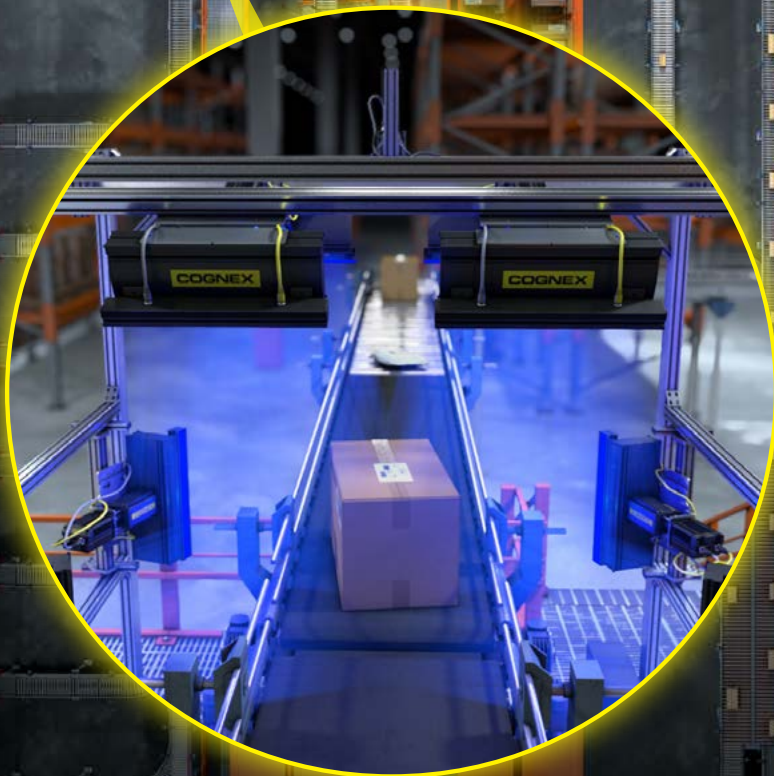# COGNEX

RETAIL DISTRIBUTION LOGISTICS SOLUTIONS GUIDE
POWER UP YOUR OPERATIONS

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

RETAIL DISTRIBUTION SOLUTIONS
POWER UP YOUR OPERATIONS

As the retail industry continues to grow, the pressure to meet customer demands and performance metrics is greater than ever. Successful retail distribution, ecommerce, grocery and apparel companies are scaling and optimizing operations while minimizing manual rework and equipment downtime. Barcode reading applications are increasingly critical to:

- Prevent or correct label and shipping errors
- Drive up efficiency and throughput
- Lower maintenance costs

Cognex image-based barcode readers quickly and reliably decode 1D and 2D codes, combining the benefits of image-based readers with the ease-of-use and affordability of laser scanners. With the highest industry read rates in the market, Cognex technology can dramatically increase the speed, accuracy and productivity of your entire operation.

AUTOMATED SORTING
DELIVER THE RIGHT PACKAGE TO THE RIGHT PLACE AT THE RIGHT TIME

PROBLEM:

Automated sorting systems use 1D and 2D codes to move and track goods through a facility. Labels—located on various sides of packages—often need to be read in rapid succession, simultaneously, and from extreme angles. Also, sorting systems must be able to identify compromised labels and quickly correct problems.

SOLUTION:

Image-based barcode readers are essential for decoding information and ensuring packages are properly sorted and delivered on time. High read rates at automated sorting locations reduce labor costs and maximize productivity rates.

Cognex barcode readers can:

- Achieve 99.9% read rates
- Read smudged or damaged codes
- Read codes at extreme angles
- Provide real-time performance feedback

CUSTOMER SUCCESS STORY

FOREVER 21
Fashion retailer

AUTOMATED SORTING CHALLENGES:
Forever 21's laser scanners could not read 5% to 6% of codes, requiring manual intervention for 1,728 items per hour.

