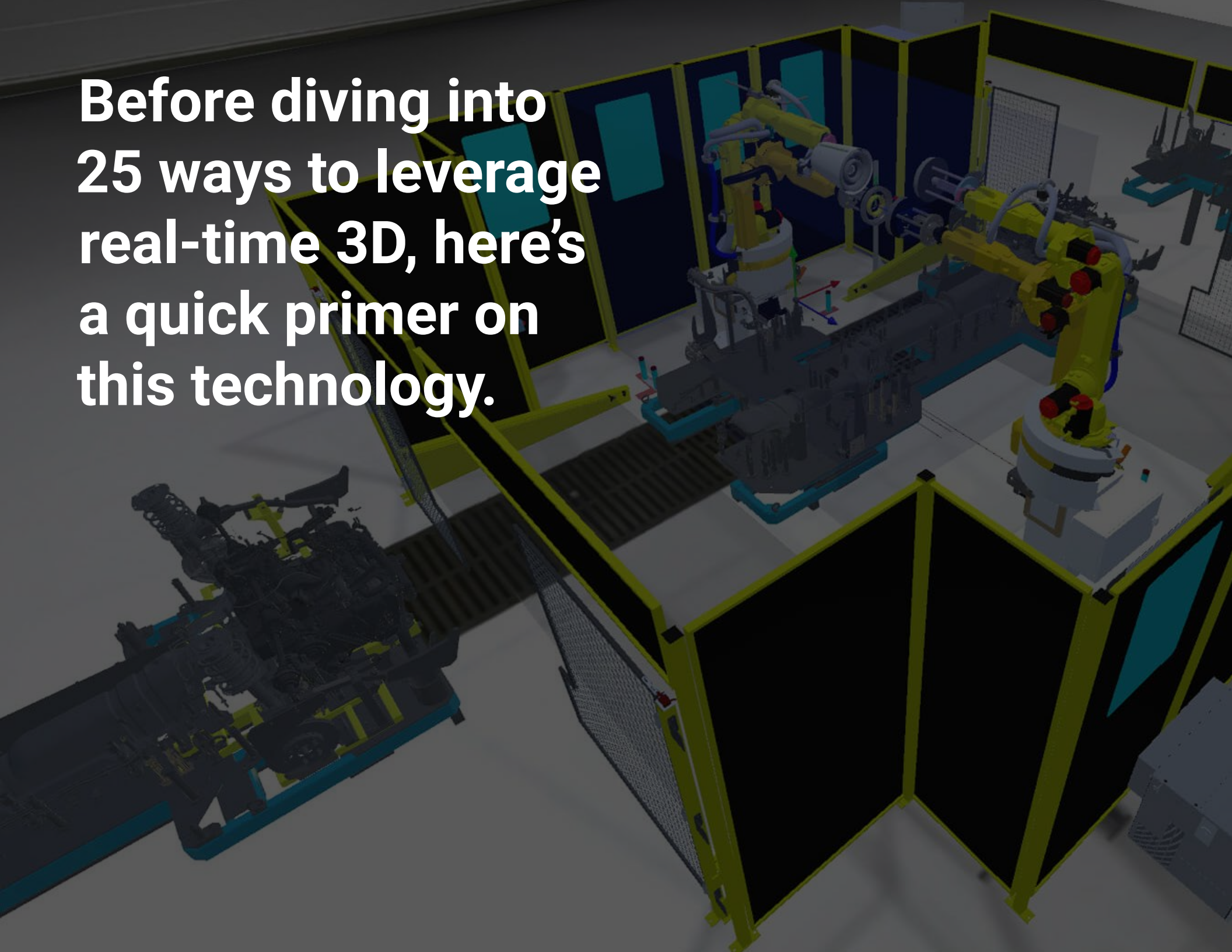
unity

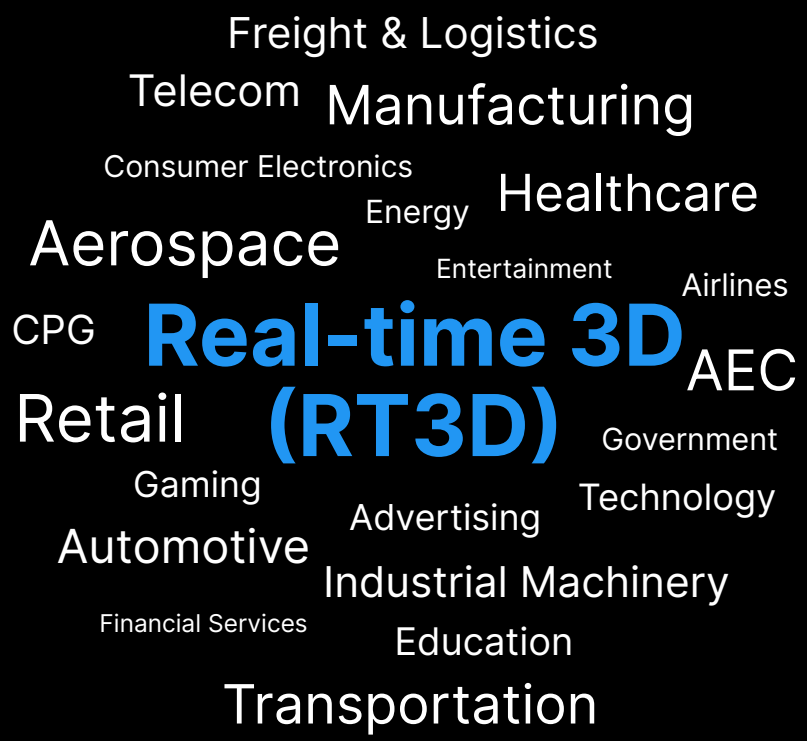
25 ways to extend real-time 3D across your enterprise



Before diving into 25 ways to leverage real-time 3D, here's a quick primer on this technology.

The real-time 3D revolution is for everyone

Real-time 3D was forged in video games, and now thousands of companies across industries are embracing this technology.



