BARCODE READERS

FIXED-MOUNT ▪ HANDHELD ▪ MOBILE

COGNEX

THE GLOBAL LEADER
IN MACHINE VISION AND INDUSTRIAL BARCODE READING

Cognex,® the leading supplier of machine vision and industrial barcode reading solutions.

With over 2 million systems installed in facilities around the world and over thirty seven years of experience, Cognex is focused on industrial machine vision and image-based barcode reading technology. Deployed by the world's top manufacturers, suppliers and machine builders, Cognex products ensure that manufactured items meet the stringent quality requirements of each industry.

Cognex solutions help customers improve manufacturing quality and performance by eliminating defects, verifying assembly and tracking information at every stage of the production process. Smarter automation using Cognex vision and barcode reading systems means fewer production errors, which equates to lower manufacturing costs and higher customer satisfaction. With the widest range of solutions and largest network of global vision experts, Cognex is the best choice to help you **Build Your Vision.™**

$806 MILLION
2018 REVENUE

OVER 37
YEARS IN THE BUSINESS

500+
CHANNEL PARTNERS

GLOBAL OFFICES IN
20+ COUNTRIES

2,000,000+
SYSTEMS SHIPPED

COGNEX BARCODE READERS
ANY CODE, EVERY TIME

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 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 helps reduce costs, optimize performance, increase throughput, and control traceability.

INDUSTRIES

Cognex supplies solutions to virtually all manufacturing and logistics industry sectors, including:

- Aerospace
- Airport Baggage Handling
- Automotive
- Ecommerce Fulfillment
- Electronics
- Field Service
- Food and Beverage
- Medical Devices
- Pharmaceutical
- Retail Distribution

Fixed-Mount Barcode Readers

Handheld Barcode Readers

Mobile Solutions

PATENTED TECHNOLOGY
FOR OPTIMAL PERFORMANCE AND TRACEABILITY

Cognex products are optimized with patented decoding algorithms and advanced technologies to ensure continuously high read rates for the most difficult and degraded 1D and 2D codes.

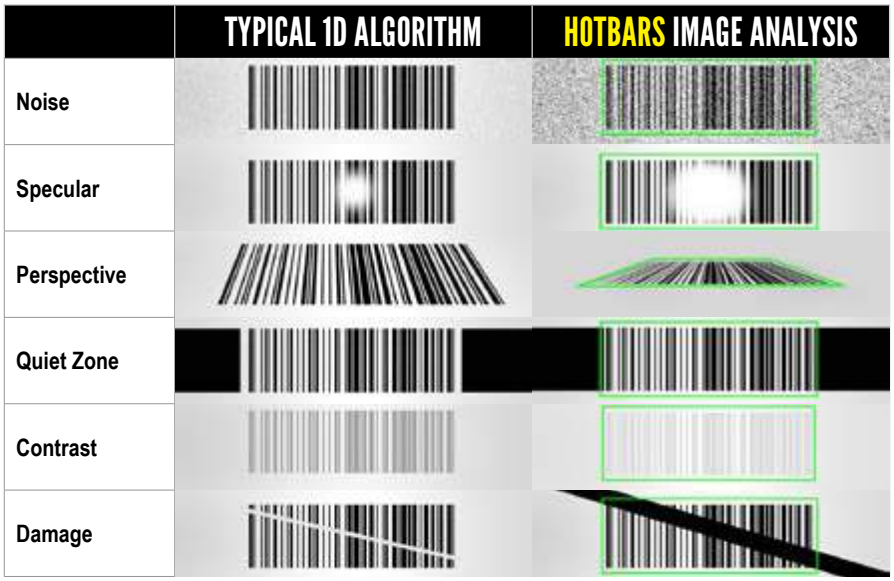
1DMax Advanced Algorithm

1DMax® is a 1D barcode reading algorithm optimized for omnidirectional barcode reading and extreme variations in contrast, blur, damage, resolution, quiet zone violations, and perspective distortion.



Hotbars Image Analysis Technology

Grouped with 1DMax, Hotbars® locates and extracts 1D barcodes up to 10x faster than a typical reader, even with increased noise, large specular reflection, reduced quiet zone, limited contrast, and damage.



