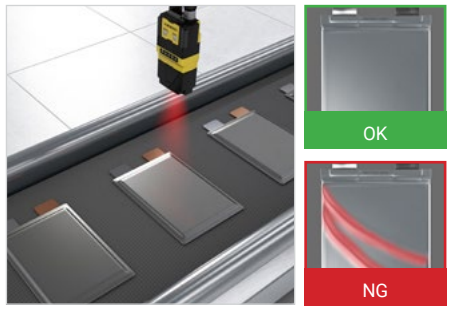
Logistics

Character reading: Read text on shipping labels



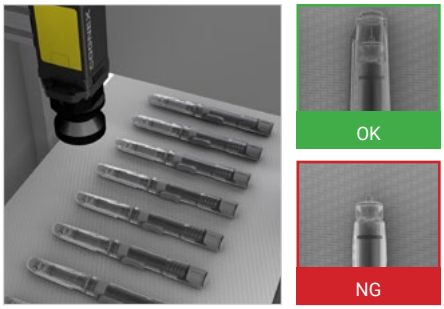
Food and beverage

Inspection: Ensure product uniformity



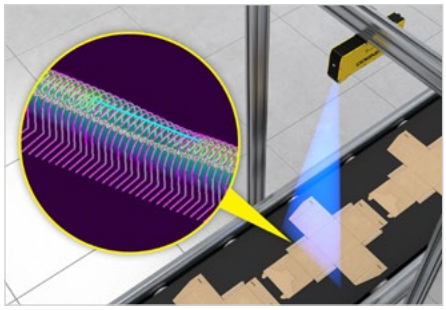
Electric vehicle

Presence/absence detection: Find defects on EV battery pouches



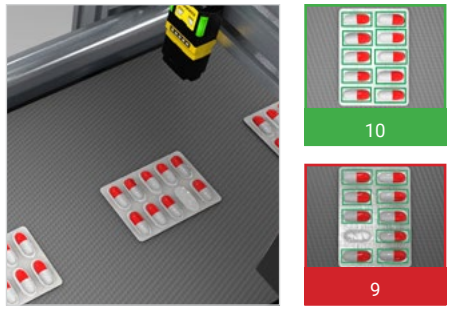
Medical

Defect detection: Inspect for defects to ensure quality compliance



Packaging

Measurement: Gauge glue application on boxes



Pharmaceutical

Counting: Check completeness of pill packs

AI-Powered Vision

Easy-to-use vision sensor

In-Sight® SnAPP

Quickly solve simple quality and process control tasks with no experience needed.