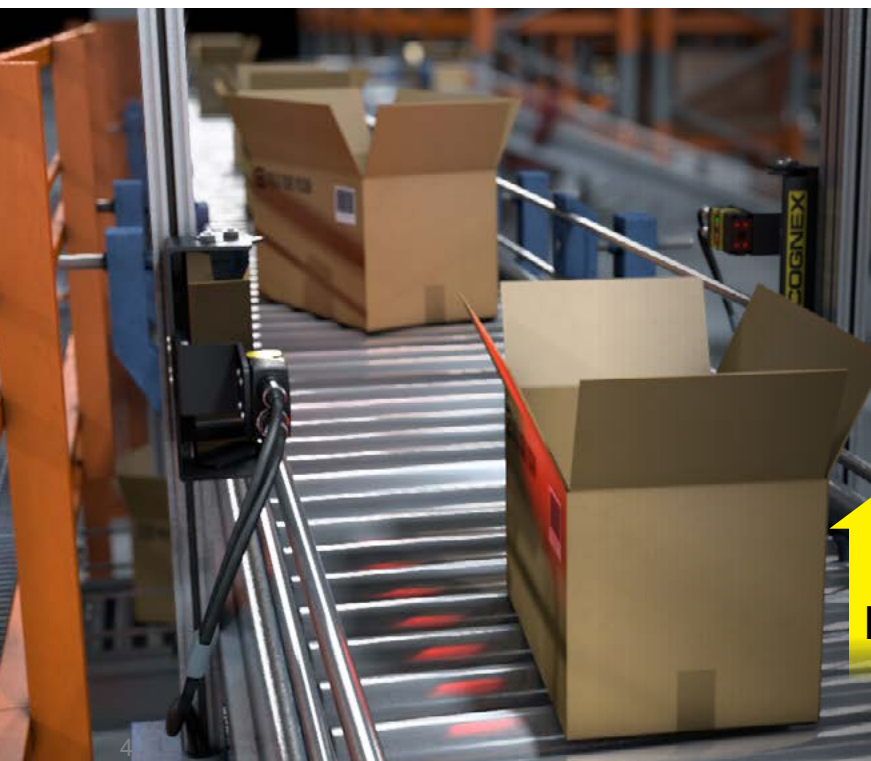### RECOMMENDED SOLUTIONS:
DataMan® 150/260
DataMan 370
DataMan 470 Series
DataMan 503 Series

BENEFITS:
Cognex image-based barcode readers improved read rates to over 99%, thus improving productivity by 15% and providing a cost savings of approximately $1 million per year.

"With the image-based scanners, our current read rate is **OVER 99%.** We're able to process a lot more orders with the same amount of people."

—Jason Kim, Forever 21

15% PRODUCTIVITY

COST SAVINGS OF APPROX.
$1 MILLION
PER YEAR

PALLET SCANNING
SCAN PALLETS QUICKLY AND ACCURATELY

PROBLEM:

In a distribution center, items are typically received and shipped on pallets. Pallet scanning systems unload and route items to their appropriate locations. Many barcode reading challenges arise for traditional laser scanning systems, such as:

- A pallet of boxes contains many barcodes, making it difficult to read the right code.

- Barcodes are printed on or covered by reflective material, such as tape or plastic.

- Labels can become damaged during transport or upon unloading from the dock.

SOLUTION:

Cognex barcode readers scan pallets as easily as boxes, at an affordable cost. With a large depth-of-field and wide field-of-view, image-based barcode readers capture a pallet label—even one surrounded by other labels—quickly and accurately.

Cognex readers decode even the most damaged, distorted, blurred, or low-contrast label-based barcodes, delivering industry-leading 99.9% read rates.

CUSTOMER SUCCESS STORY

EDEKA

Grocery retailer

PALLET SCANNING CHALLENGES:

EDEKA needed a solution that would outperform their laser-based system and reliably read damaged, scratched or reflective manufacturer labels on pallets.