2DMax Advanced Algorithm

2DMax® 2D barcode reading algorithm provides reliable 2D code reading despite code quality, printing method, or surface type.

PowerGrid

PowerGrid® quickly locates 2D codes that exhibit significant damage to or complete elimination of a code's finder pattern, clocking pattern, or quiet zone.

No finder pattern

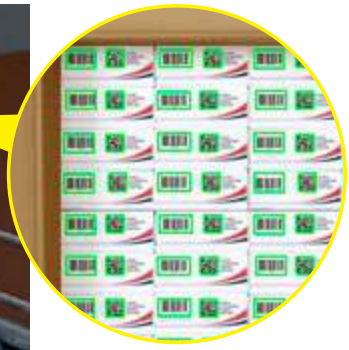
No finder or clocking pattern

Quiet zone violation

Stripe

1D/2D Auto-Discrimination Algorithm

1D/2D Auto-Discrimination reduces decode times for complex multi-code, multi-symbology label-based code applications.

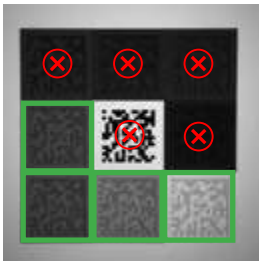


High Dynamic Range (HDR) Technology

HDR imaging uses the latest CMOS image sensor technology, which is 16x more detailed than conventional sensors, to globally enhance image quality and contrast.

Target Source

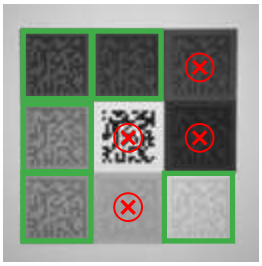
Conventional Sensor



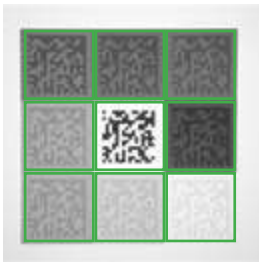
HDR+

HDR+ further increases localized contrast changes automatically. This creates a more uniformed image in a single acquisition allowing greater depth-of-field, faster line speeds, and improved handling of difficult codes.

HDR



HDR+



HDR+ technology enables reading an increased range of codes than is possible with conventional or other HDR technologies.

DATAMAN FIXED-MOUNT BARCODE READERS

DataMan® fixed-mount, image-based barcode readers offer advanced technology, processing power, modularity, and ease of use for challenging manufacturing and logistics applications.

DataMan 70 Series

Compact design ideal for reading 1D and 2D label-based codes in tight application spaces.

POWER: 1.7X

RESOLUTION: 1.2 MP

CONNECTIVITY: USB, Serial

SYMBOLOGIES

FEATURES: Hotbars, ESD-Safe, S-Mount, IP65

DataMan 260 Series

Straight or right-angle modular design ideal for 1D barcodes, higher density 2D codes, or direct part mark (DPM) codes.

POWER: 2X

RESOLUTION: 1.2 MP

CONNECTIVITY: Serial, Ethernet

SYMBOLOGIES

FEATURES: Hotbars, PowerGrid, Liquid Lens, Modular

ISOTRON SYSTEMS

DataMan 370 Series

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

POWER: 5X

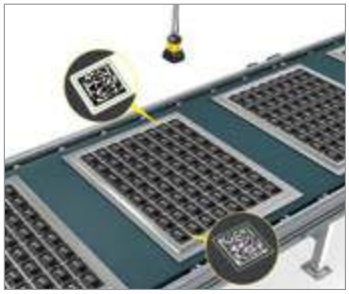
RESOLUTION: 3.1 MP

CONNECTIVITY: Serial, GigaBit

SYMBOLOGIES

FEATURES: Hotbars, PowerGrid, High Speed Liquid Lens, Laser Aimer, Modular, SD, HDR

Fully compatible with DataMan 360 series accessories



**Including integrated light. Base dimensions are same as DataMan 360 series: 73 mm (L) x 54 mm (W) x 42 mm (H)*

DataMan 470 Series

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

POWER: 7.5X

RESOLUTION: 3.1 MP

CONNECTIVITY: Serial, GigaBit

SYMBOLOGIES

FEATURES: Hotbars, PowerGrid, High Speed Liquid Lens, Laser Aimer, SD, Modular, HDR, HDR+

