USE CASE GUIDE FOR THE

INDUSTRIAL ENTERPRISE

When

TO USE

What

KIND OF

AR

ptc

As industrial enterprises manage changes across all aspects of their businesses, one thing remains certain—augmented reality (AR) experiences bring value across the organization.

Whether you're looking to meet increased manufacturing demands through the "next normal," discover safer, more efficient approaches to service, support, and training, or help boost sales and marketing efforts, AR is the solution to myriad challenges.

This use case guide will show you which AR approach best suits your needs. We'll break down when to employ what type of AR for some of today's most common use cases. Navigate to a specific use case from the table below if you already have one in mind or peruse the full guide if you're just getting started.

AR FOR MANUFACTURING:

Augmented Remote Assistance, Knowledge-Based AR Work Instructions, and CAD-Based AR Inspection Instructions

MANUFACTURING CHALLENGES

As manufacturing demand increases, so does the urgency to differentiate yourself from competitors. But as experts retire—or become less available due to regional demands—the pressure is on your workforce to minimize waste (including scrap, rework, and downtime), increase safety and compliance, and maximize productivity.

Without the support they need, manufacturing workforces risk falling behind on production, losing revenue and customer trust, and more.

AR SOLUTIONS

+ Augmented remote assistance
+ Knowledge-based AR work instructions
+ CAD-based AR inspection instructions

AR FOR MANUFACTURING:

Augmented Remote Assistance, Knowledge-Based AR Work Instructions, and CAD-Based AR Inspection Instructions

PROVEN OUTCOMES

Augmented remote assistance empowers operators with the tools to solve problems and collaborate in real-time, increase uptime and operational efficiency, and better adhere to safety and compliance standards.

Knowledge-based AR work instructions help operators capture the expertise needed to optimize workflows and improve safety and compliance.

With CAD-based AR inspection instructions, operators use scaled engineering expertise to complete efficient, accurate in-line or end-of-line inspections.

REAL-WORLD RESULTS OF KNOWLEDGE-BASED AR WORK INSTRUCTIONS FOR MANUFACTURING

A leading pharmaceutical company used knowledge-based AR work instructions for a more scalable approach to transferring expert knowledge, leading to improved workforce productivity and decreased waste.

Read the Full Story >

REAL-WORLD RESULTS OF AUGMENTED REMOTE ASSISTANCE FOR MANUFACTURING

Automotive organization Toyota Motor Corporation leveraged augmented remote assistance to improve safety and communication across plants, increase security compliance, and boost workforce efficiency.
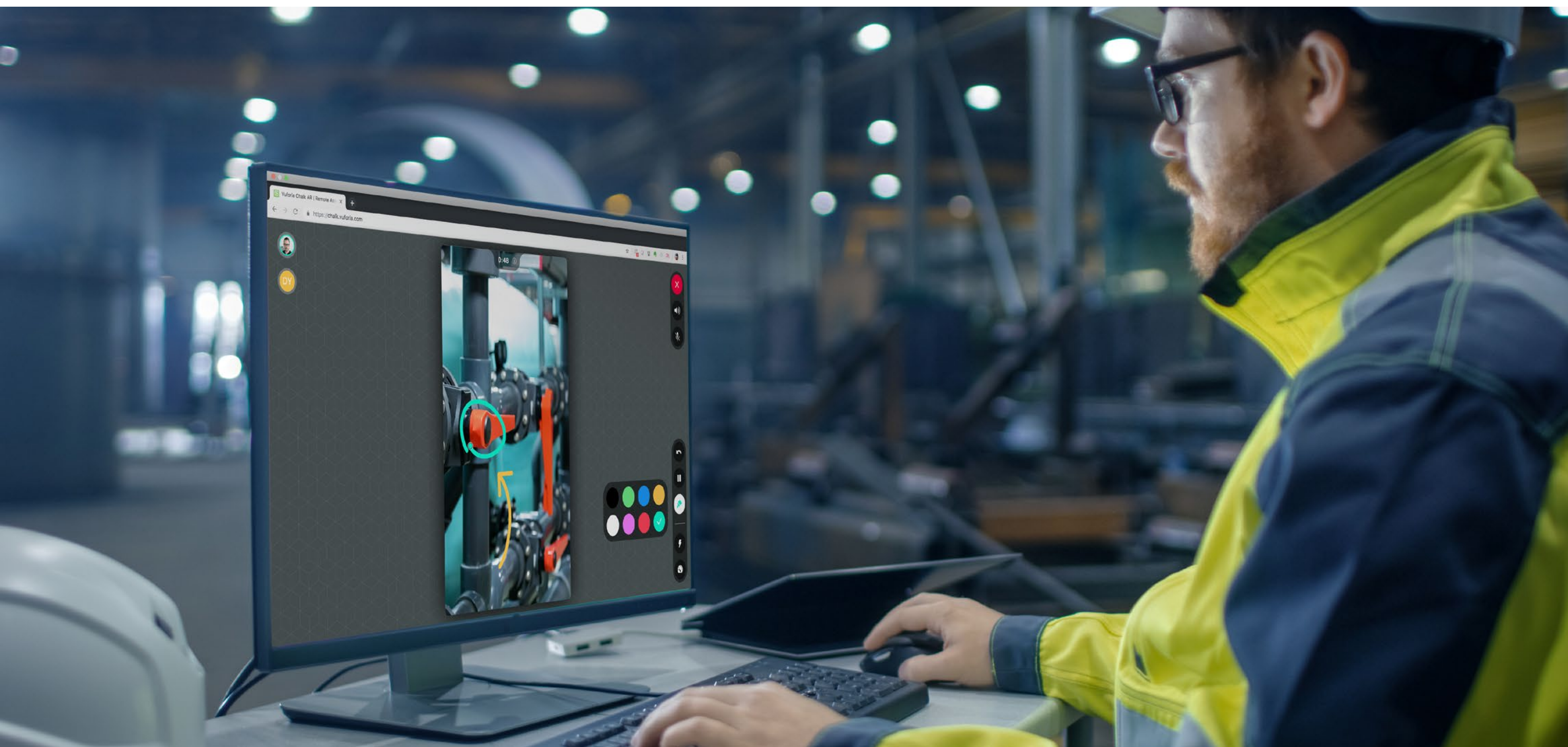
Read Toyota's Full Story >