RECOMMENDED SOLUTIONS:

DataMan 370 Series
DataMan 470 Series
DataMan 503 Series
DataMan 8070 Series
MX Mobile Terminals

BENEFITS:

Cognex image-based barcode readers improved read rates by 8% on 380,000 pallets and containers per day, ensuring maximum receiving and routing efficiencies.

8% IMPROVED READ RATES

380,000 UNITS PER DAY

PICK AND PACK SORTING
IMPROVE PICK TIMES AND ACCURACY

OCADO

Online supermarket

PICK AND PACK SORTING CHALLENGES:
Ocado needed a solution that would read poorly printed, distorted and reflective manufacturer labels to improve pick times on over 1.5 million picks per day.

RECOMMENDED SOLUTIONS:
DataMan 70 Series
DataMan 150/260 Series
DataMan 370 Series
DataMan 470 Series
DataMan 503 Series
DataMan 8070 Series
MX Mobile Terminals

BENEFITS:
Cognex image-based barcode readers improved pick times and order accuracy resulting in higher throughput.

PROBLEM:

Order fulfillment operations manage inventory by tracking and sorting goods using 1D and 2D codes located on various sides of items or packages. Manual pick and pack sorting applications, such as pick-to-light, put-to-light, and pick-and-pass, use fixed-mount presentation scanners to scan barcodes and verify that the item in hand matches the order.

Laser scanning challenges occur when codes are damaged from transport or handling, or when operators must manually present barcodes to a scanner several times before obtaining a successful read. This results in costly rework, delays and order inaccuracies.

SOLUTION:

Despite these material handling and presentation scanning challenges, Cognex image-based barcode readers improve pick and pack sorting times and maximize throughput by reliably reading:

- Omnidirectional codes

- Codes at angles exceeding 85 degrees

- Damaged, smudged or distorted codes

PRINT AND APPLY

IDENTIFY AND RESOLVE LABEL PRINTING AND PLACEMENT PROBLEMS

PROBLEM:

Whether your organization has a one million square foot facility or small regional warehouses, fulfillment starts with accurately printing and applying a tracking label to ensure each item is sorted and routed correctly. Smudged, wrinkled, flagged, or improperly placed labels lower read rates and lead to costly manual rework, delayed shipments and even fines.

SOLUTION:

Cognex image-based barcode readers do more than read codes. They catch issues early on, allowing facility managers to identify and fix label printing and placement problems.

Cognex barcode readers can:

- Achieve 99.9% read rates
- Read smudged or damaged codes
- Provide real-time performance feedback

CUSTOMER SUCCESS STORY

IHLE

Tire wholesaler, part of Michelin Group

PRINT AND APPLY CHALLENGES:

IHLE needed a solution that could increase throughput and shorten delivery times by reliably reading 1D and 2D codes on and under shrink wrap.

RECOMMENDED SOLUTIONS:

DataMan 70 Series
DataMan 150/260 Series
DataMan 370 Series
DataMan 470 Series
DataMan 503 Series

BENEFIT:

Cognex image-based barcode readers achieved over 99% read rates on 1D and 2D codes, ensuring fast and accurate delivery of thousands of tire packages.

99%+ READ RATES

WAREHOUSING
ACHIEVE NEXT LEVEL WAREHOUSING PRODUCTIVITY

PROBLEM:

Warehousing is the process of receiving and storing goods for hours, days or weeks at a time. Some facilities use automated storage and retrieval systems (ASRS), while others store items manually on shelves. Pallets or packages may have poorly printed labels, scratched barcodes, labels on one side, multiple sides, or under plastic which can contribute to barcode scanning challenges and costly tracking and routing inefficiencies.

SOLUTION:

Cognex image-based barcode readers use the most advanced algorithms in the industry to quickly and accurately read damaged 1D and 2D codes with variations in:

- Contrast
- Resolution
- Quiet zone violations
- Perspective distortion
- Height or size

With a large depth-of-field and wide field-of-view, Cognex barcode readers streamline item processing to save time and resources during the warehousing process.

