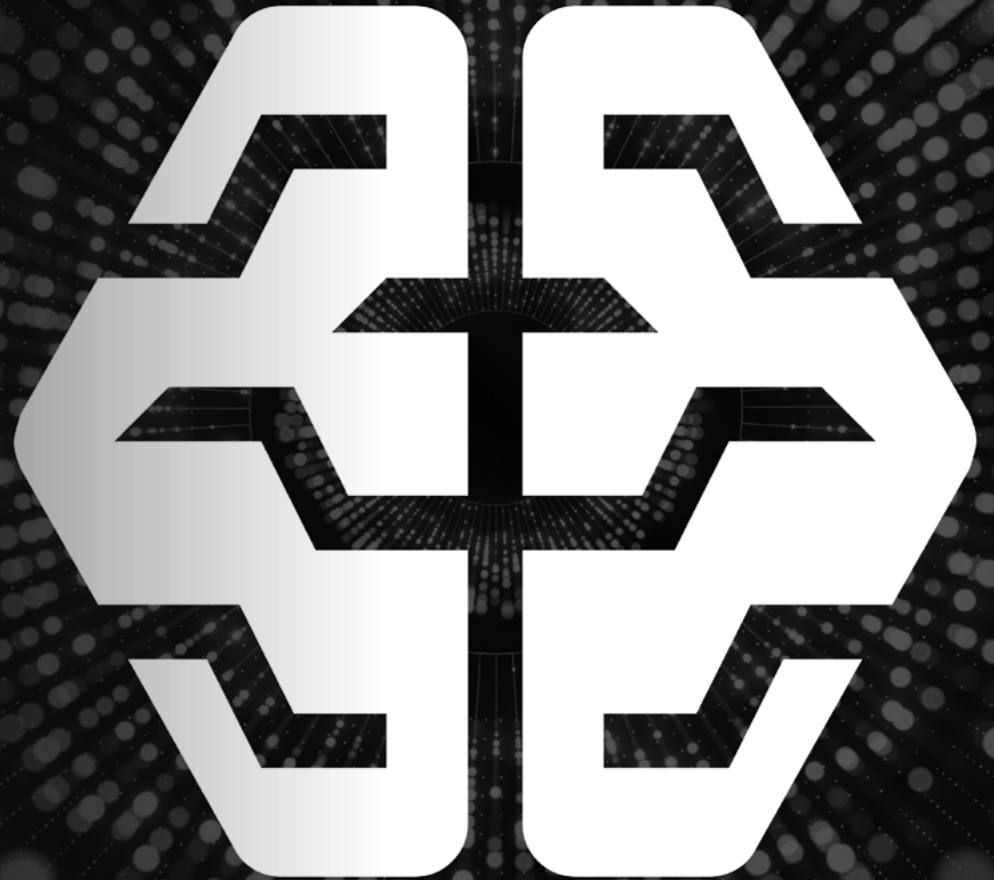


COGNEX AI

PERFORMANCE
WITHOUT
COMPROMISE



COGNEX

Advanced machine vision made easy

Cognex AI: Performance Without Compromise

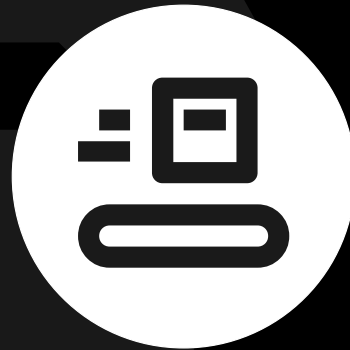
COGNEX AI

In industrial automation, you shouldn't have to choose between high performance and ease of use. **Cognex AI** delivers both: **industry-leading vision performance** with the **simplicity needed** to deploy and maintain automation confidently.