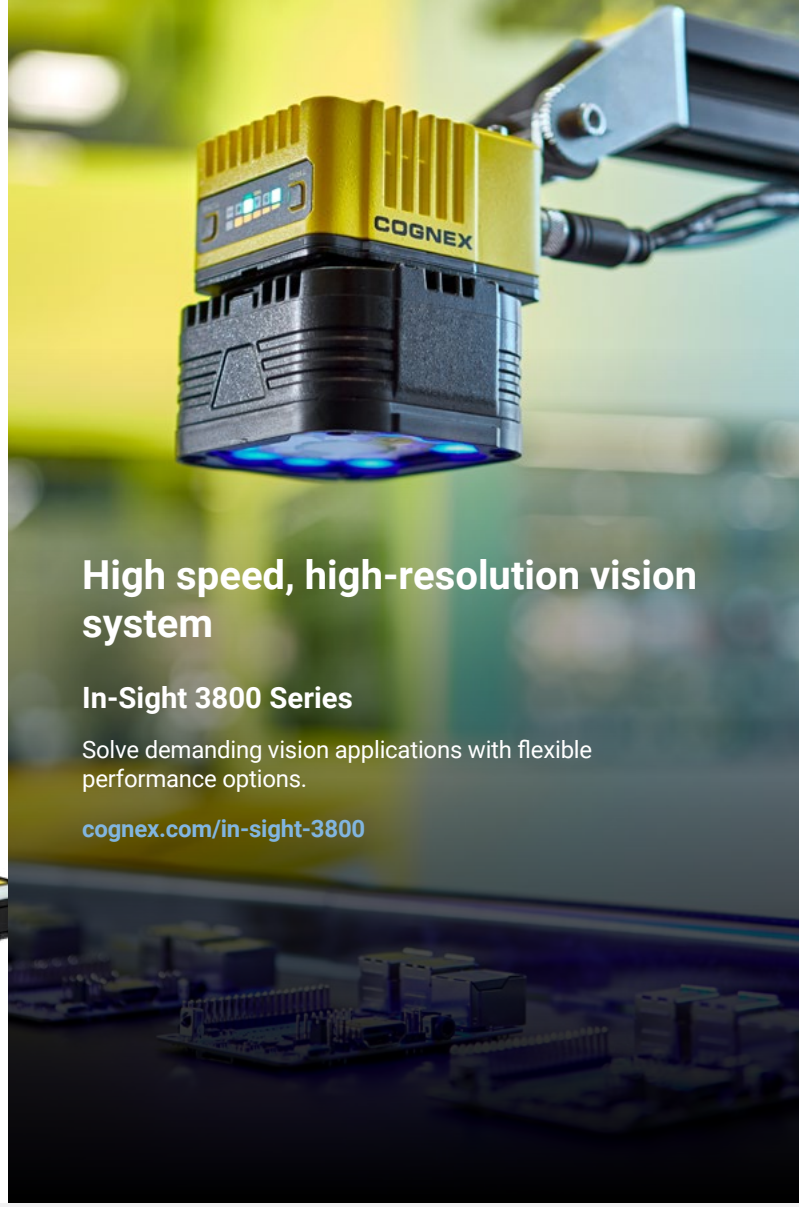
cognex.com/snapp

General purpose vision system

In-Sight 2800 Series

Automate a range of standard inspection applications in minutes.

cognex.com/in-sight-2800



High speed, high-resolution vision system

In-Sight 3800 Series

Solve demanding vision applications with flexible performance options.

cognex.com/in-sight-3800

Embedded AI for flexibility and ease of use

Simplify setup and find subtle, variable anomalies.

Example-based training

Train jobs using just a few sample images.

Real-time training feedback

View results in real-time to verify performance and identify potential issues early.

Comprehensive toolset

Cognex vision systems integrate AI and rule-based tools. Functions can be used individually for simple jobs or combined to automate more challenging problems.

Next-generation 3D vision system

In-Sight L38 Series

Perform advanced inspection, measurement, and guidance tasks with high accuracy.

cognex.com/in-sight-l38

Ultra-compact vision system

In-Sight 8900 Series

Automate defect detection and track-and-trace in confined spaces while ensuring regulatory compliance.

cognex.com/in-sight-8900

For more complex 3D applications

L38 with VisionPro and L68 Series

Solve challenging and customized tasks with high-speed processing and ultimate programming control.

Rule-Based Vision

Cognex traditional, rule-based vision systems detect user-defined features or patterns, such as shape, color, size, or position, to perform reliable inspections. They offer high-speed processing and consistent results for controlled manufacturing environments.

Speed and accuracy for predictable applications

In-Sight 7000/8000/9000 Series

Automate well-defined tasks with reliability and efficiency.

Accessories

Cognex accessories optimize the performance of machine vision systems, so they can operate reliably and efficiently in a variety of manufacturing and logistics environments. These accessories include a range of lenses, lighting, and industrial cameras.

Lenses

The Cognex portfolio of lenses includes standard and telecentric options compatible with a variety of sensor sizes and resolutions. All lenses offer industry-proven performance, a compact design for easy integration, and customizable settings to support a variety of technical specifications.

cognex.com/lenses

Lighting

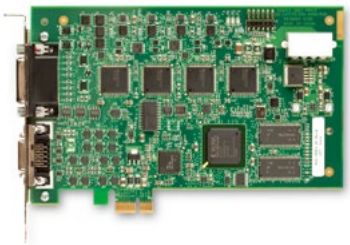
Cognex lighting provides consistent, controllable illumination to ensure high-contrast, high-quality imaging for accurate measurement, alignment, and inspection.

cognex.com/lighting

Industrial cameras

Available in both area scan and line scan formats, Cognex industrial cameras offer seamless integration with PC-based vision software to provide a complete solution.

cognex.com/industrial-cameras



Frame grabbers

Cognex frame grabbers capture and quickly transfer large amounts of data from cameras to processing units. They ensure image data is accurately and efficiently acquired, making them essential in high-speed, high-precision applications.