RECOMMENDED SOLUTIONS:
DataMan 150/260 Series
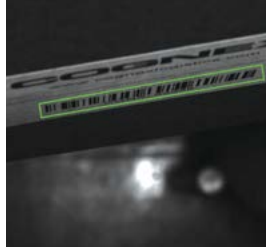DataMan 370 Series
DataMan 8070 Series
MX Mobile Terminals

TECHNOLOGY
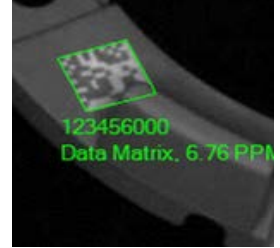## FOR OPTIMAL PERFORMANCE AND TRACEABILITY

1DMAX WITH HOTBARS

A 1D barcode algorithm and technology optimized for omnidirectional barcode reading, decoding up to 10x the speed of a conventional barcode reader.
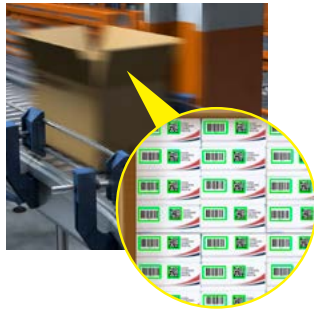

2DMAX WITH POWERGRID

A breakthrough 2D decoding algorithm and technology designed to read 2D codes with significant damage to or complete elimination of a code's finder or clocking pattern, or quiet zone.
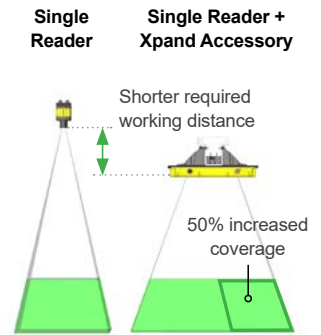

123456000
Data Matrix, 6.76 PPM

1D/2D AUTO-DISCRIMINATION ALGORITHM

Reduces decode times for complex multi-code, multi-symbology label-based code applications.

XPAND

Increases 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.

Single Reader

Single Reader + Xpand Accessory

Shorter required working distance
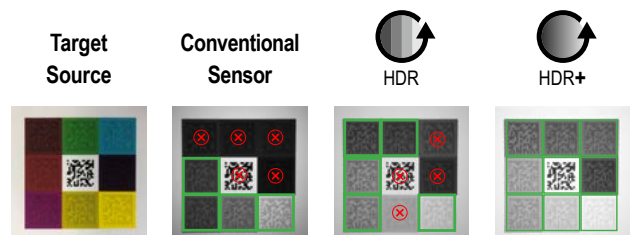
50% increased coverage

PERFORMANCE FEEDBACK

Provides performance feedback for networked DataMan fixed-mount barcode readers, including no-read tracking, code quality metrics, heat mapping, and configuration audit trails.

CHART THROUGHPUT

IDENTIFY TRENDS

VIEW HEATMAPS

SAVE NO-READS

HIGH DYNAMIC RANGE (HDR)

HDR imaging uses the latest CMOS image sensor technology, which is 16x more detailed than conventional sensors, to globally enhance image quality and contrast.
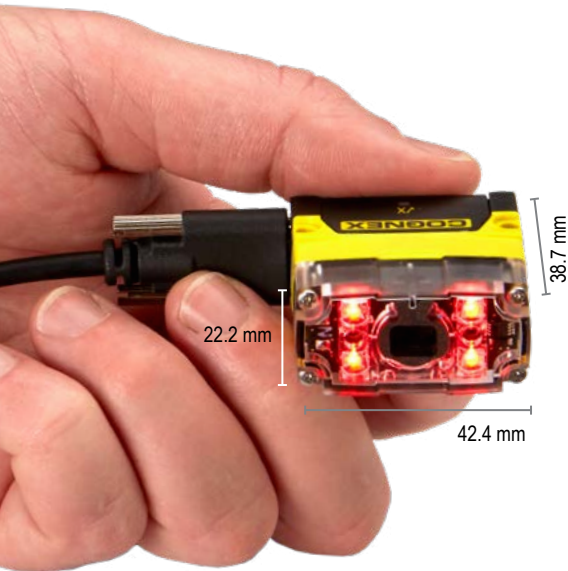
HDR+ further increases localized contrast changes automatically. This creates a more uniformed image in a single acquisition allowing greater depth-of-field, faster line speeds, and improved handling of difficult codes.

