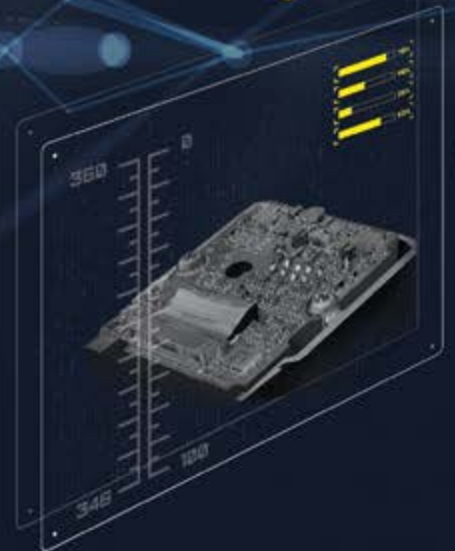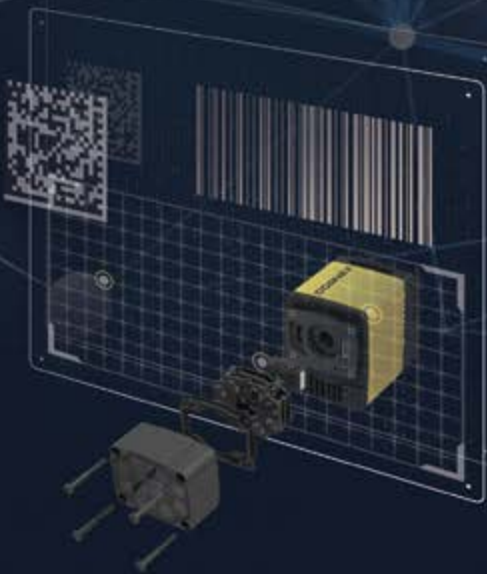# COGNEX
BUILD YOUR VISION

WE MAKE COMPUTERS
THAT CAN SEE.

Cognex® is the largest, most trusted, and most recognized global player in industrial machine vision.

Cognex systems emulate human eyes and brains. Each system consists of optics, an image sensor, and high-speed electronics that work together to capture an image, and software to analyze that image and make sense of what's being seen. While this process is second nature to humans, it is a very complex challenge for a computer.

Cognex is focused entirely on solving the toughest problems in machine vision and industrial barcode reading, and we have sold more solutions in these areas than any other company in the world.

THE GLOBAL LEADER IN MACHINE VISION AND INDUSTRIAL BARCODE READING

For more than 40 years, Cognex has helped the world's most innovative companies make their manufacturing operations faster, smarter, and more efficient.

Cognex vision and barcode reading systems help improve product quality, guide assembly robots, and track items through each stage of production and distribution. Using data from the billions of digital images captured by Cognex vision systems, companies can monitor, update, and change production plans in real time across global supply chains. And Cognex is constantly applying new techniques like deep learning and 3D sensing to help companies push production limits beyond what they previously thought possible.

$811 MILLION
2020 REVENUE

3,000,000+
SYSTEMS SHIPPED

OVER 40
YEARS IN THE BUSINESS

GLOBAL OFFICES IN
20+ COUNTRIES

500+
CHANNEL PARTNERS

DEEP LEARNING

Cognex Deep Learning learns to spot patterns and anomalies from sample images, and automates and scales complex inspection applications that, until now, still required human inspectors.

In-Sight D900

The In-Sight® D900 vision system deploys deep learning applications without the need for a PC, making deep learning technology accessible to non-programmers. It uses the easy-to-use In-Sight software platform which simplifies application development and factory integration.

RESOLUTION

Up to 5MP

**FEATURES**

IP67   Additional Storage   Autofocus

VisionPro Deep Learning

VisionPro® Deep Learning is the best-in-class, deep learning-based image analysis software for complex and human-like inspection applications created in the same environment as traditional machine vision tools. Deep learning solves complex applications that are too difficult for traditional machine vision or too inconsistent and time-consuming for manual inspection. These include assembly verification, defect detection, classification, and challenging OCR.