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Real-time 3D unlocks countless possibilities

A common way companies drive value from real-time 3D is to:

Create realistic, behaviorally accurate, interactive 3D representations of their products.

Deploy these immersive, virtual experiences across various platforms.

Computers & mobile devices

Virtual reality (VR)

Augmented reality (AR) & mixed reality

› Get a deeper dive on real-time 3D.

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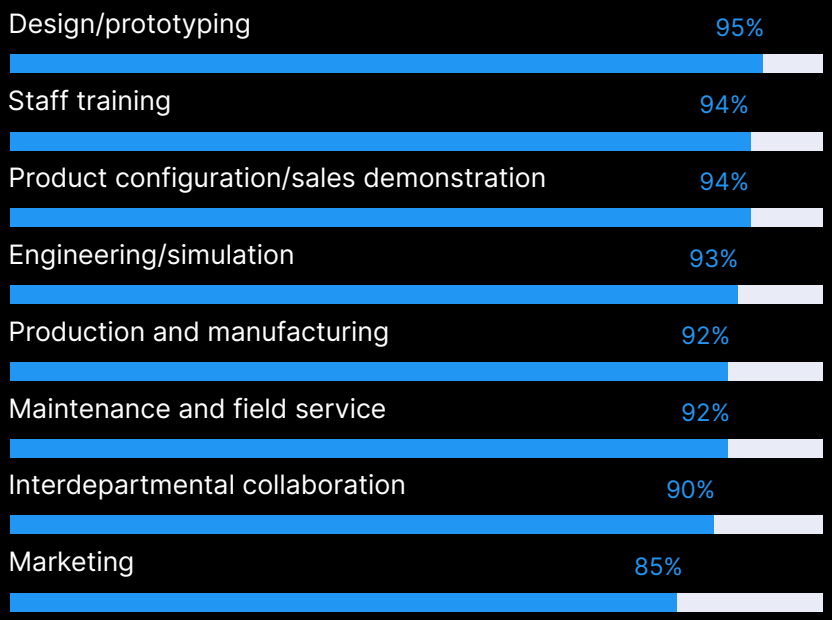
Technology that transforms the product lifecycle

Adopters of real-time 3D find it adds value across their business – both collaborators and customers benefit from virtual experiences.



Source: A commissioned study conducted by Forrester Consulting on behalf of Unity, published in March 2020.

* Question: How valuable do you believe that utilizing real-time 3D technology has been for your organization in each of the following areas?

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Biggest benefits

Reported by companies using real-time 3D:

Cost savings

Increased sales

Faster time to market

Improved product margins

Source: A commissioned study conducted by Forrester Consulting on behalf of Unity, published in March 2020.

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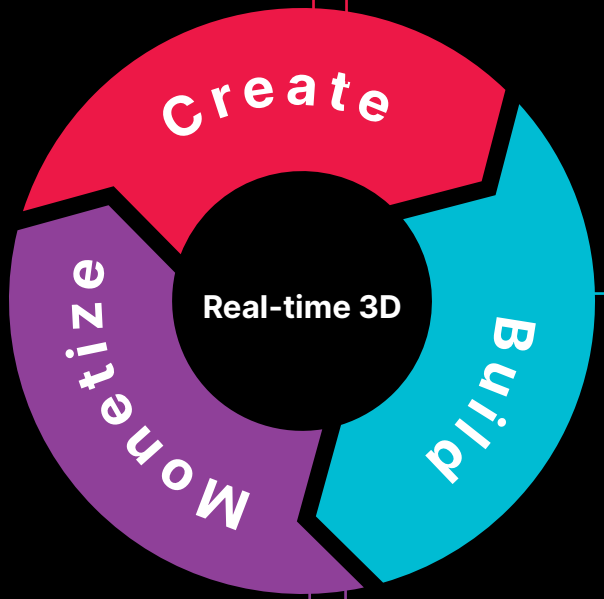
Reimagine each stage with real-time 3D

Let’s dive into 25 innovative applications of this technology.

Click to jump to each section ›



Design
Engineering and simulation
Production and manufacturing
Sales and marketing
Service and operations

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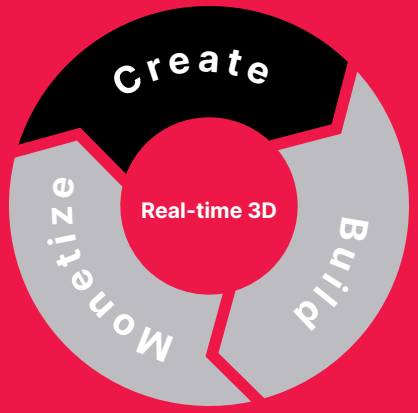
Design



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1

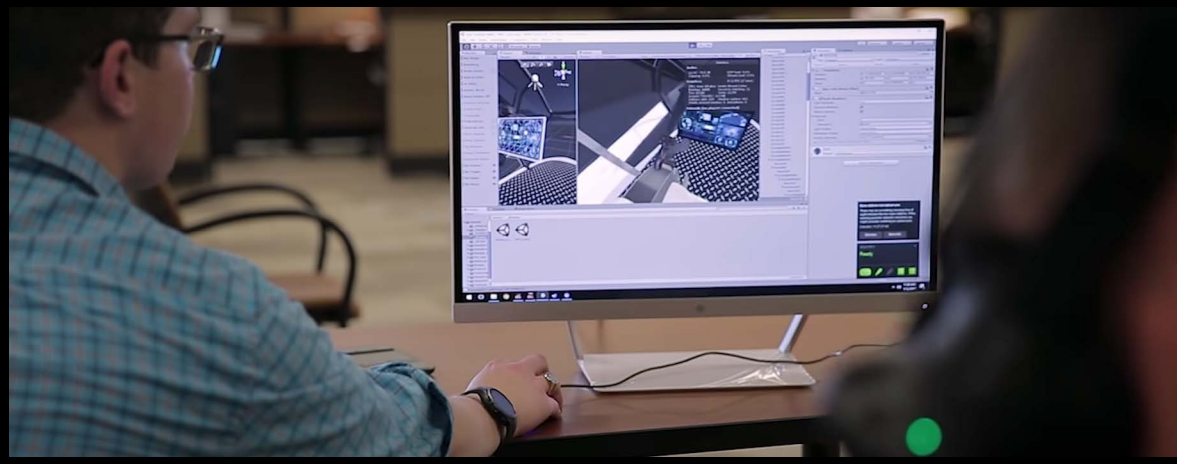
DESIGN

WHAT

Bringing 3D designs of the FCX-001 helicopter into VR with the HTC VIVE Pro Eye enables test pilots and engineers to provide fast and accurate feedback.