Vision Software

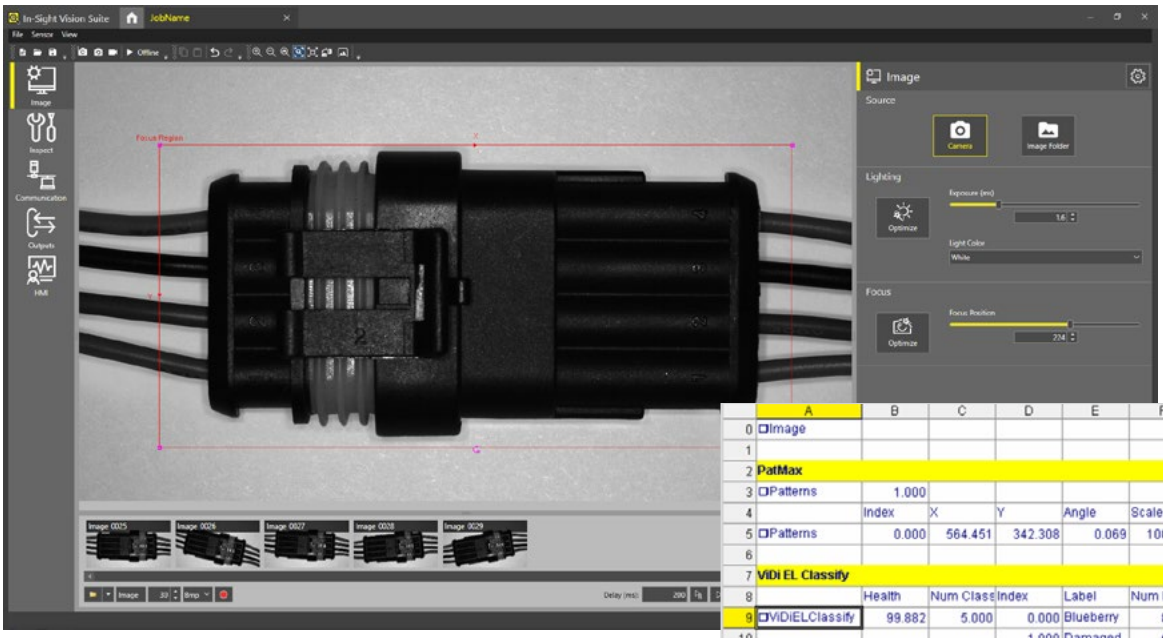
Cognex vision software provides the power and flexibility to solve the most challenging manufacturing applications. Available in several formats, including programmatic and graphical user interfaces, Cognex software offers direct access to the most robust vision tool libraries.

Unified software platform offers flexibility and scalability

In-Sight Vision Suite

In-Sight Vision Suite is the software platform for training and deploying In-Sight vision systems. Common across all In-Sight products, it provides both graphical and spreadsheet-based environments to solve tasks of varying complexity.

cognex.com/in-sight-vision-suite



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0	Image								
1									
2	PatMax								
3	Patterns	1.000							
4		Index	X	Y	Angle	Scale	Score		
5	Patterns	0.000	564.451	342.308	0.069	100.000	59.819		
6									
7	ViDi EL Classify								
8		Health	Num Class	Index	Label	Num Image	Score		
9	ViDiELClassify	99.882	5.000	0.000	Blueberry	8.000	98.949	Collect Samples	
10				1.000	Damaged	5.000	0.373		
11				2.000	Lemon	6.000	0.369		
12				3.000	Strawberry	6.000	0.309		
13				4.000	Missing	6.000	0.000		
14					Unlabeled	0.000			
15									