Deep Learning Tools

Cognex Deep Learning tools solve complex manufacturing applications that are too difficult or time-consuming for rule-based machine vision systems, and too fast for reliable, consistent results with human visual inspection.
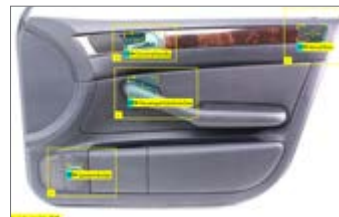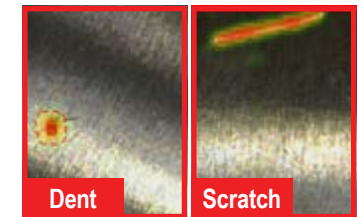
Assembly Verification
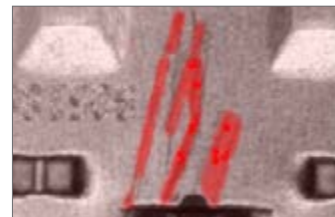
Defect Detection

Complex OCR

Dent   Scratch

Classification

MACHINE VISION

Tens of thousands of applications worldwide inspect billions of products each day, many products that simply could not be manufactured without machine vision technology. Whether verifying the fill levels of soda bottles traveling on a conveyer, reading oil-stained DPM codes on automotive parts, or positioning touch screens on smartphones to micron-level accuracy, machine vision technology performs highly-detailed tasks on high-speed production lines.

Cognex machine vision products help companies:

- **Optimize quality**
- **Minimize waste**
- **Maximize throughput**

VISION SENSORS AND SYSTEMS

In-Sight 2000 Series

Provides easy and reliable error-proofing inspections thanks to powerful vision tools, modular lighting and optics, and an easy-to-use setup environment. Reducing defects and increasing yield helps streamline operations and increase profitability.

RESOLUTION

3.75 µm^2 pixel size

FEATURES

Monochrome/Color   Autofocus   IP65

In-Sight 7000 Series

Combines modular integrated lighting and optics for optimal image formation with powerful vision tools and ease of use in a compact footprint for fast, accurate inspections on space-constrained production lines.

RESOLUTION

Up to 5MP

FEATURES

Monochrome/Color   IP67   HDR+   Autofocus

In-Sight 8000 Series

Ultra-compact standalone vision systems deliver industry-leading vision-tool performance in the micro form factor of a typical GigE vision camera.

RESOLUTION

 Up to 5MP

AVAILABLE FEATURES

μ Micro   PoE   HDR+

In-Sight 9000 Series

Rugged, ultra-high-resolution standalone vision systems equipped with a full suite of In-Sight vision tools solve high accuracy part location, measurement, and inspection applications. Line scan and area scan image acquisition options are available for imaging large continuously moving or stationary objects.

RESOLUTION

**Area Scan: Up to 12MP
Line Scan: Up to 32MP**

FEATURES

Monochrome   IP67   Additional Storage

IN-SIGHT VISION SOFTWARE

All In-Sight sensors and systems are configured with the powerful In-Sight Explorer™ software. The EasyBuilder® configuration environment guides you through the intuitive setup process. The spreadsheet view provides the power and flexibility to configure more difficult applications. In-Sight Explorer also offers the widest range of built-in communication protocols that interface directly to any PLC, robot, or HMI on the factory network.

www.cognex.com/explorer

3D VISION SYSTEMS
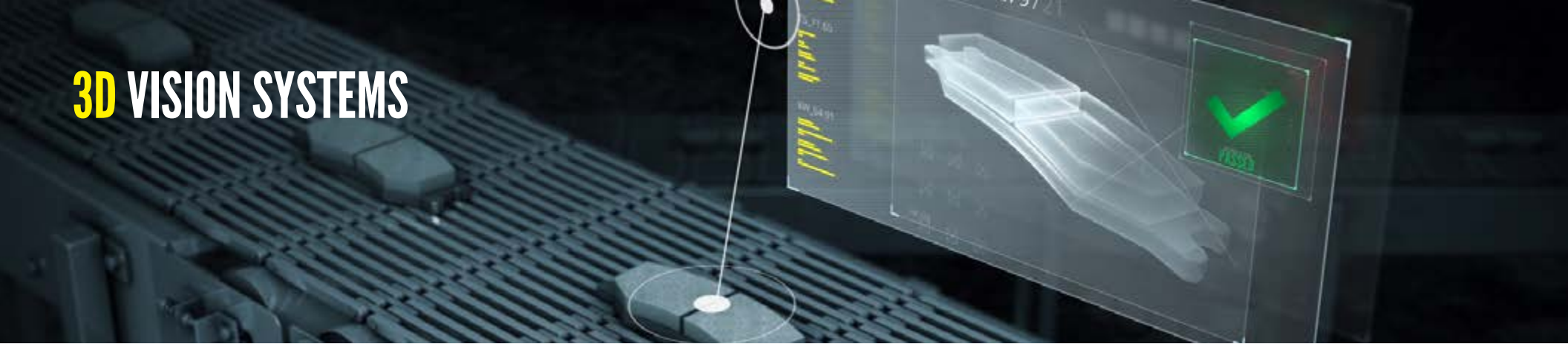
Whether performing a single profile measurement or scanning an entire surface in 3D, Cognex has the most powerful and robust 3D vision tools. Manufacturers in all industries trust Cognex technology to deliver high accuracy surface feature measurements that go beyond the capabilities of 2D vision technology.