WHY

VR mock-ups allow the team to make changes quickly, speeding up the time to market from 5–7 years to just 6 months.



Click to learn more. Source: HTC VIVE

Image credit: HTC VIVE (YouTube)

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2

Continental

WHAT

Interior/exterior displays for an autonomous shuttle concept facilitate human-machine cooperation.

WHY

A holistic human machine interface (HMI) concept helps establish a dialogue between people and driverless vehicles to build trust and ensure safety.

Click to learn more. Source: Continental

Image credit: Continental

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3

HONDA
The Power of Dreams

WHAT

Built custom tools for its automotive designers to visualize and assess vehicle concepts and create stunning presentations for management review.

WHY

Instead of waiting multiple weeks for vendors to create images and videos, Honda's designers can create beautiful, interactive showcases of their designs in just 1 day.

Click to learn more. Source: Unity

Image credit: Unity Solutions

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4

SIEMENS

WHAT

A virtual design tool optimizes product development, cutting down half a day's work to just 5 minutes.

WHY

A rough design rapidly turns into a legitimate design proposal in VR.

Click to learn more. Source: Siemens

Image credit: Siemens

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5

TOYOTA

WHAT

A HoloLens 2 application simulates and analyzes how vehicle design affects aerodynamics.

WHY

Visualizing computational fluid dynamics (CFD) analysis in mixed reality saves time, reduces costs, and drives efficiencies.

Click to learn more. Source: Unity

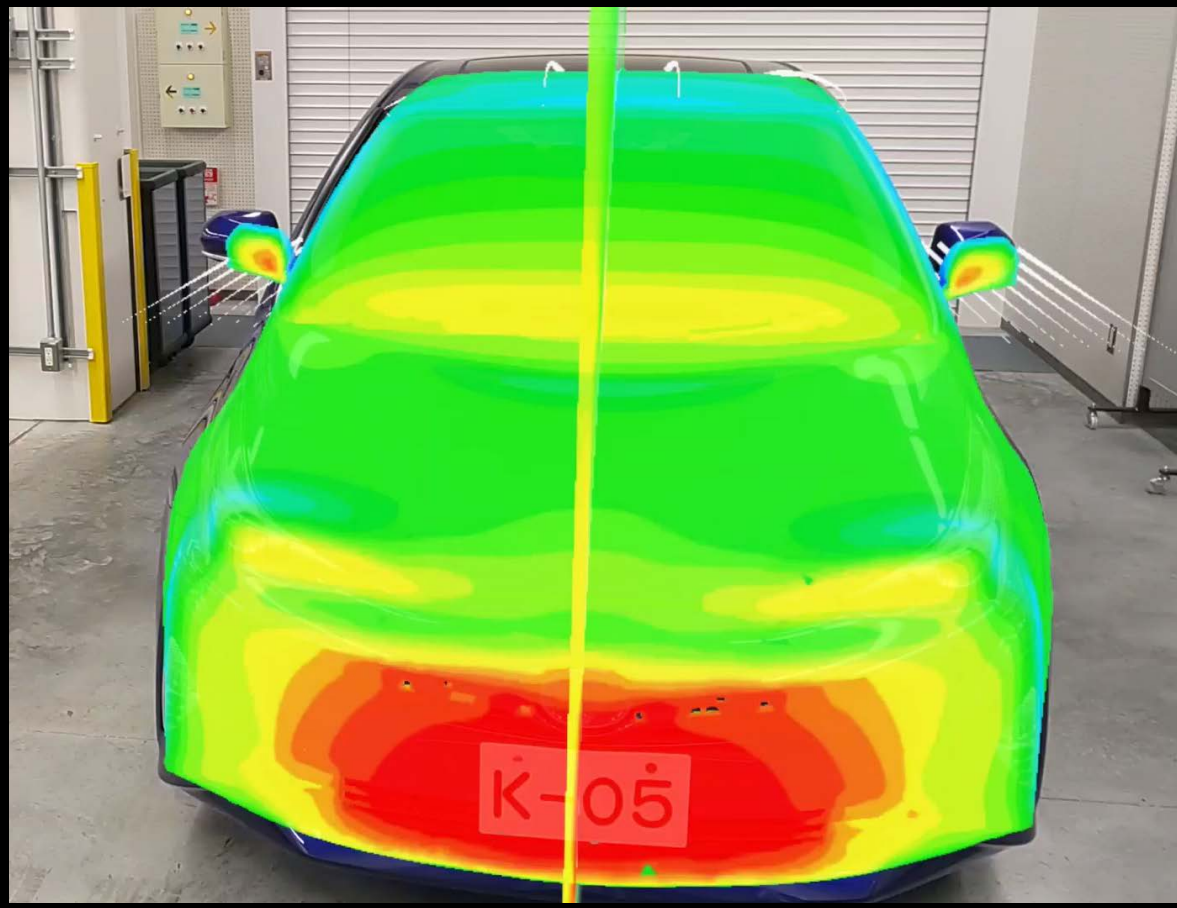

Image credit: Toyota

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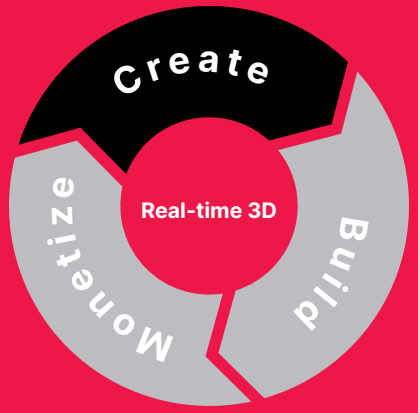
Engineering and simulation



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6

WHAT

Funded by Germany's Federal Ministry of Education and Research (BMBF), this collaborative research project seeks to create digital twins of real test tracks for autonomous vehicles.