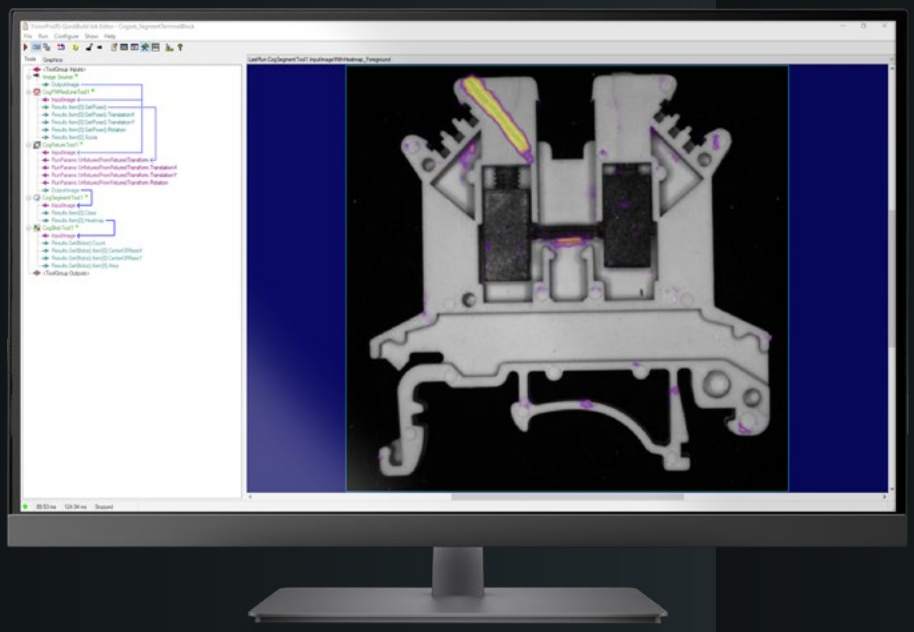
Point-and-click-programming

Easybuilder

The EasyBuilder® interface offers an intuitive, wizard-like experience that guides users step-by-step through setup of standard vision applications.

Spreadsheet programming

The spreadsheet interface offers robust programming capabilities for advanced or customized applications, allowing experienced users to adjust specific job parameters to their specific need.



Ultimate programming control for complex tasks

VisionPro

VisionPro® is a powerful PC-based vision software offering unmatched programming control for solving advanced and highly customized manufacturing applications and tasks that demand the fastest processing speeds.

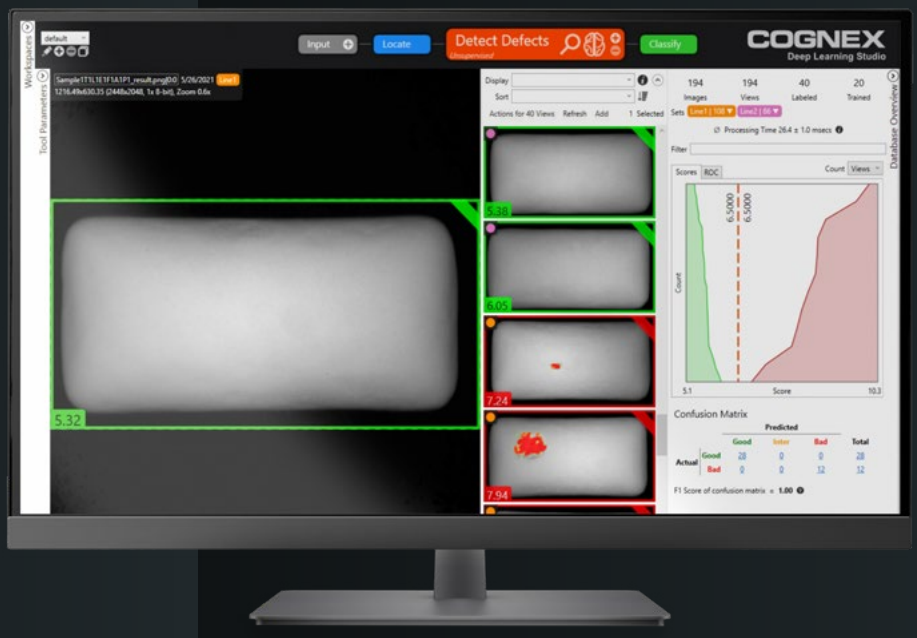
cognex.com/visionpro

AI-powered image analysis for variable applications

VisionPro Deep Learning

VisionPro Deep Learning automates tasks that are too complicated and time-consuming to handle with traditional rule-based algorithms, making it an ideal solution for challenging inspections that require advanced AI-driven analysis.

cognex.com/visionpro-deep-learning



Empowering your success with end-to-end customer support

Cognex Customer Success

From personalized setup and training to expand your capabilities to continual learning and performance optimization, Cognex guides you at every step of your automation journey.

With Cognex Customer Success, you can focus on what matters most – delivering quality, innovation, and efficiency in your manufacturing process.

