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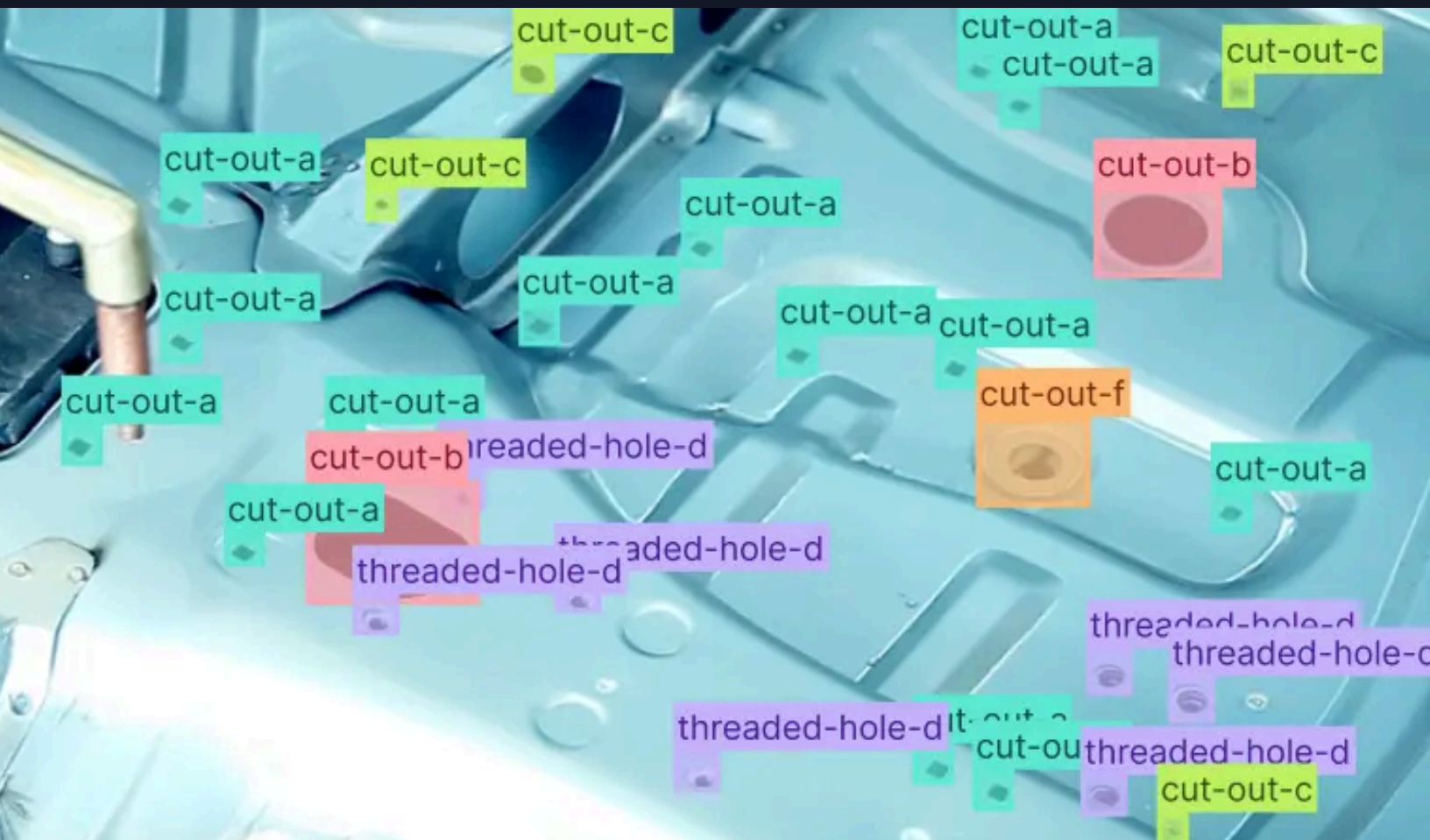
INDUSTRY INSIGHTS

# The Automotive AI Playbook

Discover top use cases
and key insights



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# Unlock Manufacturing Excellence with Vision AI

Avoid unplanned downtime, automate quality inspections, and empower your workforce with strategic insights. Transform every stage of your manufacturing process with vision AI.