WHY

Enables simulation-based development of autonomous and networked driving functions in urban areas.

Click to learn more. Source: SAVe

Image credit: Audi

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7

BMW GROUP

WHAT

Custom tools create, visualize, and evaluate millions of simulated autonomous driving (AD) scenarios.

WHY

The readiness of BMW's AD functions is quickly assessed across countless simulated scenarios.

Click to learn more. Source: Unity

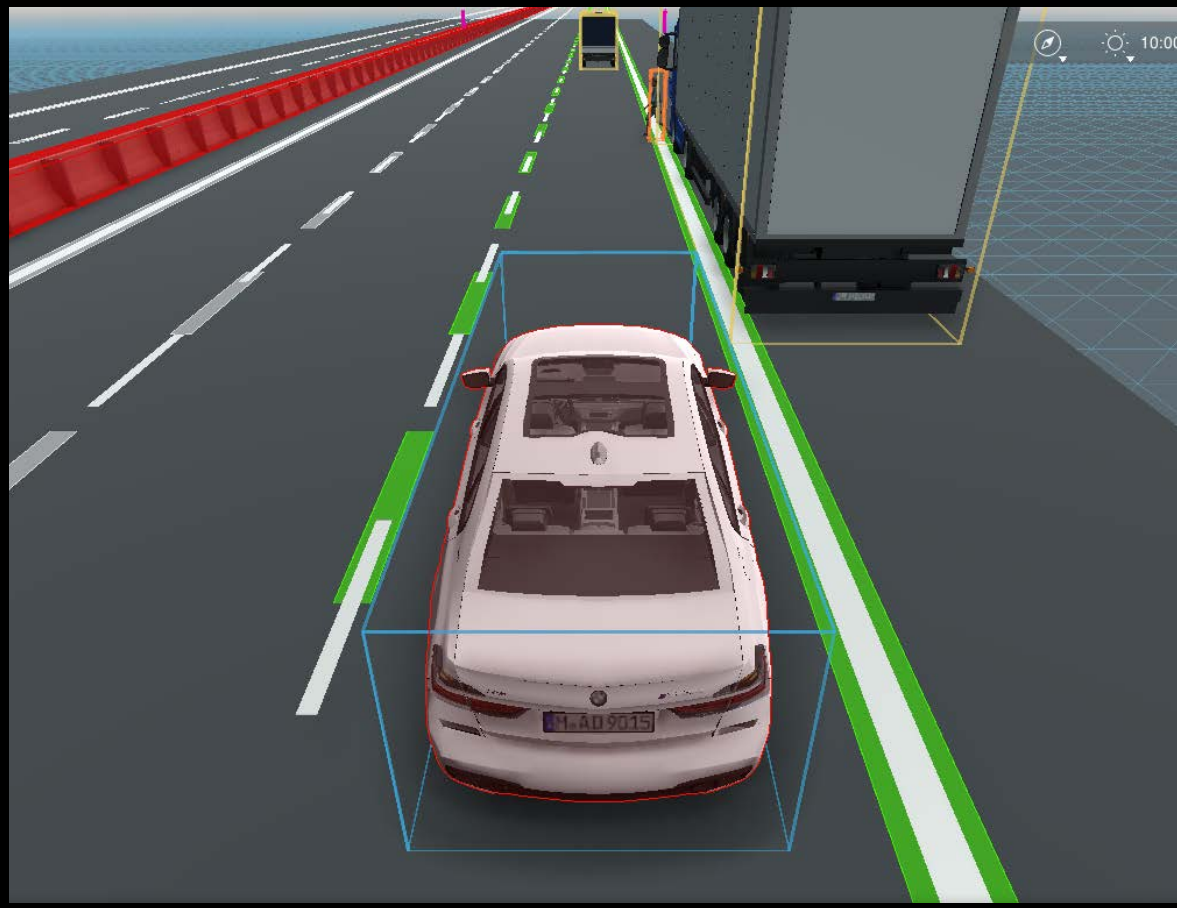

Image credit: The BMW Group

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8

Cross Compass

WHAT

Simulated environments train and test artificial intelligence (AI) algorithms before they are deployed on physical robots.

WHY

AI solutions can be developed without fear of downtime or damaging state-of-the-art equipment.

Click to learn more. Source: Unity

Image credit: Cross Compass

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9

Manufacturing Technology Centre

WHAT

The Factory in a Box (FIAB) 2 uses mixed reality to emulate the production process of a factory and visualize real-time production data.

WHY

Virtually commissioning a physical factory to validate designs before production enables faster time to market.

Click to learn more. Source: Smart Manufacturing Accelerator

Image credit: Smart Manufacturing Accelerator

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10

TRANE

WHAT

A VR tool previews engineered models prior to manufacturing before a prototype is manufactured.

WHY

VR prototypes save valuable time as there is no need to wait for manufacturing and overseas shipments to start the review process.