AR FOR SERVICE:

Augmented Remote Assistance, CAD-Based AR Inspection Instructions, and AR Experiences with 3D and the IoT

SERVICE CHALLENGES

Today's service professionals must hit a few specific KPIs, such as reducing waste, improving their first-time fix rate (FTFR), and decreasing their mean time to repair (MTTR). To minimize waste, efficiency is key—so service organizations are also under pressure to cut down on their authoring time and number of service visits.

Without the tools they need to optimize efficiency and keep waste low, service professionals risk increasing service costs, decreasing contract renewals, losing productivity and customer trust, and more.

AR SOLUTIONS

+ Augmented remote assistance
+ CAD-based AR inspection instructions
+ Tailored, immersive AR experiences with 3D and the IoT

AR FOR SERVICE:

Augmented Remote Assistance, CAD-Based AR Inspection Instructions, and AR Experiences with 3D and the IoT

PROVEN OUTCOMES

Augmented remote assistance empowers service technicians to solve problems before they become larger issues. End users can also leverage augmented remote assistance for rapid problem-solving, which lowers service travel costs.

CAD-based AR inspection instructions can be easily scaled and shared, helping service teams improve field inspections, quality, accuracy, and efficiency.

With 3D and IoT technology, AR provides a tailored, immersive experience for service teams to improve parts identification and overall understanding and safety.

REAL-WORLD RESULTS OF AR EXPERIENCES WITH 3D AND THE IOT FOR SERVICE

Global engineering organization Howden created mixed reality experiences to guide their customers through self-service and help them minimize downtime.

Read Howden's Full Story >

REAL-WORLD RESULTS OF AUGMENTED REMOTE ASSISTANCE FOR SERVICE

Service teams at leading wood processing machinery supplier BID Group leveraged augmented remote assistance to better connect with their customers and fellow service technicians. Because AR technology helped them leverage expertise from anywhere, BID Group was able to optimize service efficiency and reduce their travel costs.

Read BID Group's Full Story >

AR FOR TRAINING:

Knowledge-Based AR Work Instructions and AR Experiences with 3D and the IoT

TRAINING CHALLENGES

As workforce skills gaps plague manufacturing enterprises, it's more critical than ever to address challenges related to productivity and training time—especially when it comes to onboarding new hires.

Without the proper guidance, resulting human error on the front line can lead to costly scrap and rework.