In-Sight 3D-L4000 Series

A unique vision system combining 3D laser displacement technology with a high-performance smart camera allowing factory engineers to quickly, accurately, and cost effectively solve a wide variety of inspections thanks to a comprehensive suite of true 3D vision tools, easy setup, and speckle-free blue laser optics.

3D RESOLUTION

2000 points

FEATURES

3D   ESD-Safe   Factory Calibrated   IP65

**www.cognex.com/3D-vision-systems**
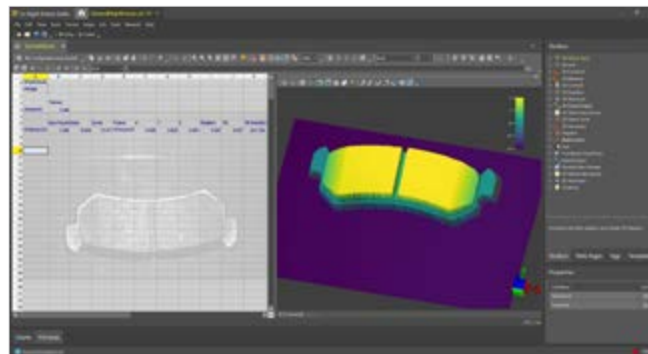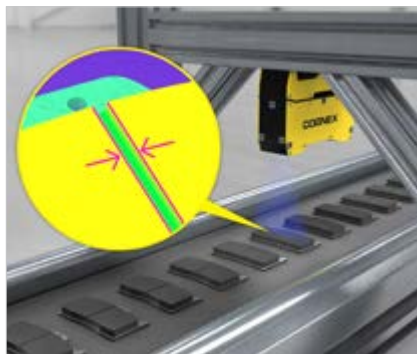
3D-A5000 Series

State-of-the-art area scan 3D camera captures high-resolution 3D point cloud images in a fraction of the time of current methods. Using unique 3D imaging technology, it solves challenging assembly verification, in-line metrology, and robotic guidance applications.

3D RESOLUTION

1.5 million points

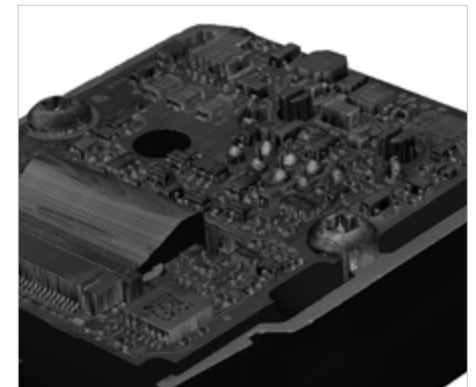FEATURES

LightBurst   Factory Calibrated   IP65
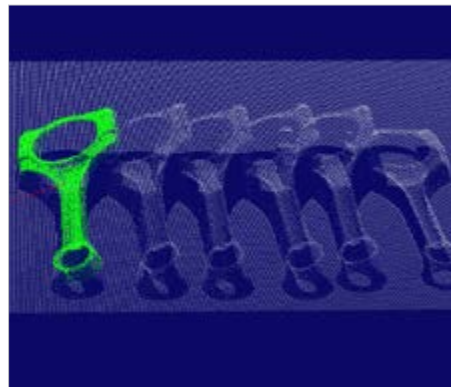
DSMax

Fast, high-definition laser displacement sensor for accurate 3D inspections of small, detailed parts. Ideal solution for electronic components which can contain highly reflective or dark features.