Source: Trane

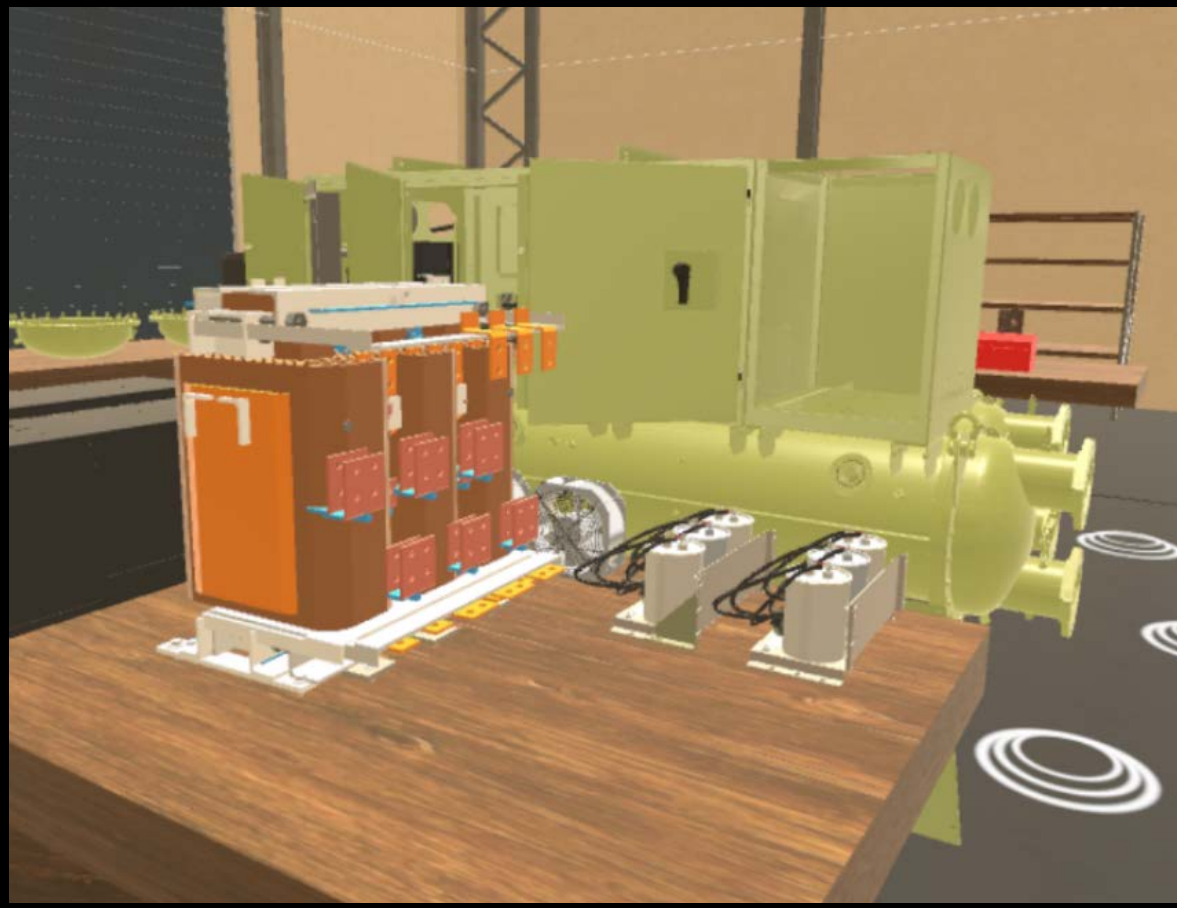

Image credit: Trane

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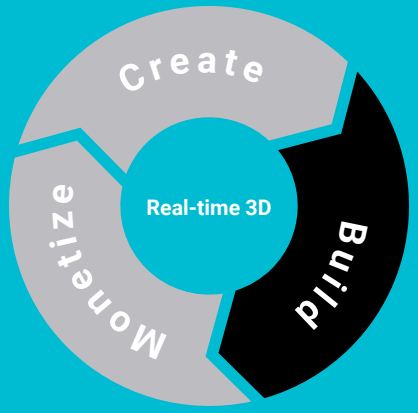
Production and manufacturing



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11

Continental

WHAT

An interactive tablet-based VR/AR application, developed and deployed via Pacelab WEAVR, for Industry 4.0 and zero defect digital manufacturing.

WHY

This application holistically provides both training and operational support to manufacturing workers, creating an engaging and seamless experience, and a practical solution for reducing skills gaps and skill decay, shortening process time, reducing human error, and increasing safety.

Source: Pacelab

Image credit: Pacelab

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12

INVISTA

WHAT

Created a training simulation for its technicians using Circuit Stream's VR training system.

WHY

Projected a 50% reduction in employee training time, an increase in workplace safety and employee engagement, and significantly reduced raw materials wasted during training.