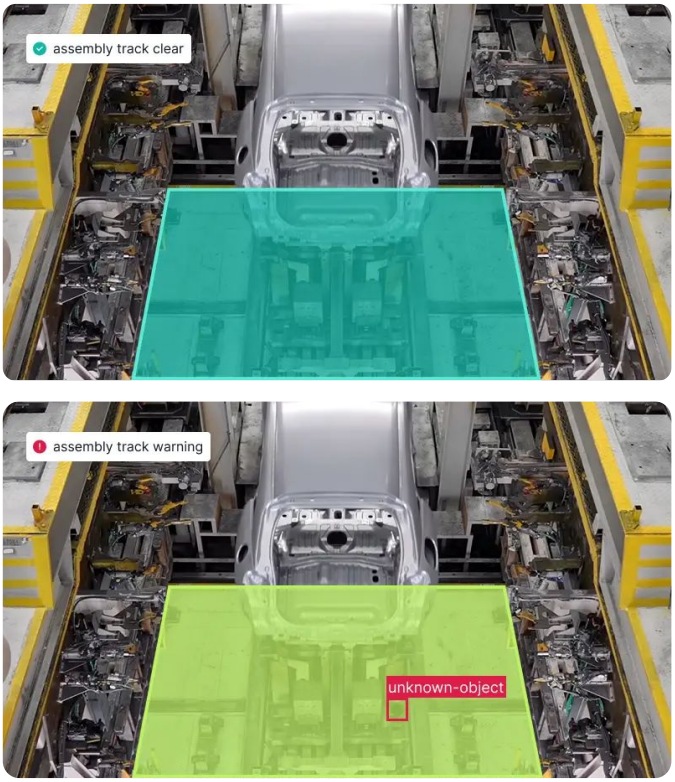
SUCCESS STORY

## Eliminating costly quality issues and disruptions in auto manufacturing

A leading vehicle manufacturer faced significant challenges with production line defects, such as foreign objects in assembly tracks, leading to over $20,000 in reworks per incident and costly work disruptions. Their existing machine vision solutions were falling short.

By deploying real-time, edge-ready vision AI with Roboflow, the manufacturer revolutionized their quality assurance processes. The purpose-built AI now instantly detects issues across dozens of processes, from paint inspection to brake cable verification and assembly track monitoring, triggering immediate alerts for their team.

As a result, this global vehicle manufacturer has eliminated these critical production issues, avoiding substantial costs and dramatically enhancing throughput across their lines.




## Vision AI is transforming businesses

Equipment Manufacturer:

**$10 million**

Saved by identifying defects earlier in the production process

Supply Chain Operator:

**90%**

Less time spent on updating inventory at intermodal yards

Materials Supplier:

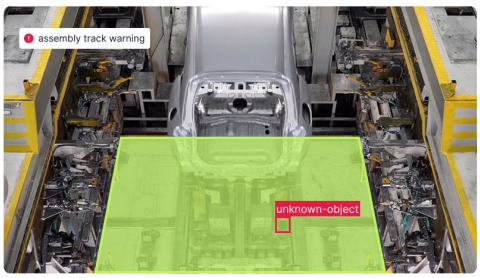
**40%**

Less customer claims thanks to improved product quality

VISION MODELS

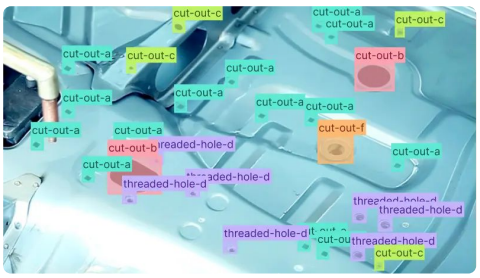
# Deploy AI today. Achieve immediate results.

Roboflow provides the flexibility to deploy state-of-the-art foundation models or develop highly specialized, purpose-trained solutions, enabling enterprises to tackle complex and nuanced challenges with precision.




## Avoid jams and bottlenecks

- Grade raw material quality
- Measure size, angle, volume
- Count and sort individual items

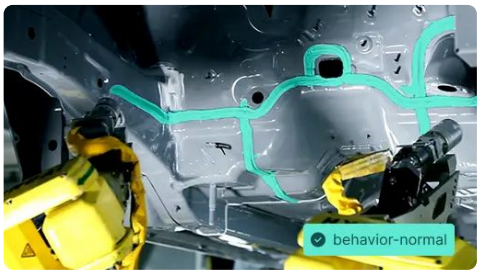



## Automate quality inspections

- Identify miniscule imperfections
- Analyze size, color, textures
- Detect missing components


## Guide and optimize processes

- Track cycle time and task execution
- Optimize workstation layout
- Provide assisted guidance