3D RESOLUTION

2000 points

FEATURES

3D   ESD-Safe   IP65


www.cognex.com/3D-vision-systems

VISION SOFTWARE

VisionPro

A powerful development environment to tackle any vision challenge. VisionPro enables the rapid development of sophisticated vision software through its extensive tool prototyping that allows you to visually define and tune your application using either traditional rule-based vision or deep learning-enabled smart tools. VisionPro's seamlessly integrated programming interface enables the deployment of highly-customizable applications on your PC platform.
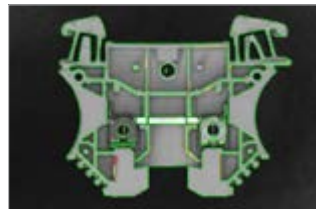
PatMax
Object location

BeadInspect
Glue bead inspection
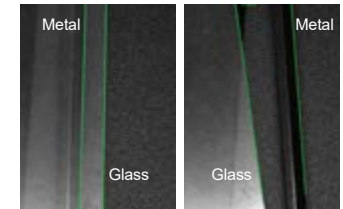
SmartLine
Intelligent line detection

Vision Accessories

A wide variety of industrial cameras, frame grabbers, and I/O factory communication cards for system flexibility.

www.cognex.com/vision-software

BARCODE READING

Nearly every product uses a 1D or 2D barcode to automate and simplify identification and data capture. The basic process in reading codes is to 1) illuminate the code, 2) locate the code, and 3) extract the data. Organizations must be able to read codes quickly and accurately for maximum efficiency and throughput.

Cognex DataMan® and MX series image-based barcode readers decode 1D and 2D codes, from printed labels to the hardest to read direct part mark (DPM) codes, and deliver industry-leading read rates. Advanced technology, modular options, and easy setup help to reduce costs, optimize performance, increase throughput, and control traceability.

FIXED-MOUNT BARCODE READERS

DataMan 70 Series

Compact design ideal for reading 1D and 2D label-based codes in tight application spaces.
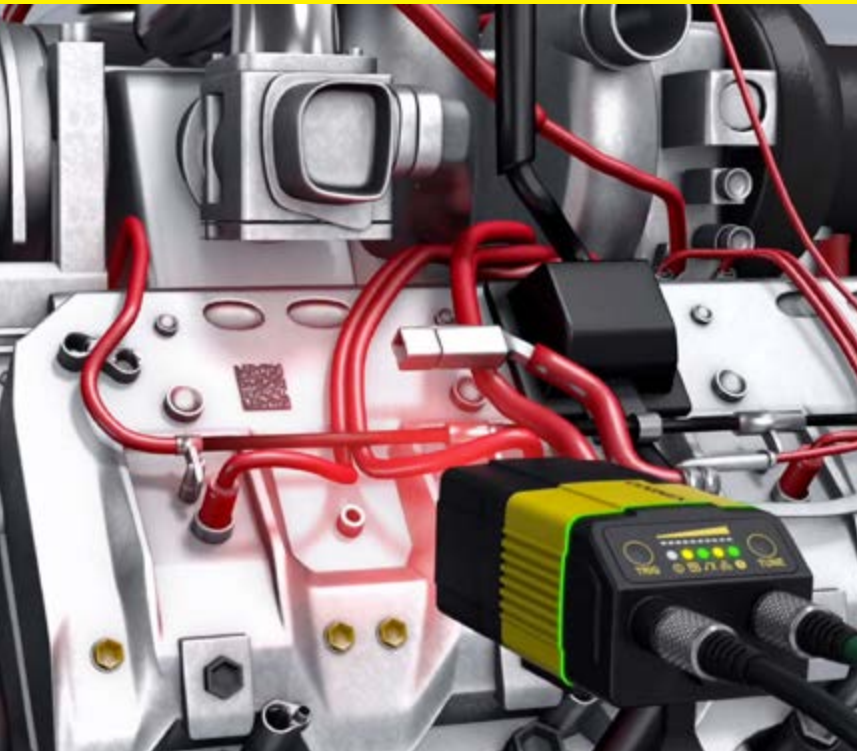
POWER	RESOLUTION	CONNECTIVITY
1.7X	1.2MP	USB Serial

SYMBOLOGIES	FEATURES
	Hotbars ESD-Safe S-Mount IP65

DataMan 280 Series

Premium decoding technology in a compact form factor.

POWER	RESOLUTION	CONNECTIVITY
4X	1.6 MP	USB Serial GigaBit

SYMBOLOGIES	FEATURES
	Hotbars PowerGrid High Speed Liquid Lens Modular EI HDR

DataMan 370 Series

Delivers superior read performance for the broadest range of applications, including multi-code, multi-symbology applications.

POWER	RESOLUTION	CONNECTIVITY		SYMBOLOGIES
5X	5MP	Serial	G GigaBit	

FEATURES

Hotbars   PowerGrid   High Speed Liquid Lens   C   Laser Aimer   Modular   SD   HDR

Fully compatible with DataMan 360 series accessories

DataMan 470 Series

Premium reader with multi-core processing power and advanced imaging technology for complex, high-throughput 1D and 2D code applications.