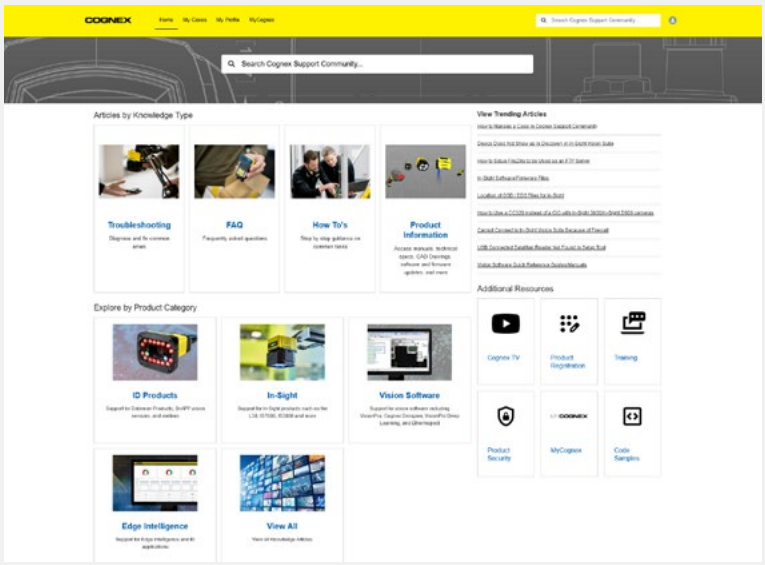
- **Plan & Deploy**
- **Run & Support**
- **Expand & Optimize**

Plan & Deploy

- **Targeted guidance** to choose the right products and validate your deployment
- **Tuning and positioning guidance** built in
- **Curated documentation and videos** for configuration and setup
- **Image-based AI tools** for easy model training
- **Global partner network** when you need expert help

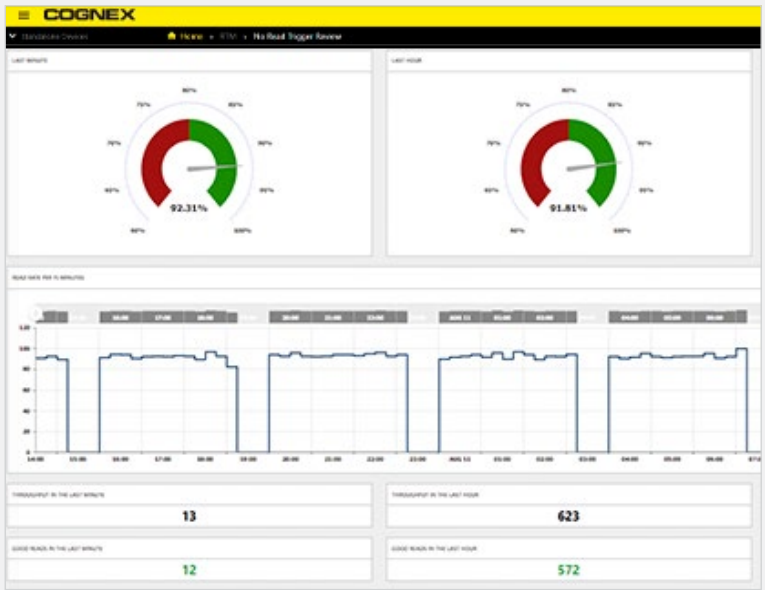
Run & Support

- **Connected tech support** flows seamlessly across email, text, WhatsApp, phone, and chat
- **Expert help and guidance** via visual remote assistant and easy online scheduling
- **Self-service training** to take you from beginner to expert, in multiple languages
- **Cognex support community** provides answers, real-time status updates, and transparent case tracking
- **Reliable, resilient products** made to stay running consistently, tolerate harsh environments, and be easy to adjust if needed



Expand & Optimize

- **Broad portfolio of products** with common tools and software, plus easy upgrade paths
- **Pre-built dashboards** that help you find performance insights across your entire operation
- **Management tools** to control settings across devices, lines, and plants
- **Out-of-the-box data sharing** makes it easy to connect to enterprise systems
- **Coaching from experts** with decades of experience to help you grow quickly and smoothly



Cognex Product Portfolio

Vision Systems and Software

Optimize inspection processes with advanced AI, ensuring accurate defect detection, assembly verification, text reading, and more.

www.cognex.com/machine-vision

Barcode Readers

Achieve end-to-end traceability across production and distribution, with flexible readers and verifiers designed for ease of use and reliability.

www.cognex.com/barcodereaders

Industry Solutions

Tackle applications across a wide range of industries with powerful machine vision solutions that simplify manufacturing and logistics challenges.

www.cognex.com/solutions

COGNEX

Advanced machine vision made easy

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