Click to learn more. Source: Circuit Stream

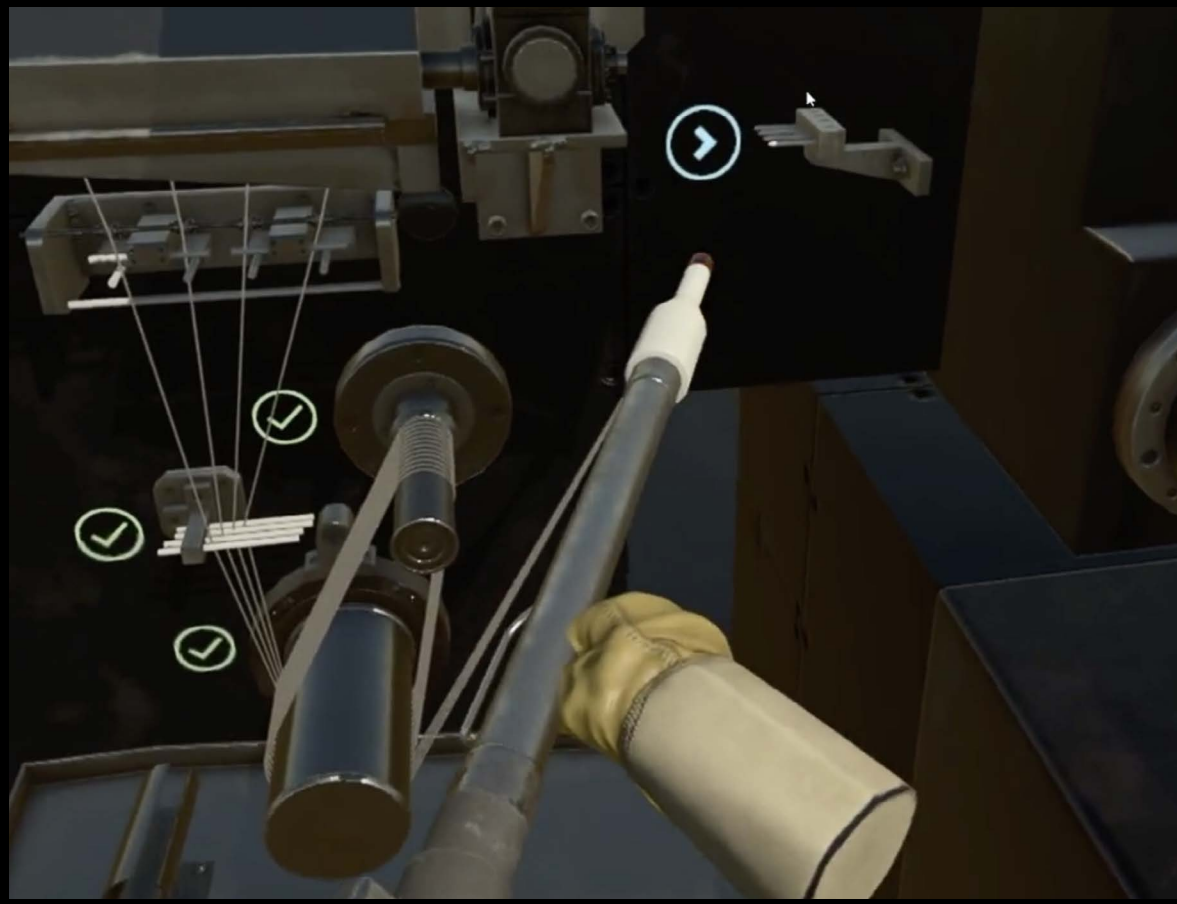

Image credit: Circuit Stream

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13

LOCKHEED MARTIN

WHAT

Leveraged WorkLink, an enterprise knowledge base, to deliver work instructions and live expert support through AR.

WHY

AR enables Lockheed Martin to reduce overall training time by 85%. Instant contextual access to information for manufacturing professionals shortens OODA loops and ensures precision, accuracy, consistency, and quality control.

Click to learn more. Source: Scope AR - Aerospace Innovation

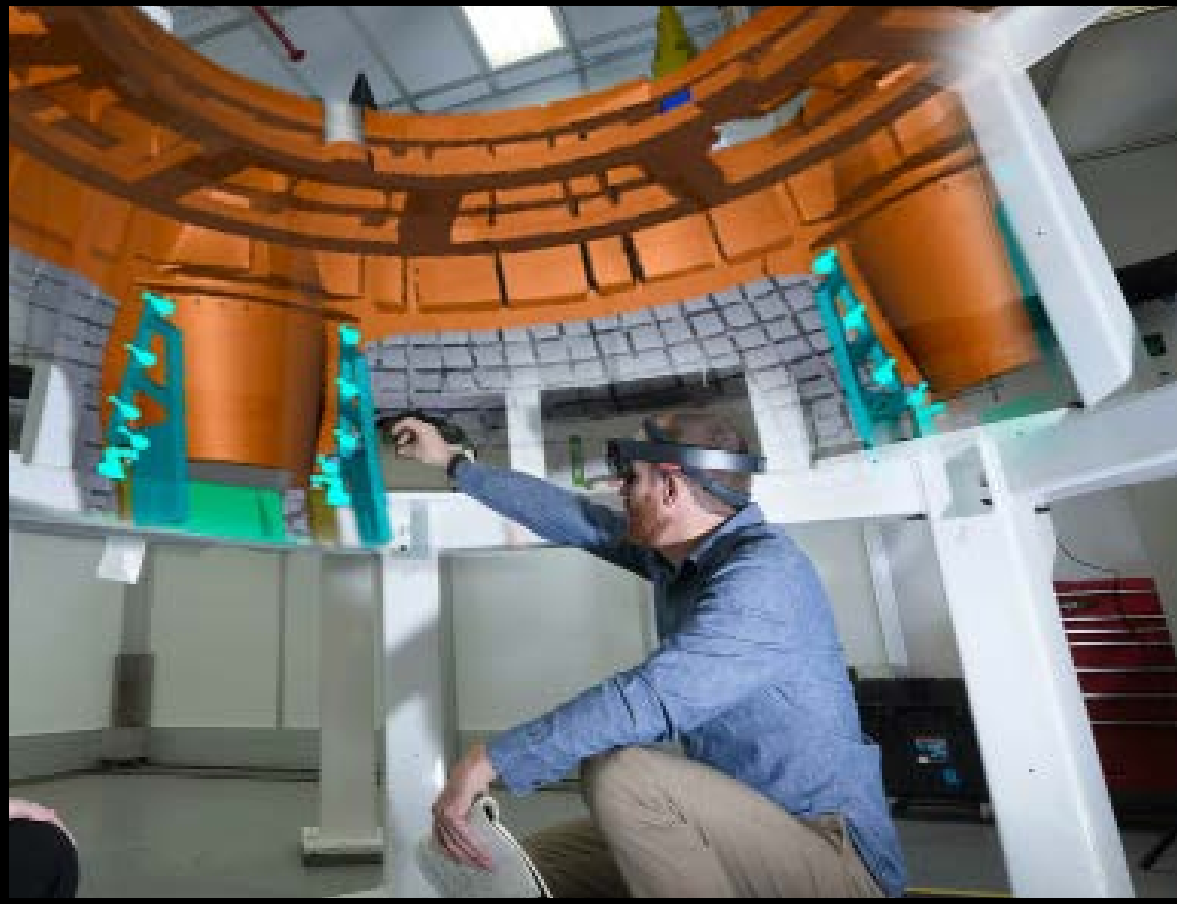

Image credit: Scope AR

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14

WHAT

A VR-based application, built on Interact, to design new production lines.