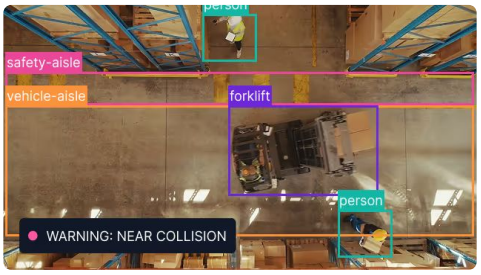



## Predict maintenance

- Monitor equipment wear and tear
- Automate safety inspections
- Detect objects in machinery


## Understand inventory levels

- Track stock levels over time
- Scan text, find damaged labels
- Optimize warehouse usage




## Improve safety compliance

- Monitor health hazards
- Track safety procedures
- Identify people in zones

DEPLOY

## AI where you need it

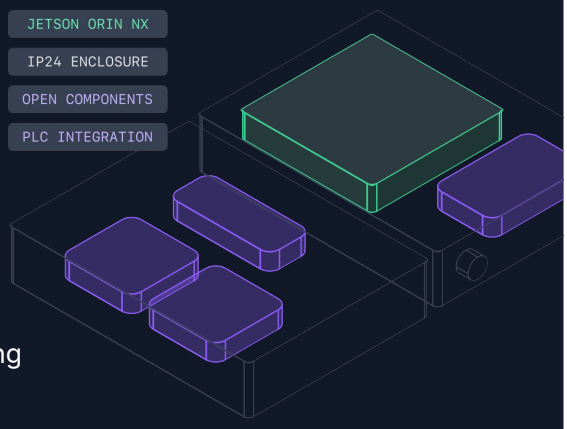
Run vision AI on your preferred platform and scale across sites.

### In the Cloud

Quickly deploy with Roboflow's cloud or use your own infrastructure.

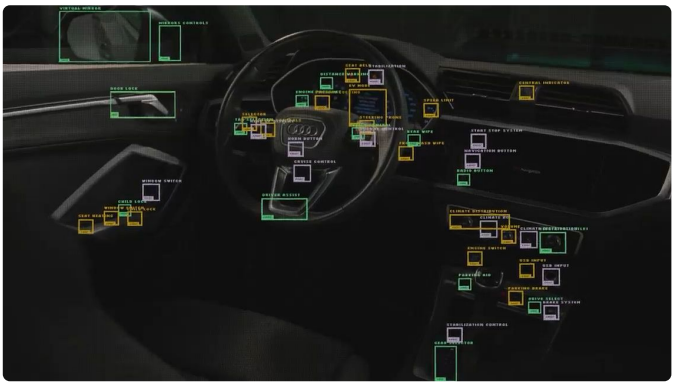
### At the Edge

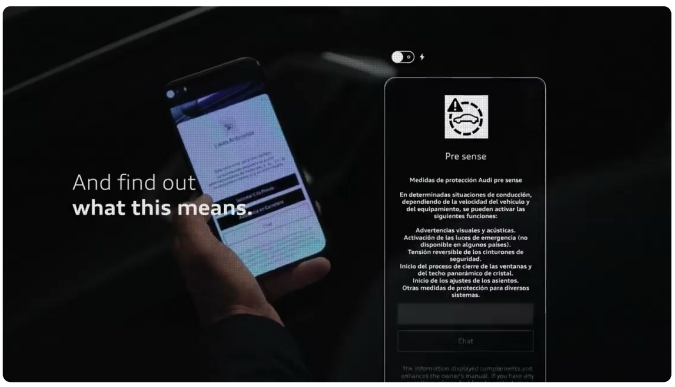
Run locally, without internet, using hardware of your choice.



SUCCESS STORY

# Audi and Ogilvy improve the driver experience with interactive, vision-powered user guides






### Challenge: The Gap Between Innovation and Understanding

Audi, a leader in automotive innovation, invests heavily in research and development to enhance the customer experience. In 2024, they allocated over €4 billion for new technology. This commitment raised a key question: How could they ensure drivers truly understood and maximized the advanced features in their vehicles?

Surveys revealed a critical disconnect. Only a quarter of drivers consult their vehicle's owner's manual, and 68% reported being unaware of many features and functions. This indicated drivers needed a more intuitive and accessible way to engage with their cars.

### Solution: Interactive User Manuals, Powered by Vision AI

To address this challenge, Audi partnered with Ogilvy, a leading global creative network. The team at Ogilvy Spain developed Audi Reader, a vision-powered application. The app transforms the traditional car manual into an interactive, real-time experience. By pointing a phone camera at any part of the vehicle – such as a dashboard button or warning light – the app instantly identifies the feature and provides relevant information directly from the owner's manual.