AR SOLUTIONS

+ Knowledge-based AR work instructions
+ Tailored, immersive AR experiences with 3D and the IoT
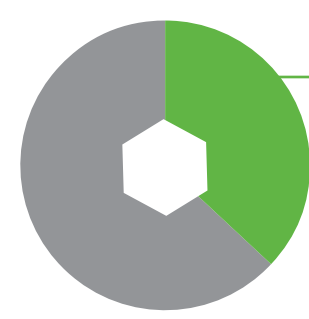
AR FOR TRAINING:

Knowledge-Based AR Work Instructions and AR Experiences with 3D and the IoT

PROVEN OUTCOMES

With knowledge-based AR work instructions, manufacturers capture and scale expert knowledge for more efficient operator training.

AR experiences with 3D and the IoT can help frontline workers complete their training more efficiently, improve accuracy and understanding, and reduce training costs.

In an IDC survey of 183 AR users, **37% of respondents said they were somewhat concerned about knowledge loss in their organization**, while **29% said they were very concerned**. **87% of respondents said they believed AR could help address knowledge loss**.

37% OF RESPONDENTS SAID THEY WERE **SOMEWHAT CONCERNED** ABOUT KNOWLEDGE LOSS IN THEIR ORGANIZATION
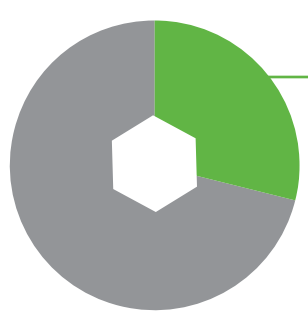
29% OF RESPONDENTS SAID THEY WERE **VERY CONCERNED** ABOUT KNOWLEDGE LOSS IN THEIR ORGANIZATION
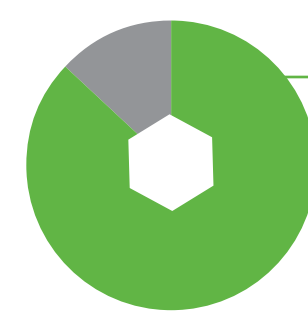
87% OF RESPONDENTS SAID THEY **BELIEVED AR COULD HELP ADDRESS** KNOWLEDGE LOSS

Source: IDC

ROYAL ENFIELD

REAL-WORLD RESULTS OF AR EXPERIENCES WITH 3D AND THE IOT FOR TRAINING

When the pandemic made in-person events impossible, motorcycle manufacturer **Royal Enfield** leveraged AR experiences with 3D and the IoT to host a remote sales training event for 3,000+ attendees.

Read Royal Enfield's Full Story >
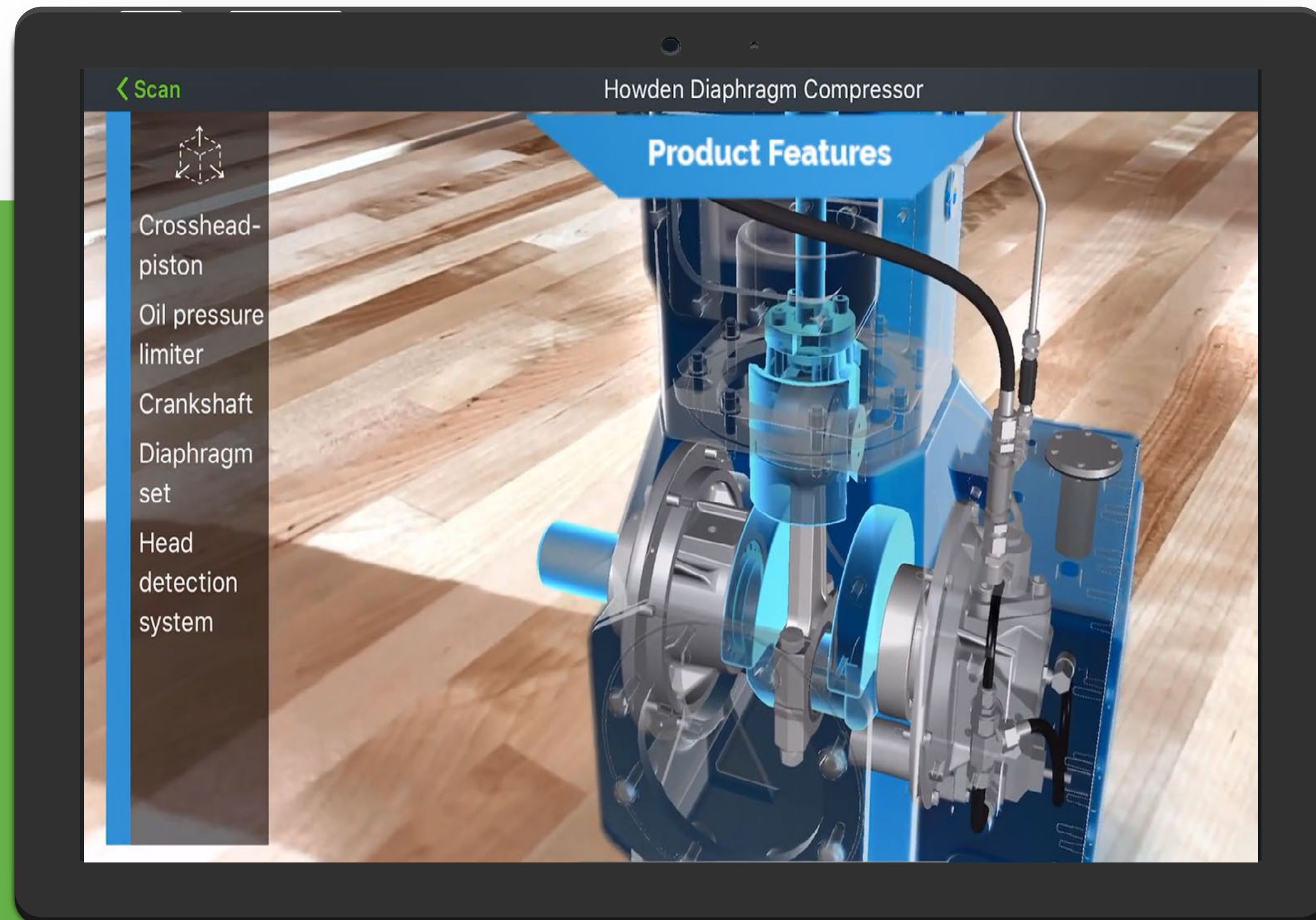
RA Rockwell Automation