WHY

VR unlocks an easy way to simulate a production line in advance, program the trajectories of industrial robots, and ensure the safety of operators.

Click to learn more. Source: Light & Shadows

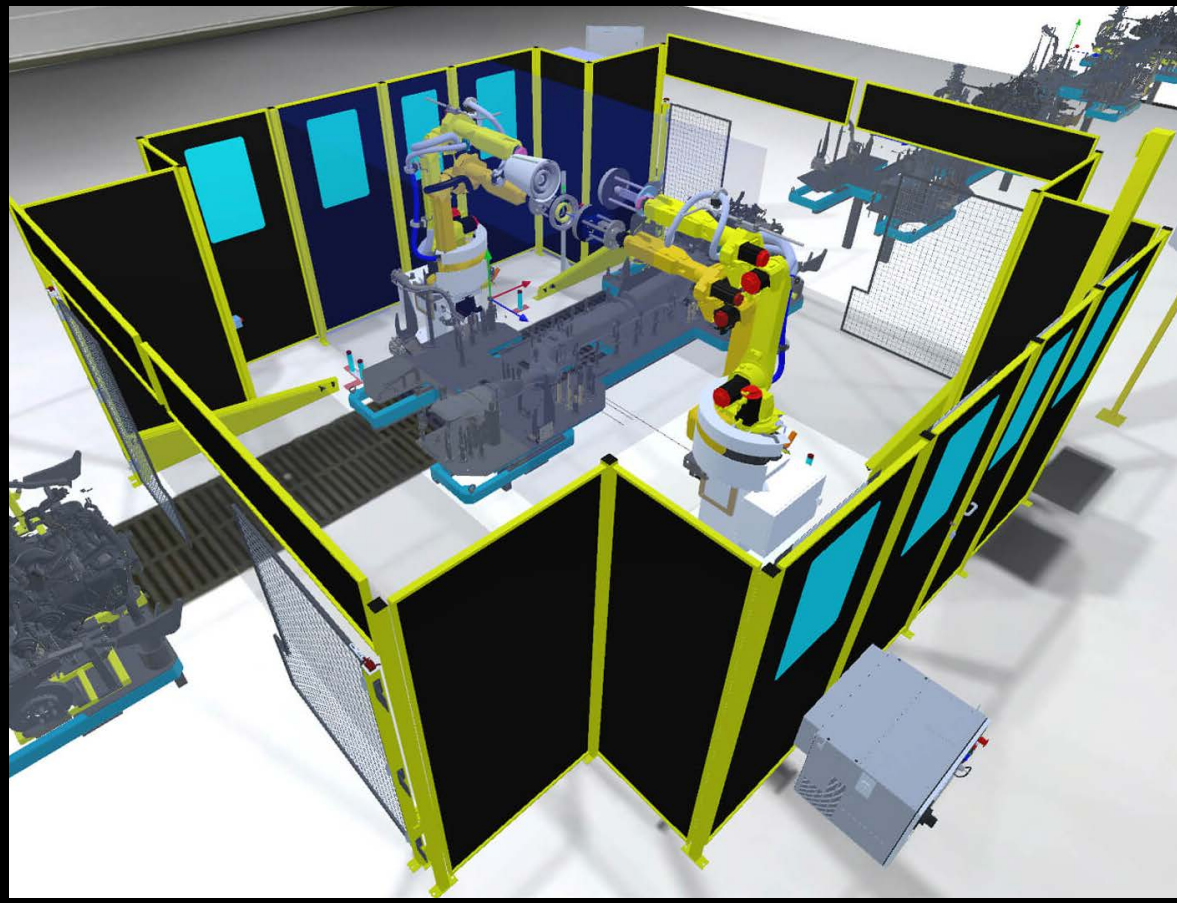

Image credit: Interact

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15

WHAT

VR training applications help logistics workers prepare for real-world scenarios like managing fast-paced sorting facilities with 400,000 packages flowing through per hour.

WHY

Valuable skills are taught without impacting business operations so that employees have a basic understanding of how to respond to specific scenarios.