Audi Reader was developed using object recognition technology in collaboration with Roboflow. The application is powered by a custom-built vision AI model, which was trained using over 10,000 photographs of the interior and exterior of 27 different Audi models. This custom model accurately recognizes each component and links to the corresponding documentation.

> "Innovation isn't just about the technology itself; it's about how we connect with our customers. Our goal with Audi Reader was to simplify the driver's interaction with their vehicle. Roboflow was instrumental in accelerating our computer vision development, empowering our team to quickly convert the user manuals into an intuitive, instantly accessible experience."
>
> **Lorenzo Spadoni**
> Innovation & Technology Partner | Ogilvy Spain

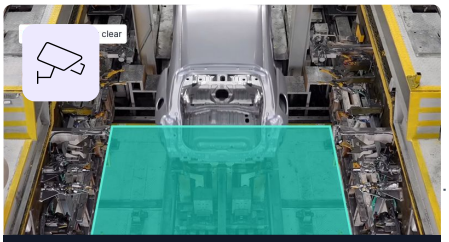
### Impact: Enhanced Customer Connection

The Audi Reader application not only enhances driver understanding and satisfaction but also reinforces the organization's commitment to driver-centric innovation. It transforms a common pain point into a seamless, engaging experience, helping drivers take full advantage of the advanced capabilities of their vehicles.

INTEGRATE & AUTOMATE

## Grant your facility the sense of sight

Build vision-powered automations to control machinery, trigger alerts, and more.




**Connect visual inputs**
Connect to live camera feeds via RTSP/USB or existing media libraries.


**Roboflow**
Apply vision models and trigger actions based on detections.

**Control systems**
Integrate with PLCs, HMIs, ERPs, and others.

**Trigger alerts**
Send real-time alerts via email or text message.

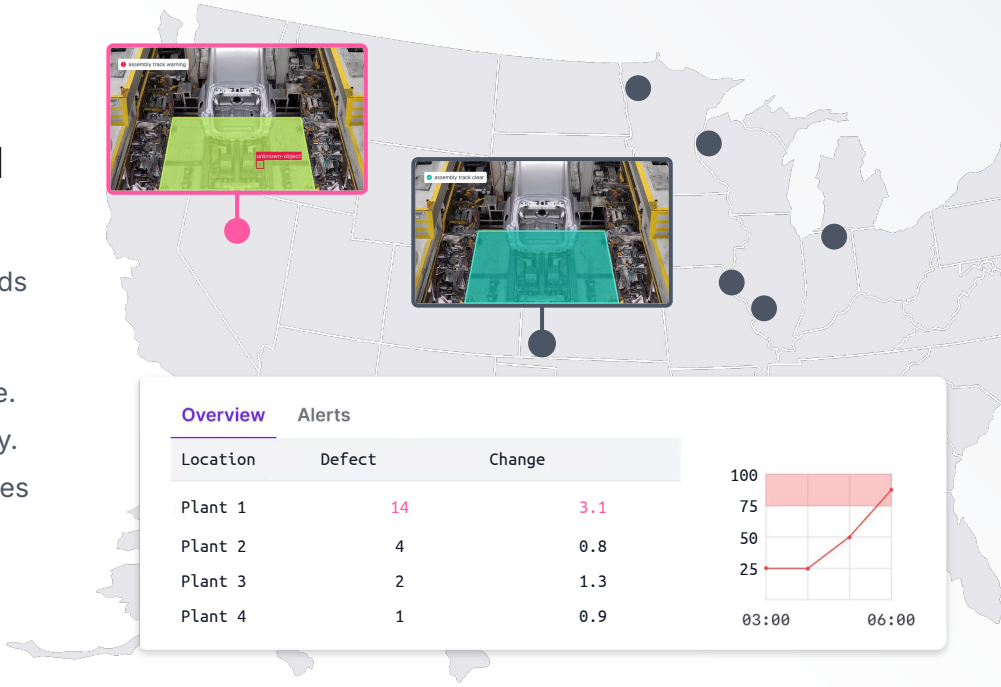
**Update databases**
Send events to Microsoft SQL Server and others.

INSIGHTS

## Visual intelligence across all lines and facilities

Transform data from hundreds of camera feeds into real-time, actionable insights.

- See metrics across facilities in one console.
- Trigger alerts to resolve issues immediately.
- Analyze trends and alleviate recurring issues




Used by 1,000,000 developers and half the Fortune 500

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