Visit www.cognex.com/fixed-mount

ISOTRON SYSTEMS

FIXED-MOUNT READER SPECIFICATIONS & FEATURES

	60 Series	70 Series	150 Series	260 Series	360 Series	370 Series	470 Series	503 Series
Resolution	752 x 480	752 x 480 1280 x 960			800 x 600 1280 x 1024 1600 x 1200	2048 x 1536		2048 x 1088
Processing Power[1]	1X	1.7X	2X		2.5X	5X	7.5X	9X
FPS	60				Up to 60	Up to 80		150
Model Variants	L, QL, S, Q, X	L, QL, S, Q	QL, S, Q, X		L, Q, QL, X			QL, X
Lenses								
Liquid Lens			✓	✓	✓	✓	✓	✓
High Speed Liquid Lens						✓	✓	
C-mount		✓	✓	✓	✓	✓	✓	✓
S-mount	✓	✓	✓	✓	✓			
Symbologies								
1D	✓	✓	✓	✓	✓	✓	✓	✓
2D	✓	✓	✓	✓	✓	✓	✓	✓
Multi-code	✓	✓	✓	✓	✓	✓	✓	✓
Decoding Algorithms								
1DMax with Hotbars	✓	✓	✓	✓	✓	✓	✓	✓
2DMax			✓	✓	✓	✓	✓	✓
PowerGrid			✓	✓	✓	✓	✓	
Technologies								
1D/2D Auto-Discrimination						✓	✓	
Multi-Reader Sync				✓	✓	✓	✓	✓
HDR						✓	✓	
HDR+							✓	

ISOTRON SYSTEMS

	60 Series	70 Series	150 Series	260 Series	360 Series	370 Series	470 Series	503 Series
Lighting Modularity								
Integrated Lighting	✓	✓	✓	✓	✓	✓	✓	✓
External Lighting					✓	✓	✓	✓
High Powered Integrated Torch (HPIT)						✓	✓	
Communications								
Discrete I/O	✓	✓	✓	✓	✓	✓	✓	✓
Serial	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet	✓			✓	✓	✓	✓	✓
Gigabit Ethernet						✓	✓	
USB		USB-C	USB					
Additional Features								
Modular	✓	✓	✓	✓	✓	✓	✓	✓
Device Feedback				✓	✓	✓	✓	✓
Laser Aimer					✓	✓	✓	✓
IP Rating	IP40	IP65				IP67		IP65
ESD-Safe Housing[2]		✓	✓	✓	✓	✓	✓	
SD card					✓	✓	✓	

[1] Processing Power

The processing power of a reader is measured by how quickly it decodes a barcode and outputs the resulting data. A comparison test simulating a complex 1D/2D multi-code application (consisting of four varied 1D codes and seven varied 2D codes together) was used to determine the processing power of each DataMan fixed-mount barcode reader.

[2] ESD-Safe Housing

Protects devices and flammable environments from electrostatic discharge (ESD), the sudden flow of static electricity between two objects.

ISOTRON SYSTEMS

MODULAR DESIGN
FOR MAXIMUM FLEXIBILITY

Cognex's commitment to continuous innovation ensures modular software and hardware configuration options to solve any barcode reading challenge. The example below represents the modular capabilities of Cognex fixed-mount, handheld, and mobile barcode readers.

1DMax 2DMax IDQuick Hotbars PowerGrid HDR HDR+

Patented technology and advanced algorithms optimize performance.