POWER	RESOLUTION	CONNECTIVITY		SYMBOLOGIES
7.5X	5MP	Serial	G GigaBit	

FEATURES

Hotbars   PowerGrid   High Speed Liquid Lens   C   Laser Aimer   SD   Modular   HDR   HDR+

www.cognex.com/fixed-mount

COGNEX EDGE INTELLIGENCE

EI

The Cognex Edge Intelligence (EI) platform provides visibility into what is happening on your line, transforming big data into smart data for greater efficiency and throughput. EI is fully integrated with select Cognex products and logistics tunnels to streamline device management. Users can access visualization and diagnostics tools to identify and resolve issues quickly.

Performance dashboards

Read rate trends
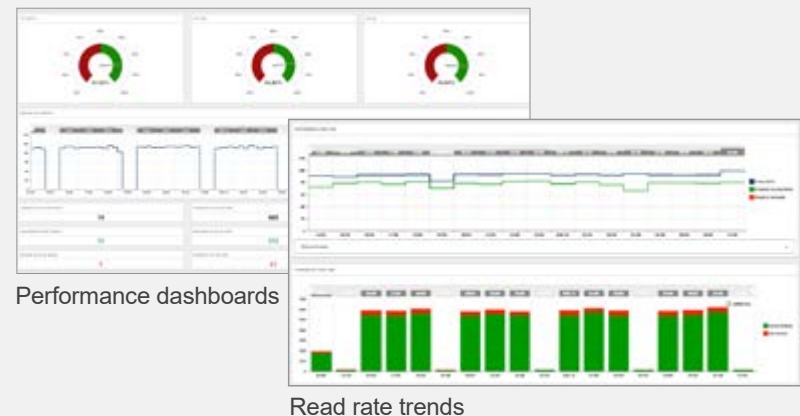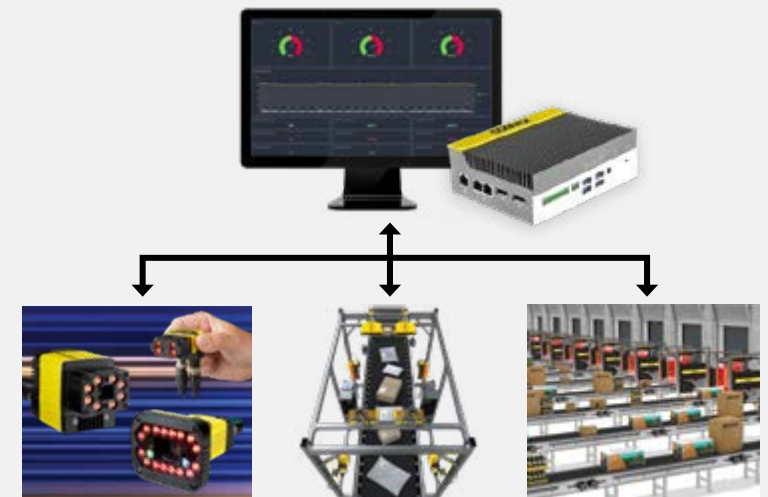
HANDHELD BARCODE READERS

DataMan 8050 Series

Decodes well-marked direct part mark (DPM) and label-based codes in harsh factory floor environments.

CONNECTIVITY

Ethernet Serial USB Bluetooth

SYMBOLOGIES | FEATURES

Hotbars PowerGrid

DataMan 8700DQ

Decodes well-marked DPM codes with IP67-rated housing and an OLED display screen.

RESOLUTION
1.6 MP

CONNECTIVITY

Ethernet Serial USB Bluetooth

SYMBOLOGIES

FEATURES

Hotbars PowerGrid Display

OLED

DataMan 8700DX

Offers cutting-edge performance and operator feedback on the toughest DPM and label-based codes while withstanding harsh oils, dirt, and water.

RESOLUTION
1.6 MP

CONNECTIVITY

Ethernet Serial USB Bluetooth

SYMBOLOGIES

FEATURES

Hotbars PowerGrid HDR Display

OLED

BARCODE VERIFIERS

Barcode verification is the process of grading the quality of barcodes to globally accepted standards. Cognex barcode verification technology ensures the readability and compliance of codes and provides detailed summary reports.

DataMan 475V Series Inline Verifier

Grades 1D, 2D, and DPM codes from a fixed position on the production line.

FIELD OF VIEW
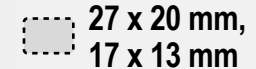**80 x 60 mm,
35 x 29 mm**
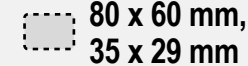
SYMBOLOGIES | LIGHTING

30° 45° 90°

DataMan 8072V Series Handheld Verifier

Grades the most difficult direct part mark (DPM) codes with 30/45/90-degree angle lighting options.

