FOOD AND BEVERAGE SOLUTIONS GUIDE
Safeguard Inspections, Improve Quality, and Protect Your Brand
Cognex®, the world's most trusted machine vision and industrial barcode reading company.

With over one million systems installed in facilities around the world and over thirty-five years of experience, Cognex is solely focused on providing the most reliable and advanced 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 vision solutions and largest network of global vision experts, Cognex is the best choice to help you Build Your Vision™.

$521 MILLION 2016 REVENUE

OVER 35 YEARS IN THE BUSINESS

500+ CHANNEL PARTNERS

GLOBAL OFFICES IN 20+ COUNTRIES

1,000,000+ SYSTEMS SHIPPED
THE RIGHT CHOICE FOR FOOD AND BEVERAGE APPLICATIONS

PROTECT YOUR CUSTOMERS. PROTECT YOUR BRAND.

With lean operations and thin margins, the pressure on the food and beverage industry to optimize overall equipment efficiency (OEE) without compromising quality is challenging. Successful manufacturers embrace machine vision and barcode reading solutions to minimize downtime and consistently deliver safe, high quality products that are easily traced throughout the supply chain. With the widest selection of machine vision systems and barcode readers, Cognex solutions help food and beverage manufacturers solve some of the most challenging inspection, verification, and tracking applications.

Product Quality Inspection .................. 6
Packaging Inspection ........................... 7
Assembly Verification .......................... 8
Allergen Management and Traceability .... 9
Warehousing and Distribution ............... 10
POWER UP YOUR OPERATIONS
WITH MACHINE VISION

INCREASE THROUGHPUT AND OEE
Accommodate fast and frequent line changeovers and increase the throughput, efficiency, reliability, line speeds, and versatility of your production lines.

IMPROVE PRODUCTIVITY AND DRIVE DOWN COSTS
Achieve greater consistency, precision, safety, and output to drive down manufacturing overhead and avoid costly, time-consuming rework.

Cognex
GTS
Automatizări Industriale
REDUCE SCRAP
Achieve your zero waste goal with smarter automation. Detect mislabeled, wrongly assembled, and defective products early in the production process to reduce scrap and avoid stoppages and downtime.

PROTECT YOUR BRAND
Avoid having spoiled or damaged goods reach the market. Prevent defects and ensure quality to keep customers satisfied and your brand reputation protected.

“Given the current high costs of raw ingredients and energy, this vision system really does drive down waste figures at this plant thus increasing overall production and reducing costs.”

—Niall Reilly, Senior Software Engineer at Frank Roberts
In the US and abroad, sweeping food safety reform has occurred against a backdrop of rising authentication challenges and recalls. The average direct cost of a recall is estimated at $10 million, not including brand damage and sales losses. Under intense scrutiny by regulators as well as consumers, the food and beverage industry is embracing advanced automation with machine vision to safeguard its processes and products. Cognex’s vision systems and image-based barcode readers help manufacturers achieve the highest levels of confidence in assembly, packaging inspection, and traceability to prevent devastating recalls and preserve brand reputation.

Sources: Stericycle Recall Index (https://www.stericycleexpertsolutions.com/recall-index)

Estimated financial impact (direct costs and sales losses) to food companies as a result of a recall

Source: http://www.gmaonline.org/file-manager/images/gmapublications/Capturing_Recall_Costs_GMA_Whitepaper_FINAL.pdf
PRODUCT QUALITY INSPECTION

Products can break or become damaged during production. Inspecting for product integrity prior to packaging is critical to ensure customer satisfaction and protect brand reputation. Cognex identifies defects and rejects them before they reach the customer, protecting your company’s brand against the net effect of damaged goods while avoiding stoppages and downtime.

**BENEFITS**

- Detect damaged products
- Reduce costly downtime and manual intervention
- Avoid packaging mix-ups
- Preserve customer loyalty

**Detect foreign objects and debris**

**Verify food portioning**

**Match product to packaging**

**Ensure consistent size, shape, color, and texture**
PACKAGING INSPECTION

Packaging affects consumer perception of product quality, safety, and value. Cognex vision systems inspect food packaging to ensure it is correctly assembled, defect free, and complete, so that only the highest quality products reach customers.

**BENEFITS**
- Avoid unsightly, damaged packaging
- Defend against contamination and spills
- Prevent returns from wholesalers and retailers
- Preserve brand reputation

**Identify torn, skewed, or missing labels**

**Verify tamper seal integrity**

**Check for date/lot code presence**

**Ensure label print integrity**
Identifying assembly defects early saves significant time and money, especially when a single failure can affect an entire batch. Vision-guided quality checks ensure completeness and consistency while robotic pick-and-place capabilities speed up and error-proof the transition from production to packaging.

**BENEFITS**
- Detect defects and missing items
- Verify completeness and product integrity
- Enable vision-guided robotics
- Improve pick times and accuracy

**Verify cap height**

**Ensure accurate liquid fill levels**

**Detect missing items**

**Enable vision-guided robotic pick and place**
ALLERGEN MANAGEMENT AND TRACEABILITY

Mislabeled allergens threaten the public’s health and can cause expensive recalls deeply damaging to brands. Regulations in the US and abroad require manufacturers to label and trace common allergens. To ensure product safety and efficient recalls, manufacturers must be able to quickly identify and locate faulty products in the supply chain posing hazards to consumers. Cognex machine vision and image-based barcode readers verify your ingredients are labeled correctly, while track-and-trace solutions prevent packing mistakes and help locate recalled items quickly to minimize loss.