Modular

Straight and right-angle configuration options

Manual, 3-position, S-mount, C- and CS-mount, and liquid lens (autofocus) options for maximum application coverage

High-powered integrated and external lighting options available

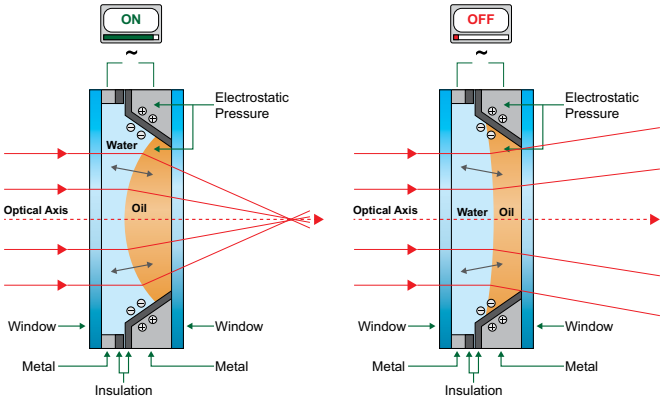
Field-interchangeable multi-color and polarization lighting options for optimal illumination on all surface types

RS-232, USB, Ethernet with industrial protocols, and other network connectivity options available

ISOTRON SYSTEMS

Liquid lens autofocus technology

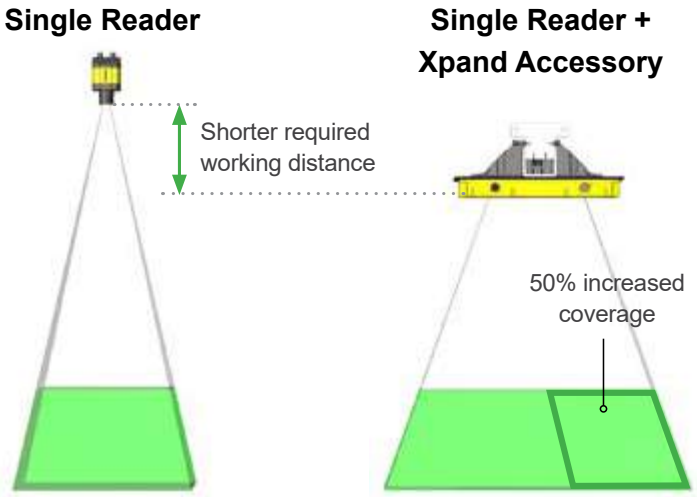
Liquid lens autofocus technology is available for fixed-mount, handheld, and mobile barcode reader models to automatically adapt to changes in working distances for greater depth-of-field. Unlike traditional zoom lenses, liquid lenses do not have any moving parts that can wear out or fail, saving time and maintenance costs.



Greater coverage with fewer readers

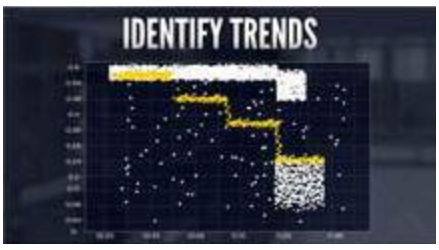
Modular

The Xpand™ technology accessory is available to increase the field-of-view coverage of a single barcode reader by over 50%. This enables wider belt coverage using fewer readers, simplifying setup and installation, and reducing overall cost.



Performance feedback for process optimization

Cognex technology provides performance feedback for networked DataMan fixed-mount barcode readers, including no-read tracking, code quality metrics, heat mapping, and configuration audit trails. A light version of RTM (RTM Lean) is included within the DataMan Setup Tool.



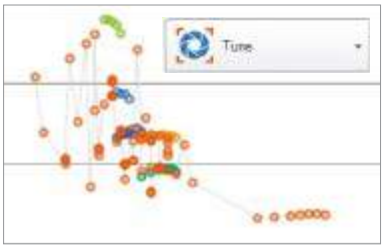
ISOTRON SYSTEMS

EASY SETUP AND OPERATION

DataMan Setup Tool

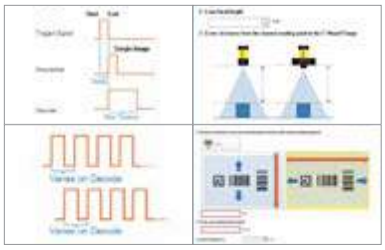
The DataMan Setup Tool software simplifies installation and operation of Cognex barcode readers. Intelligent auto-tuning and application assistants guide the user to quickly optimize complex parameters with ease. The Setup Tool captures images and data in real time allowing users to review and track device result history as well as other parameters such as code quality.