FIELD OF VIEW
**27 x 20 mm,
17 x 13 mm**

SYMBOLOGIES | LIGHTING

30° 45° 90°

MOBILE SOLUTIONS

MX-1502 and MX-1100 Series

Combines fast, image-based 1D and 2D barcode reading with iOS® mobile devices for standard, long, and extended range applications.

RESOLUTION	SYMBOLOGIES	FEATURES
1.2 MP		**HOTBARS** Hotbars PowerGrid

Cognex Mobile Barcode Software Development Kit (SDK)

The Cognex Mobile Barcode SDK is a comprehensive software tool for all facets of mobile barcode scanning. It enables tailoring and maintaining a single application for all mobile devices across your entire organization.

The SDK can be used with any supported device, including:

- MX-1000™ and MX-1502 series mobile terminals

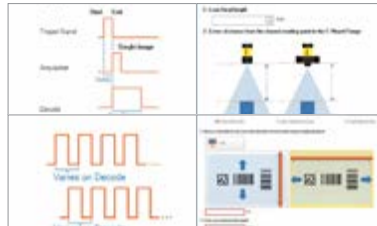- Smartphone and tablet cameras (license required)

EASY SETUP AND OPERATION

DataMan Setup Tool

The DataMan Setup Tool software simplifies installation and operation of Cognex barcode readers. It provides step-by-step guidance, auto-adjusts and optimizes variable parameters, and captures code images in real time for user review.
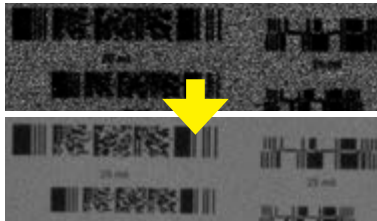
Step-by-step visual guidance

Application assistants
help optimize parameters

Independent lighting controls

Pre- and post-image optimization tools
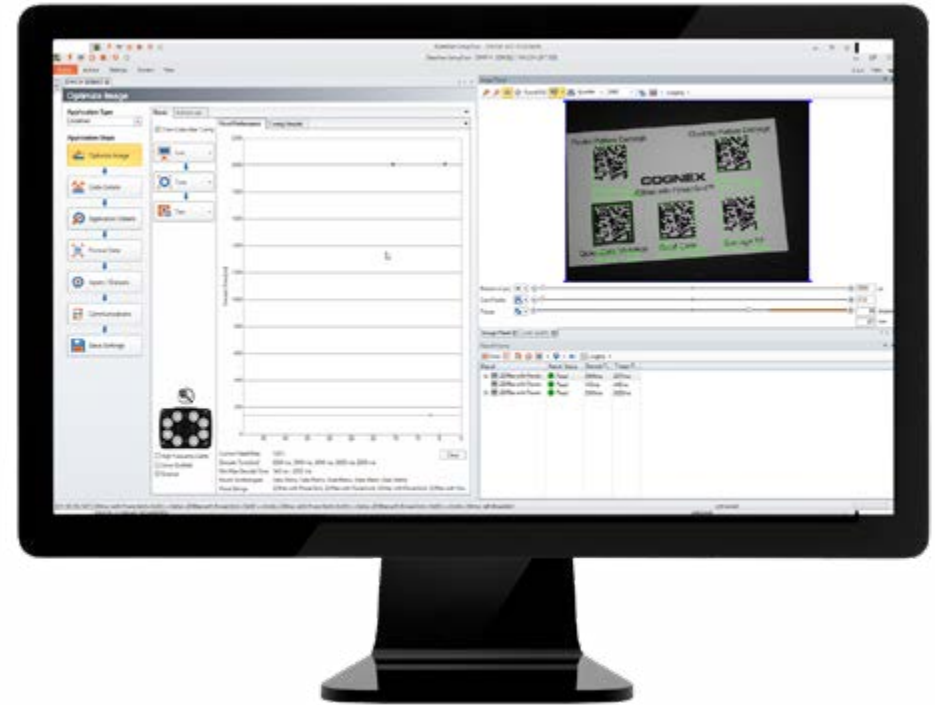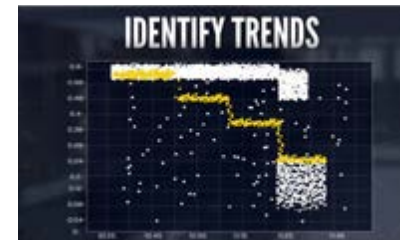
## Performance feedback for process optimization

Cognex technology provides performance feedback for networked DataMan fixed-mount barcode readers, including no-read tracking, read rate trending, and configuration audit trails.