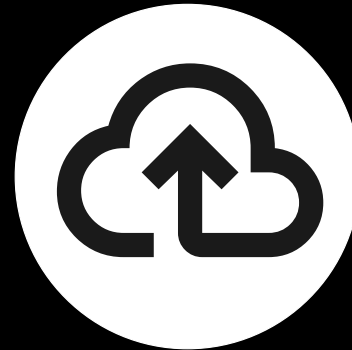
Achieving this level of performance and simplicity is made possible through the unique combination of four components:



1 **Advanced
Vision Tools**



2 **Edge-
Optimized
Computing**



3 **Cloud-
Enhanced
Architecture**



4 **Unified
Ecosystem**

1

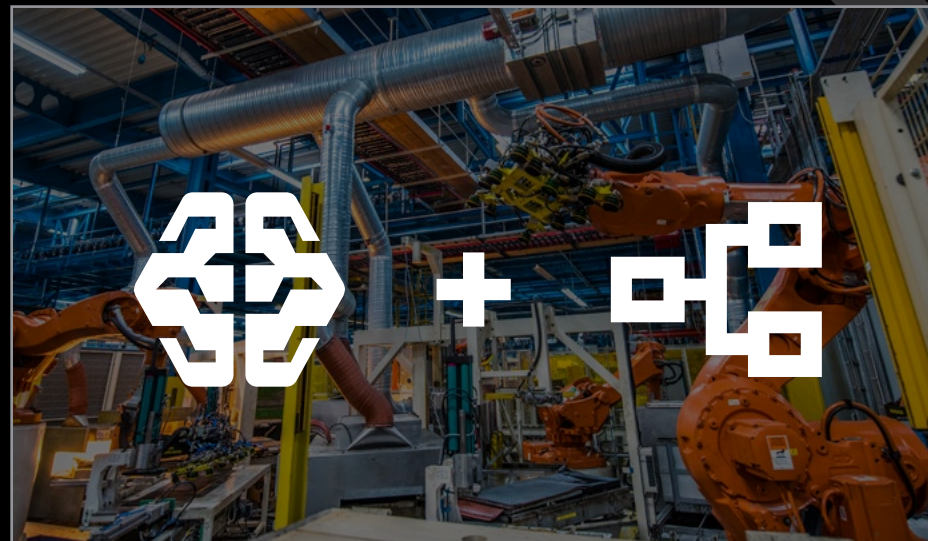
Advanced Vision Tools

Deep expertise in both AI-powered and rule-based vision tools makes it easy for you to tackle the most demanding industrial applications accurately, quickly, and at scale.



Pretrained power

Purpose-built for industrial applications, our models require fewer training images to deploy, dramatically shortening development cycles and accelerating time to value.



Unmatched range

Seamlessly combine AI and traditional vision algorithms in a single job with an extensive set of best-in-class vision tools.

2

Edge-Optimized Computing

The core work happens where it matters most – on embedded devices, right on the production line.



Zero-shot performance

In many applications, no training is required. Our “zero-shot” capabilities enable immediate deployment right out of the box.



Solve on device

From training to execution, our edge devices handle the majority of applications directly on device.

3

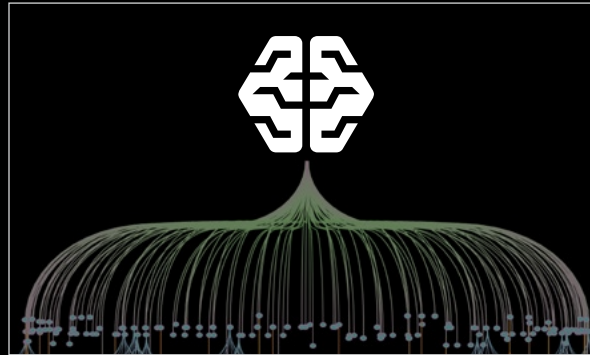
Cloud-Enhanced Architecture

For complex applications, we make it easy to access powerful cloud computing through OneVision, a collaborative AI development environment.



One-click connectivity

Upload images directly from edge devices to the cloud for advanced and customizable model tuning.



Rapid deployment

Push models down to an entire fleet of edge devices at once.



Model management

Centrally store image sets, label data, and manage AI models for streamlined collaboration.

4

Unified Ecosystem

A fully integrated hardware and software portfolio simplifies operations and scales with your business.



