How Magna Supercharged Its Quality Control and Training Processes with Augmented Reality
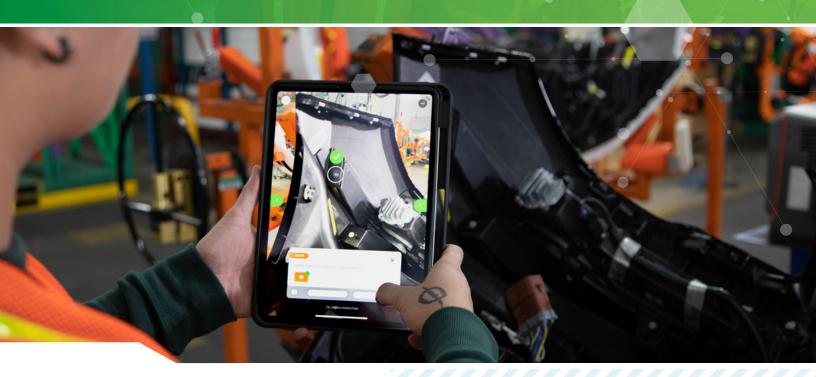
Nascote Industries is a division of Magna International, one of the world's largest suppliers in the automotive space with 343 manufacturing facilities across 29 countries. Focused on delivering both quality and value to customers, Nascote Industries not only prioritizes top-tier manufacturing, but also innovation.

In a continued effort to provide premium parts to Original Equipment Manufacturers (OEMs), Nascote Industries leverages Vuforia enterprise augmented reality (AR) solutions to help increase training effectiveness and improve quality inspection.

Opportunities for Innovation

There's zero room for error in the fast-paced automotive industry. As one of the leading suppliers in the market, Nascote Industries discovered opportunities to accelerate new hire training, optimize quality inspection, and boost efficiency in the process.

Training opportunities

As vehicles become more complex, so does the assembly process. There are dozens of steps that need to happen in a very specific order and within a given time frame. With manual processes and 2D paper-based instructions, training an operator on these steps is not only time consuming, but also challenging.

Quality inspection opportunities

Nascote Industries has a reputation for high quality, and it strives for continuous improvement. One opportunity Nascote Industries identified was soft connections, where an electrical plug is partially plugged in. Such connections passed a continuity test but too much movement caused the connection to fall out. Nascote Industries needed an extra layer of inspection for this area to ensure quality moving forward.

The search for a solution

Customers have high expectations for product quality, but traditional inspection methods were prone to issues like soft connections. Nascote Industries wanted to explore new ways to improve the exceptional quality it was already providing to customers.
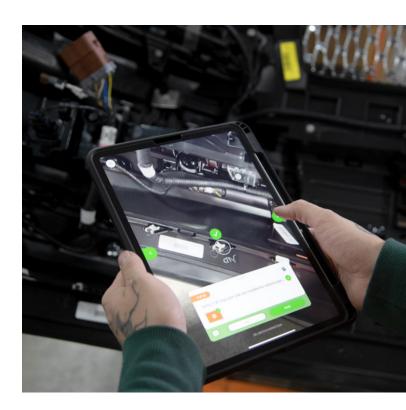
Enter: Vuforia

AR helps frontline workers view clear, detailed digital content in the context of their physical environment, and Vuforia's SaaS offering made it easy to create AR-guided tasks, checklists, and data capture.

Vuforia is PTC's comprehensive, scalable enterprise AR solution that addresses highly valuable use cases at Nascote Industries.

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Our main priority is to manufacture quality parts with zero defects. We analyze every aspect of the design, process, tools, and equipment to ensure we deliver high quality products to the customer."

—Vinny Pagano, World Class Manufacturing Manager, Nascote Industries, a division of Magna International

Training outcomes

Nascote Industries decided that Vuforia AR would be the ideal solution to enhance and optimize its training programs. Trained workers can easily create a first-person point of view of a part being assembled for other employees to learn from. It can also be enhanced with location awareness, videos, images, and diagrams to provide extra context for the employee.

Vuforia work instructions can be used on an iPad or AR headset, and this hands-on and in-context method not only helps new employees get to production faster, but supports individuals with different learning styles.

Quality inspection outcomes

With Vuforia, employees at Nascote Industries can intuitively create quality inspection procedures within hours and are able to amend and refine actions as they see fit. Instead of passing a bad product to be sent to the customer, Step Check, Vuforia's AI inspection capability, picks up on minor defects that might go unnoticed in a standard visual inspection—which is particularly helpful for issues like soft connections.

The result? Nascote Industries is shipping quality parts to its customers and employees are spending less time sorting through inventory, scrapping parts, or reworking components.

Vuforia provides Nascote Industries three major benefits:

- **Improved quality:** AR-guided work instructions paired with AI improve accuracy and reduce costs such as scrap, rework, and defects.

- **Enhanced agility:** With better information and visual guidance, employees can perform tasks correctly and safely.

- **Better insights:** Data gathered on the front line can easily be analyzed to identify opportunities to improve processes.

Vuforia Enterprise AR Solutions Accelerate Training and Improve Quality Control

PTC's Vuforia can help increase inspection accuracy and improve training frameworks already in place in your enterprise, giving teams confidence to both test their systems and apply their learnings to future projects.

See Vuforia's Step Check in action in the "Improving Quality with AI-Enhanced Visual Inspection" video.

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