Multiple read setups
allow for greater product &
environmental variation
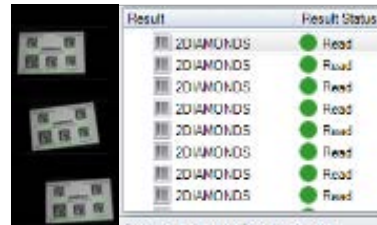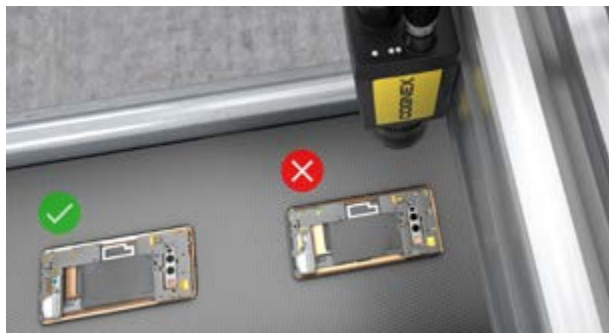
Image & read result history
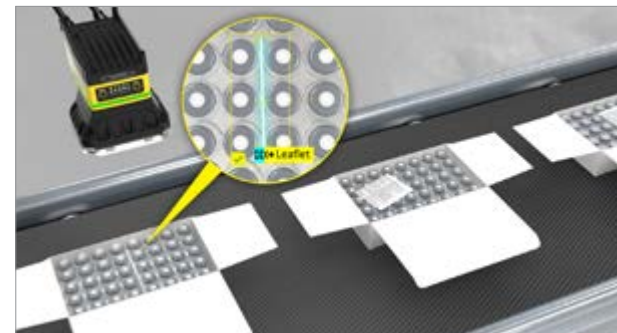
THE MOST INDUSTRY EXPERIENCE

We serve hundreds of different markets. Here are some of the largest and fastest-growing industries for machine vision and industrial barcode reading.
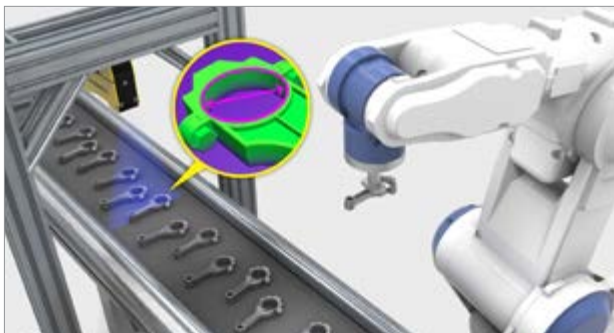
Automotive

Electronics

Pharmaceutical & Medical Devices

Logistics

Airport Baggage Handling

Automotive

Consumer Products

**Electronics**

Food & Beverage

COGNEX GLOBAL SERVICES

Technical Support
Product Training
Hardware Programs
Product Lifecycle

When it comes to protecting your machine vision investment, Cognex understands that responsive, expert service is an expectation all customers should have. Cognex serves an international customer base from offices located throughout the Americas, Europe, and Asia and through a global network of highly-trained partners, system integrators, and distributors.

From development to deployment, Cognex is there to help you get your vision systems up and running as fast as possible. Whether you're considering machine vision for the first time or are already an expert user, Cognex global services provide the expertise to help your organization succeed.

cognex.com/support/cognex-services
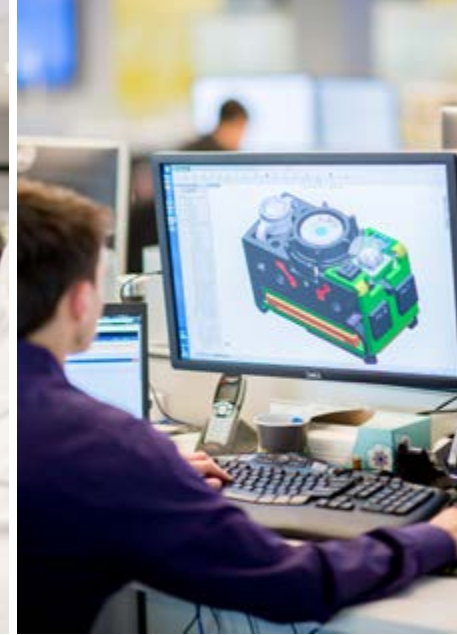
OFFICES IN **20+** COUNTRIES   **500+** GLOBAL PARTNERS IN 30 COUNTRIES