REAL-WORLD RESULTS OF KNOWLEDGE-BASED AR WORK INSTRUCTIONS FOR TRAINING

With an AR approach including knowledge-based AR work instructions, industrial leader **Rockwell Automation** was able to reduce their training time by 50%.

Read Rockwell Automation's Full Story >

▂▄▆▇ AR FOR SALES & MARKETING:

AR Experiences with 3D and the IoT

SALES & MARKETING CHALLENGES

Sales and marketing teams are challenged with ensuring a positive customer experience. This includes improving brand awareness and purchase confidence.

Without the tools to understand complex equipment before making a decision to purchase, customers could reconsider their purchase, return a purchase later, or even lose trust in your business relationship.

AR SOLUTION

+   Tailored, immersive AR experiences with 3D and the IoT

AR FOR SALES & MARKETING:

AR Experiences with 3D and the IoT

PROVEN OUTCOMES

AR experiences with 3D and the IoT provide detailed product visualization to train sales teams and help potential buyers "see" your equipment in their environment. This can improve the customer experience, enhance understanding for sales teams, and simplify the overall sales process.

SEE MORE AR WINS FOR SALES & MARKETING →

Howden

REAL-WORLD RESULTS OF AR EXPERIENCES WITH 3D AND THE IOT FOR SALES & MARKETING

The sales team at global engineering organization Howden used AR experiences with 3D and the IoT to give their customers more detailed product demos. As the pandemic made meeting in-person impossible, Howden's customers could also view these experiences remotely from their mobile devices.

Read Howden's Full Story >
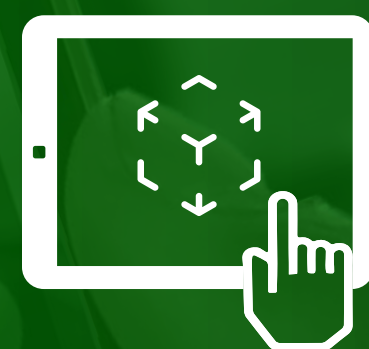
Find the **AR Solutions** for Your **Use Case Challenges**

Taking the next step in your AR journey can be daunting—especially when your operational efficiency, service KPIs, workforce performance, and customer satisfaction are at stake. Still unsure which AR solution matches your current use case? Only you know the extent of your challenges and AR goals, but a **PTC expert** can help guide you to the best kind of AR for your unique circumstances. If you're looking to learn more first, explore our guide of the Vuforia enterprise AR suite for a deeper dive into your options.

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