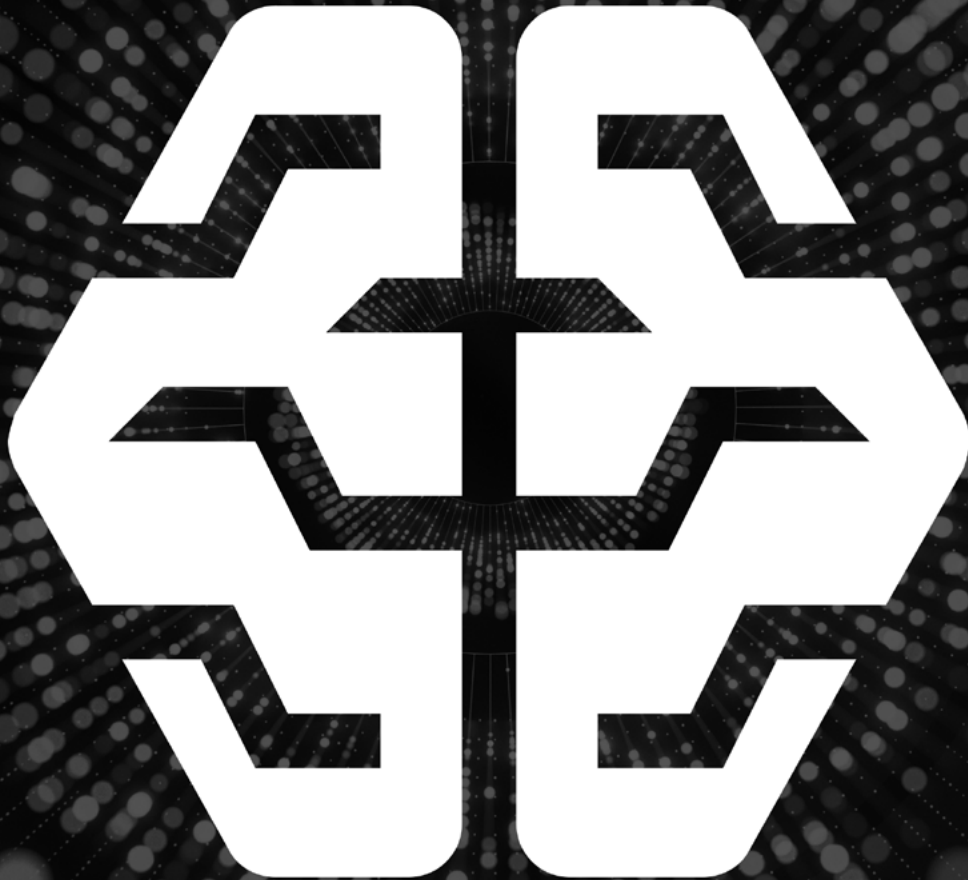
Reduce overhead

Common software across products delivers a consistent user experience, resulting in lower training costs and faster deployment.



Scale with confidence

Move from a single inspection point to a global fleet with a comprehensive set of flexible vision tools, built for industrial-grade performance and reliability.



Cognex AI delivers performance without compromise. High-speed accuracy meets the flexibility of a seamless edge-to-cloud ecosystem, while pre-trained vision tools and common software make every industrial application instantly deployable and endlessly scalable.

The result is AI that scales like software but performs like industrial automation.

The Evolution of AI Vision

Over the past decade, AI-powered machine vision has advanced rapidly, becoming more accessible, efficient, and production-ready. Cognex has led this evolution, continuously innovating to set the global standards for accuracy, speed, and usability.



Late 2010s

PC-Based AI

Achieved up to 99.9% accuracy but required thousands of training images, heavy PC-based compute, and expert users.



2020

Embedded AI

Deep learning moved on-device and reduced training requirements to hundreds of images.



2022

Edge AI

Maintained with only tens of training images, running fully on-device with minimal user involvement.



2025

Edge-to-Cloud AI













Enabled collaborative labeling, training, and management of vision models, eliminating reliance on local PCs.

The Right Vision Technology for Every Application

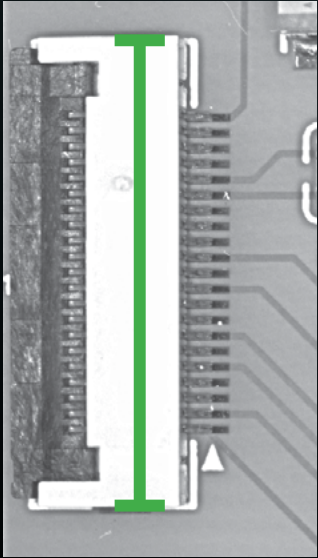
Not every application requires AI, and not every AI approach is appropriate on its own. The key is choosing the right tool – or combination of tools – for the job at hand.

Cognex offers a continuum of machine vision technologies – from proven rule-based tools to on-device Edge AI and highly configurable Advanced AI – so manufacturers can match the right level of capability to each inspection.