Step-by-step visual guidance



Auto-tune and autofocus

Pre- and post-image optimization tools



Application assistants
help optimize parameters

Independent lighting controls

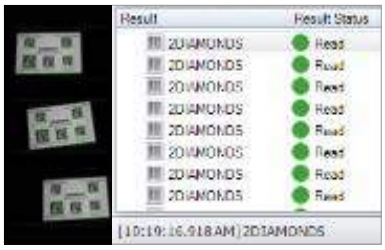
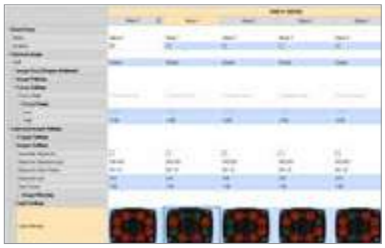


Image & read result history

Basic and advanced scripting
for custom data formatting

Process control metric feedback



Multiple read setups
allow for greater product & environmental variation

ISOTRON SYSTEMS

DATAMAN
BARCODE VERIFIERS

Barcode verification is the process of grading the quality of barcodes. Barcode verifiers capture images and generate reports to demonstrate compliance to parameters within industry standardization guidelines.

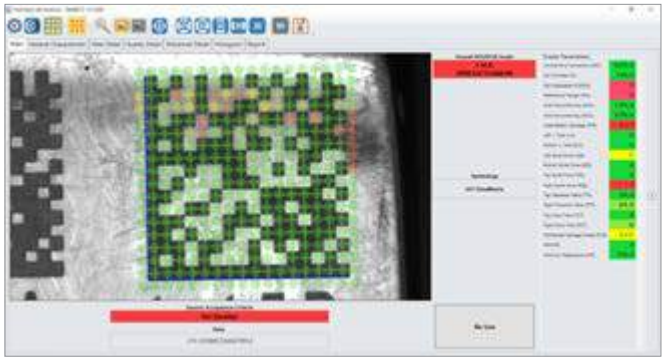
DataMan 8072 Series Verifier

Packed with powerful lighting options, robust grading algorithms, a high-speed processing engine, and a high-resolution camera to grade the most difficult DPM codes.

30, 45, and 90 degree lighting

Reliable and repeatable results

The DataMan Setup Tool calculates an overall grade based on several quality parameters. Detailed results show whether codes meet industry standards. Auto-generated reports can be used to demonstrate compliance, as well as help pinpoint printing and process control issues.



Visit www.cognex.com/verifiers

ISOTRON SYSTEMS

DATAMAN HANDHELD BARCODE READERS

DataMan handheld barcode readers include the latest patented technology, rugged housing, and modular communication options for tough applications.

DataMan 8050 Series

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

CONNECTIVITY: Ethernet, Serial, USB, Bluetooth, Wireless

SYMBOLOGIES

FEATURES: Hotbars, PowerGrid, ESD-Safe

DataMan 8070 Series

Offers advanced image formation for hard to read DPM codes and an extended-range model for label-based logistics applications.

RESOLUTION: 1.2 MP

CONNECTIVITY: Ethernet, Serial, USB, Bluetooth

SYMBOLOGIES

FEATURES: Hotbars, PowerGrid, Liquid Lens, Laser Aimer

DataMan 8600 Series

Delivers superior image formation for the most challenging DPM, 1D, and 2D codes.

RESOLUTION: 1.3 MP

CONNECTIVITY: Ethernet, Serial, USB, Bluetooth, Wireless

SYMBOLOGIES

FEATURES: Hotbars, PowerGrid, Liquid Lens, Laser Aimer

ISOTRON SYSTEMS

HANDHELD READER SPECIFICATIONS & FEATURES

	8050 Series	8070 Series	8600 Series
Resolution	752 x 480	1.2 MP	1280 x 1024
Model Variants	HD, HDX, X	DL, ER	HDX
Lenses			
Liquid Lens		ER	✓
Symbologies			
1D	✓	✓	✓
2D	✓	✓	✓
Decoding Algorithms			
1DMax with Hotbars	✓	✓	✓
2DMax	✓	✓	✓
PowerGrid	✓	✓	✓
Lighting Modularity			
Integrated Lighting	Direct lighting	Half-polarized lighting	UltraLight[1]
Communications			
Ethernet with Industrial Protocols	✓	✓	✓
Serial	✓	✓	✓
USB	✓	✓	✓
Bluetooth	✓	✓	✓
Wireless	✓		✓
Additional Features			
Laser Aimer		✓	✓
Modular	✓	✓	✓
ESD-Safe Housing[2]	✓		
Drop Test	50 drops from 2 meters		
IP Rating	IP65		