**BENEFITS**
- Identify and locate defective products
- Prevent accidental exposure and liability
- Limit the risk of recalls
- Comply with regulatory standards
- Deter counterfeiting

**Verify allergen label is present**

**Match and verify packaging**

**Track items through the supply chain**

**Avoid counterfeiting and validate tax stamps**
Increasingly, food and beverage products are being manufactured, warehoused, and distributed from the same location. Manufacturers must optimize not just their production capacity and quality, but also their warehousing and fulfillment operations to meet growing performance criteria and customer demands. Cognex vision systems and image-based barcode readers have the highest read-rates in the industry and can dramatically increase the speed, accuracy, and productivity of warehouses and distribution centers.

**BENEFITS**
- Streamline item processing and sorting
- Receive, store, and retrieve inventory efficiently
- Minimize rework and downtime
- Lower maintenance costs

**Process batches quickly, easily, and accurately**

**Manage palletized inventory**

**Read codes printed on or covered by reflective material**

**Automate sorting and shipping**
Vision Sensors
In-Sight® 2000 vision sensors perform simple pass/fail applications that help ensure products and packaging manufactured on an automated production line are error-free and meet stringent quality standards.

2D Vision Systems
Cognex In-Sight 2D vision systems are unmatched in their ability to inspect, identify, and guide parts. These self-contained, industrial-grade vision systems combine a library of advanced vision tools with high-speed image acquisition and processing.

3D Laser Profilers
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.
Fixed-Mount Barcode Readers
Compact but powerful DataMan® barcode readers offer unmatched code reading performance with patented 1-D and 2-D code reading algorithms. The flexible options, easy setup, and quick deployment make them ideal for the most demanding industrial applications.

Handheld Barcode Readers
Versatile DataMan barcode readers provide best-in-class performance for 1-D, 2-D, and DPM codes, where ruggedness and speed are critical to success. A range of field-changeable communication options ensure these readers are ready to meet your application requirements.

Mobile Terminals
The MX series of vision-enabled mobile terminals leverage the latest iOS® and Android® smartphones in a rugged housing, tough enough to stand up to the most challenging environments—all while providing superior 1-D, 2-D, and DPM code read rates.
Companies around the world rely on commitment to continuous innovation to optimize product quality, drive down manufacturing costs, and control traceability. Cognex tools and patented technologies include:

**Pattern Matching**
Locating a part accurately is the first step in most vision applications. Cognex’s industry leading pattern matching technologies, such as PatMax RedLine™, provide unmatched accuracy and robustness, even with rotation, scale and lighting variations.

**3D Inspection**
Based on PatMax® and other alignment technologies, VisionPro® 3D software delivers real-time 3-D position information for challenging package verification and logistics applications. VisionPro’s robust library of tools remains reliable even when patterns are partly covered, ensuring accurate part location in the toughest conditions.

**Optical Character Recognition**
OCRMax character recognition algorithm achieves superior read rates on images with low-contrast or confusing backgrounds, and can handle common printing deformities such as unevenly-spaced, skewed or distorted characters.

**Barcode Reading**
1DMax™ and 2DMax® barcode reading algorithms achieve the highest read rates for 1-D and 2-D barcodes, including challenging 2-D direct part mark (DPM) codes.
**Color Verification**

Color tools are used to identify and inspect objects based on color data. Color tools also measure by evaluating the amount of color pixels present of a color or group of colors. Advanced color vision technology maintains accuracy even with lighting variations that can cause problems for traditional color vision tools.

**Real Time Monitoring**

Cognex Explorer™ Real Time Monitoring (RTM) technology uses world-class Cognex vision technology to monitor DataMan barcode reader performance. Cognex Explorer RTM empowers facility managers with data that can assist in removing system defects and optimize processes.
BUILD YOUR VISION

2D VISION SYSTEMS
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.
- Industrial grade with a library of advanced vision tools
- High speed image acquisition and processing
- Exceptional application and integration flexibility

3D LASER PROFILERS
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.
- Factory calibrated sensors deliver fast scan rates
- Industry-leading vision software with powerful 2D and 3D tool sets
- Compact, IP65-rated design withstands harsh factory environments

IMAGE-BASED BARCODE READERS
Cognex industrial barcode readers and mobile terminals with patented algorithms provide the highest read rates for 1-D, 2-D, and DPM codes regardless of the barcode symbology, size, quality, printing method, or surface.
- Reduce costs
- Increase throughput
- Control traceability

GTS
Automatizări Industriale

Adresa: Strada Drumul Garii, nr. 38-44, Otopeni, Judet Ilfov
Telefon: 021.255.71.74 / Fax: 021.255.71.75
E-mail: office@gts-automatizari.ro
Web: www.gts-automatizari.ro