Target Source

Conventional Sensor

HDR

HDR+

COGNEX LOGISTICS PRODUCTS
READ ALL YOUR TOUGHEST CODES

Cognex barcode readers are optimized with patented algorithms to ensure industry-leading 99.9% read rates of 1D and 2D symbologies in the most challenging barcode reading applications.

DATAMAN 70 SERIES

Compact design ideal for pick and pack sorting, presentation reading, tote scanning, and daisy chaining.

38.7 mm
22.2 mm
42.4 mm

DATAMAN 260 SERIES

Straight or right-angle modular design ideal for automated or hand sorting, print and apply, and warehousing applications.
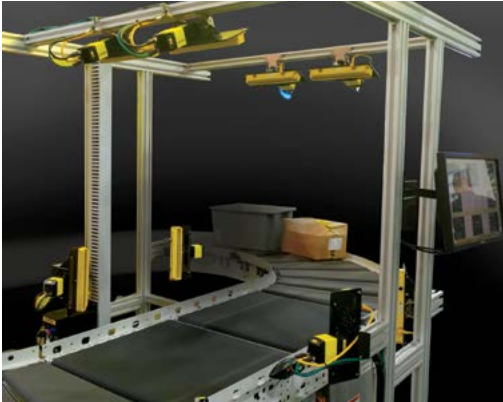
From 43.9 mm
62.8 mm
22.3 mm

DATAMAN 370 SERIES

Modular and easy to use reader, ideal for presentation reading.

113 mm*
75 mm*
91 mm*

*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 designed for complex, high-throughput applications.

60.5 mm

77.1 mm

126.8 mm

54 mm

42 mm

92 mm

DATAMAN 503 SERIES

Well-suited for applications that have high speeds, wide belt widths or large variations in package heights.
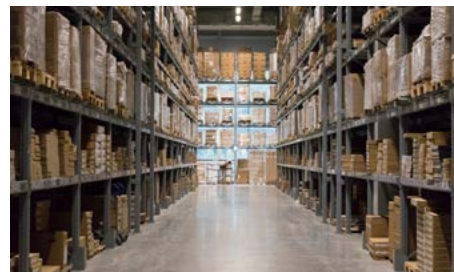

MX MOBILE TERMINALS

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

DATAMAN 8070 SERIES

Handheld reader for scanning codes on pallets or slips from up to 8 meters away.

COGNEX LOGISTICS SOLUTIONS
POWER UP YOUR OPERATIONS

Maximize deliverability and minimize manual handling with advanced barcode reading solutions from Cognex.

RETAIL DISTRIBUTION

The world's leading retailers use Cognex barcode readers to quickly scan and track goods through their distribution centers.

Ecommerce

Ecommerce businesses rely on image-based barcode readers to scan and sort goods quickly and accurately.

Grocery

Grocery retailers use Cognex's image-based barcode readers to ensure maximum pallet receiving and routing efficiencies.

Apparel

Fashion and apparel companies use image-based barcode readers to help manage changes in volume and SKUs and minimize manual handling.

PHARMACEUTICAL DISTRIBUTION

Pharmaceutical groups solve tough automated sorting challenges with Cognex image-based barcode readers.

PARCEL & POSTAL

Parcel and postal organizations rely on Cognex barcode readers to reliably decode multiple 1D and 2D codes on various types of packages.

AIRPORTS

Airport baggage handling systems depend on Cognex's barcode reading solutions to speed up luggage processing times.

COGNEX

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

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