[1] UltraLight
UltraLight® technology uses polarized, low-angle, and diffuse lighting to provide the best image formation and illlumination for the hardest-to-read DPM codes.

[2] ESD-Safe Housing
Protects devices and flammable environments from electrostatic discharge (ESD), the sudden flow of static electricity between two objects. Select models only.

MOBILE SOLUTIONS

Cognex offers the only end-to-end family of mobile scanning solutions, achieving best-in-class 1D, 2D, and direct part mark (DPM) barcode reading performance.

MX-1502 and MX-1000 Series

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

RESOLUTION

1.2 MP

SYMBOLOGIES

FEATURES

Hotbars PowerGrid Liquid Lens

MX-100 Series

Mobile device accessory attaches to an Otterbox® uniVERSE Case System® and transforms smartphones into better barcode readers with innovative aiming and lighting.

SYMBOLOGIES

FEATURES

Built for OTTERBOX uniVERSE

ISOTRON SYSTEMS

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 an entire organization.

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

- MX-1000 and MX-1502 Series mobile terminals
- MX-100 Series mobile barcode readers
- Smartphone and tablet cameras (license required)

MOBILE SOLUTIONS SPECIFICATIONS & FEATURES

	MX-100	MX-1000	MX-1502
Resolution	Device dependant	752 x 480	1.2 MP
Scan Range	SR	SR	MR, LR, ER, XR
Lenses			
Liquid Lens			✓
Symbologies			
1D	✓	✓	✓
2D	✓	✓	✓
DPM		✓	✓
Decoding Algorithms			
1DMax with Hotbars		✓	✓
2DMax		✓	✓
PowerGrid			✓

	MX-100	MX-1000	MX-1502
Lighting			
Integrated Lighting	✓	✓	✓
Modular Lighting			✓
Operating System			
iOS	✓	✓	✓
Android		✓	✓
Additional Features			
Modular	✓	✓	✓
Pistol Grip		✓	✓
Drop Test	OtterBox Certified	50 drops from 2 meters	
IP Rating	IP54	IP65	IP65

Modular

The modular design of Cognex mobile products supports a number of existing and future iOS and Android devices, leveraging the latest communication technologies including 3G, 4G, 4G LTE, Wi-Fi, Bluetooth, and more.

MODELS AND SYMBOLOGIES

Regardless of code symbology, size, quality, printing method, or surface, Cognex has a barcode reader that can read the code, ensuring maximum efficiency and traceability.

Model	Reads
L	1D fixed position barcodes
QL	1D omnidirectional barcodes
S	Slow or indexed well-marked 1D and 2D codes
Q	High-speed 1D and 2D codes
X	Challenging 1D and 2D codes, including DPM codes
UHD	Ultra-small, well-marked 2D DPM codes (0.7 mil)
HD	Small 1D and 2D codes (6-10 mil)
HDX	Smaller 1D and 2D codes (2-5 mil)
DL	Well-marked 1D and 2D DPM codes
SR	Codes from standard range
MR	Codes from mid-range
LR	Dense or small codes from long range (high shelves)
ER	Codes from extended-range (very high shelves)
XR	Codes on hanging signs or ceilings