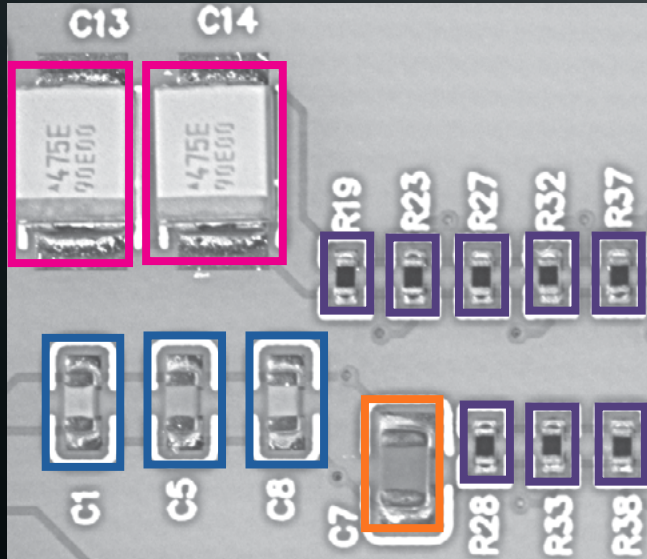


	Rule-Based Tools	Edge AI	Advanced AI
Primary Focus	 Precision and control for predictable, repeatable processes	 Simplicity and fast deployment for applications with moderate variation	 Flexibility and depth for complex applications
Training/Setup	 Parameters and threshold configuration	 On-device, example-based training with dozens of images	 Off-device, example-based training with hundreds to thousands of images
Expertise Required	 Intermediate to expert	 Novice to intermediate	 Intermediate to expert
Variations/Complexity	 Low	 Medium	 High
Typical Use Cases	Known or specific defect detection, precision measurement, and robotic guidance	Standard inspections, defect detection, classification, assembly checks, and OCR	High-variability inspections, subtle defect detection, and highly customized requirements

Rule-based: Measurement

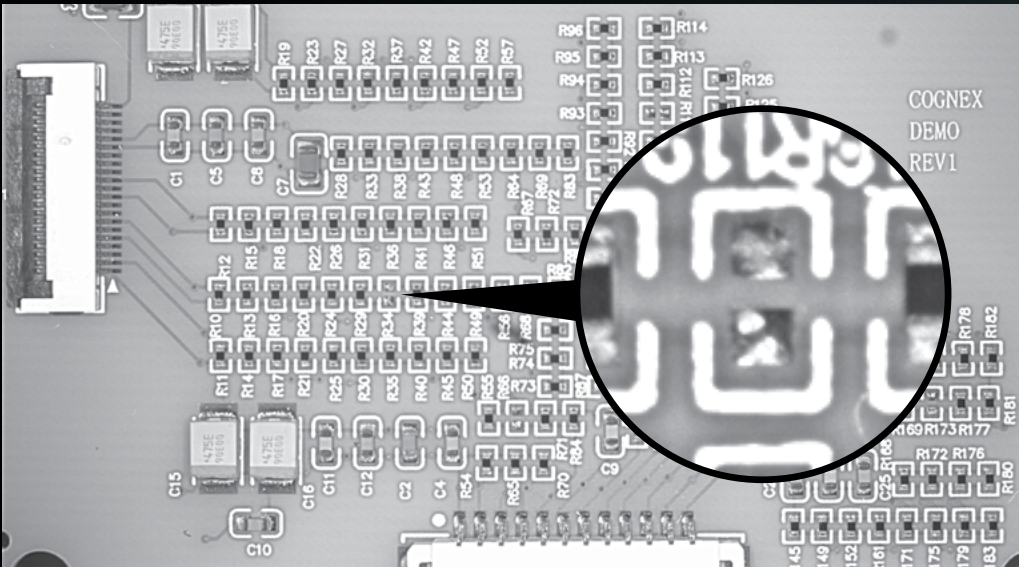


Edge AI: Classification



Cognex brings these technologies together in a single, unified ecosystem, making it easy to deploy rule-based vision, Edge AI, Advanced AI, or hybrid workflows that combine AI and rules. The result is production-ready AI that scales without complex infrastructure or deep technical expertise.

Advanced AI: Complex defect detection



That's performance and simplicity, without compromise.

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

Advanced machine vision made easy

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