TECHNICAL SUPPORT

All Cognex products come with complimentary technical support during and after installation from experienced vision engineers that you can access by phone, email, and online knowledge database. Cognex engineers can remotely connect to your system to help solve your problem. Cognex vision systems come with a one-year limited warranty and are covered by our Hot Swap Program, which guarantees shipment of a permanent replacement system within 2 business days of a reported failure.

cognex.com/support

THE MOST EXTENSIVE VISION NETWORK

Around the globe, wherever you find manufacturing, you can find a Cognex representative! Our extensive network of Cognex certified partners consist of the most experienced Automation Service Providers (ASPs) and Certified System Integrators (CSIs) in the industry.

Our ASPs are locally-based vision suppliers offering a wide range of factory automation products, support and services to Cognex customers around the world. Additionally, when it comes to more complex automation installations that require highly skilled resources, our CSIs offer an extensive range of services including completely customized automation solutions to integration into pre-existing solutions.

AUTOMATION
SOLUTION
PROVIDER
ASP
COGNEX

CERTIFIED
SYSTEM
INTEGRATOR
CSI
COGNEX
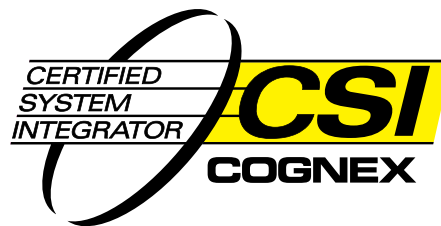
COGNEX TRAINING

We want to make YOU the most effective vision professional at your organization. Cognex offers a variety of training options dedicated to optimizing manufacturing processes and increasing organizational expertise. Through its global training organization, Cognex operates classroom facilities that deliver a variety of courses lasting 1–4 days for beginners to advanced users. Topics range from the fundamentals of machine vision to real-world applications for complex tools.

Customized, Anytime

For groups of six or more, all Cognex classes are available at *your facility* so that your team can work and learn together in your real-world environment. For on-demand convenience, the Cognex online training portal lets you access on-demand training videos of many Cognex courses, participate in online courses, view tutorials, examine application examples, and watch lighting and optics videos.

By combining key training classes and system integration services into training service packages, Cognex can help focus and accelerate your learning.

Our three most popular packages—Building Vision Competence, Upgrading Vision System, and Factory Level Service Program (FLSP)—address common customer challenges and can be customized to suit your specific needs.

www.cognex.com/training

10,783 ATTENDEES IN 2020

1074 WORLDWIDE CLASSES IN 2020

18 DIFFERENT LANGUAGES

WHAT DOES CULTURE MEAN AT COGNEX?

WORK HARD

We are passionate about our work. We work hard because we are empowered to make a difference.

PLAY HARD

Jump out of an airplane with our company chairman? Get in a paint fight with the CEO? Launch pumpkins from a catapult for prizes? Or just drink beer with friends at a Friday after-work social. Cognex goes all out to reward working hard with creative opportunities to play hard.

MOVE FAST

The sooner we test that new idea, the sooner we can bring it to market to help our customers meet their goals. Staying nimble keeps work interesting, and keeps Cognex innovating.

COGNEX

WWW.COGNEX.COM

Companies around the world rely on Cognex vision and barcode reading to optimize quality, drive down costs and control traceability.

Corporate Headquarters   One Vision Drive Natick, MA 01760 USA

Regional Sales Offices

Americas
North America	+1 844-999-2469
Brazil	+55 11 4210 3919
Mexico	+800 733 4116

Europe
Austria	+49 721 958 8052
Belgium	+32 289 370 75
France	+33 1 7654 9318
Germany	+49 721 958 8052

Hungary	+36 800 80291
Ireland	+44 121 29 65 163
Italy	+39 02 3057 8196
Netherlands	+31 207 941 398
Poland	+48 717 121 086
Spain	+34 93 299 28 14
Sweden	+46 21 14 55 88
Switzerland	+41 445 788 877
Turkey	+90 216 900 1696
United Kingdom	+44 121 29 65 163

Asia
China	+86 21 6208 1133
India	+9120 4014 7840
Japan	+81 3 5977 5400
Korea	+82 2 530 9047
Malaysia	+6019 916 5532
Singapore	+65 632 55 700
Taiwan	+886 3 578 0060
Thailand	+66 88 7978924
Vietnam	+84 2444 583358