1D Codes

UPC/EAN/JAN

Codabar

Code 11

Code 93

Code 128

GS1 DataBar

Code 25

Code 39

Interleaved 2 of 5

MSI Plessey

Pharmacode

2D Codes

Data Matrix

QR

Micro QR

PDF417

MicroPDF

Aztec Code

DotCode

Postal Codes

POSTNET

Intelligent Mail Barcode

PLANET, Australian Post, Japan Post, Royal Mail, UPU

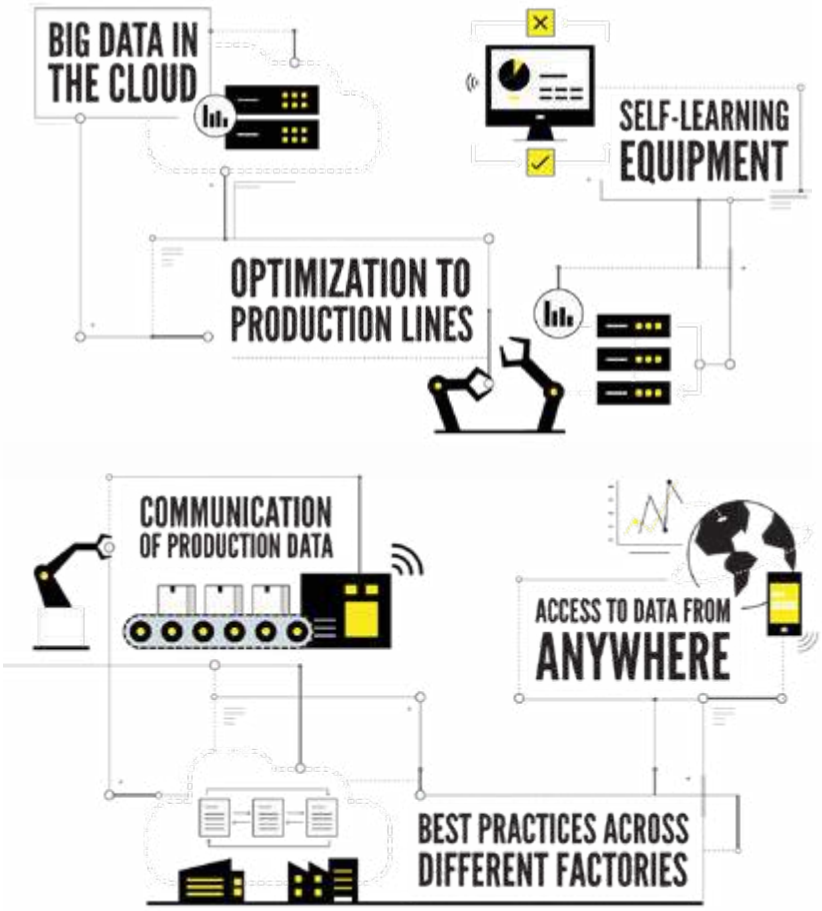
ISOTRON SYSTEMS

INDUSTRY 4.0

Industry 4.0, or “The Industrial Internet of Things,” refers to a set of emerging innovations in advanced automation, machine vision, Big Data, cloud computing, and machine learning which will revolutionize manufacturing. Industry 4.0 demonstrates tremendous potential to bolster productivity, reduce waste, refine product quality, enhance manufacturing flexibility, and decrease operating costs.

Machine vision and industrial barcode reading will be a critical part of automation systems in Industry 4.0. As data analytics capabilities progress, the high volume of data accessible through vision and barcode reading equipment will be used to identify and flag defective products, understand their deficiencies, and enable fast and effective intervention in the Industry 4.0 factory.

For more information, visit cognex.com/industry-4-0.



BUILD YOUR VISION

BARCODE READERS

Cognex industrial barcode readers and mobile terminals with patented algorithms provide the highest read rates for 1D, 2D and DPM codes regardless of the barcode symbology, size, quality, printing method or surface.

www.cognex.com/BarcodeReaders

2D VISION

Cognex machine vision systems are unmatched in their ability to inspect, identify and guide parts. They are easy to deploy and provide reliable, repeatable performance for the most challenging applications.

www.cognex.com/machine-vision

3D VISION

Cognex In-Sight laser profilers and 3D vision systems provide ultimate ease of use, power and flexibility to achieve reliable and accurate measurement results for the most challenging 3D applications.

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

VISION SOFTWARE

Cognex vision software provides industry leading vision technologies, from traditional machine vision to deep learning-based image analysis, to meet any development needs.

www.cognex.com/vision-software

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