Click to learn more. Source: Tech Republic

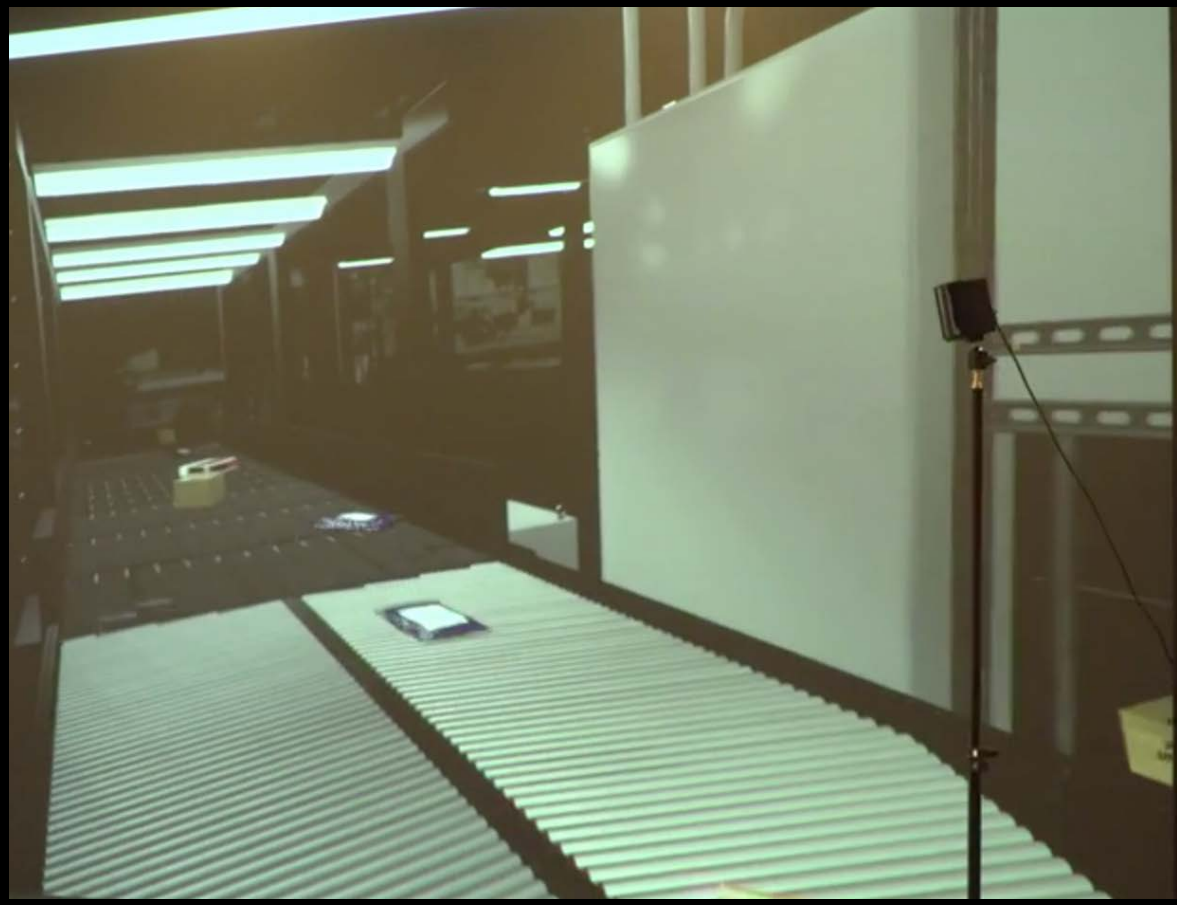

Image credit: TechRepublic (video)

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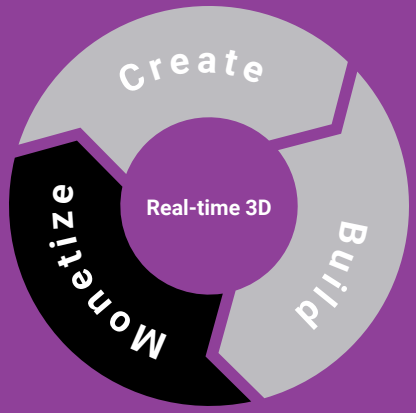
Sales and marketing



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16

Autoliv

WHAT

An interactive 3D iOS application brings virtual product demonstrations straight into their global salesforce's hands.

WHY

Life-saving products are showcased within their contextual environment while maintaining engagement and interactivity in a virtual setting.

Click to learn more. Source: Unity

Image credit: Autoliv

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17

WHAT

In partnership with cueconcept, created Bühler Virtual World, a 3D web experience blending digital showrooms, 1:1 communication with sales, and expert-led presentations.

WHY

Needed to transform its physical tradeshow to a virtual platform due to the COVID-19 pandemic.

Click to learn more. Source: Bühler Group

Image credit: Bühler Group

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18

SALES AND MARKETING

GENESIS

WHAT

A real-time 3D car configurator, created in collaboration with MediaMonks, lets customers build and customize a Genesis luxury vehicle and watch their dream come to life.

WHY

Prospective buyers benefit from an innovative, interactive luxury car-shopping experience.

Click to learn more. Source: PR Newswire

Image credit: Genesis

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19

WHAT

This VR solution allowed customers to learn basic DIY skills, including supplies needed and steps to completion in a fun, interactive VR environment using the HTC VIVE.

WHY

Wanted to dramatically improve its DIY skills-training clinic to help customers visualize their home improvement projects by providing an immersive, intuitive experience.

Click to learn more. Source: Lowe's Innovation Labs

Image credit: Lowe's Innovation Labs

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20

stratasys

WHAT

Working in partnership with Visionaries 777, Stratasys created an AR mobile application to help customers visualize their new Stratasys J55 3D printer in any physical space on a 1:1 scale.

WHY

They were forced to digitize quickly after physical events were cancelled due to COVID-19.

Click to learn more. Source: Visionaries 777

Image credit: Visionaries 777

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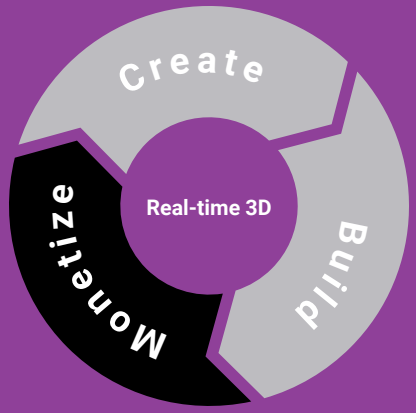
Service and operations



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21

ABB

WHAT

A multiplatform AR application that allows any field operator to follow digitized procedures and become an expert without costly training.

WHY

Better communication and improved tracking of performed service procedures help key personnel stay safe on industrial sites.

Click to learn more. Source: Unity

Image credit: ABB

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22

ONTARIO POWER GENERATION

WHAT

Worked with EXO Insights to create a digital twin of a mission-critical facility through laser scanning and extensive model optimization, which helps on-site and remote staff simultaneously perform walk-downs, training, equipment relocations, and precise measurements.

WHY

Resulted in significant productivity improvements with very efficient group VR sessions while increasing safety standards, with substantial resource savings almost eliminating travel.

Click to learn more. Source: EXO Insights

Image credit: EXO Insights

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23

RST

WHAT

A VR training application, developed and deployed via Pacelab WEAVR, for training airline cabin crews on aircraft door operations.

WHY

Training using VR reduces the need for expensive physical devices such as aircraft door simulators and access to real aircraft, which ultimately reduces the cost of training. VR training also increases effectiveness and retention, and provides a level of realism which is otherwise impossible to simulate with traditional methods, especially with scenarios like onboard fires and emergency evacuations.

Click to learn more. Source: Pacelab

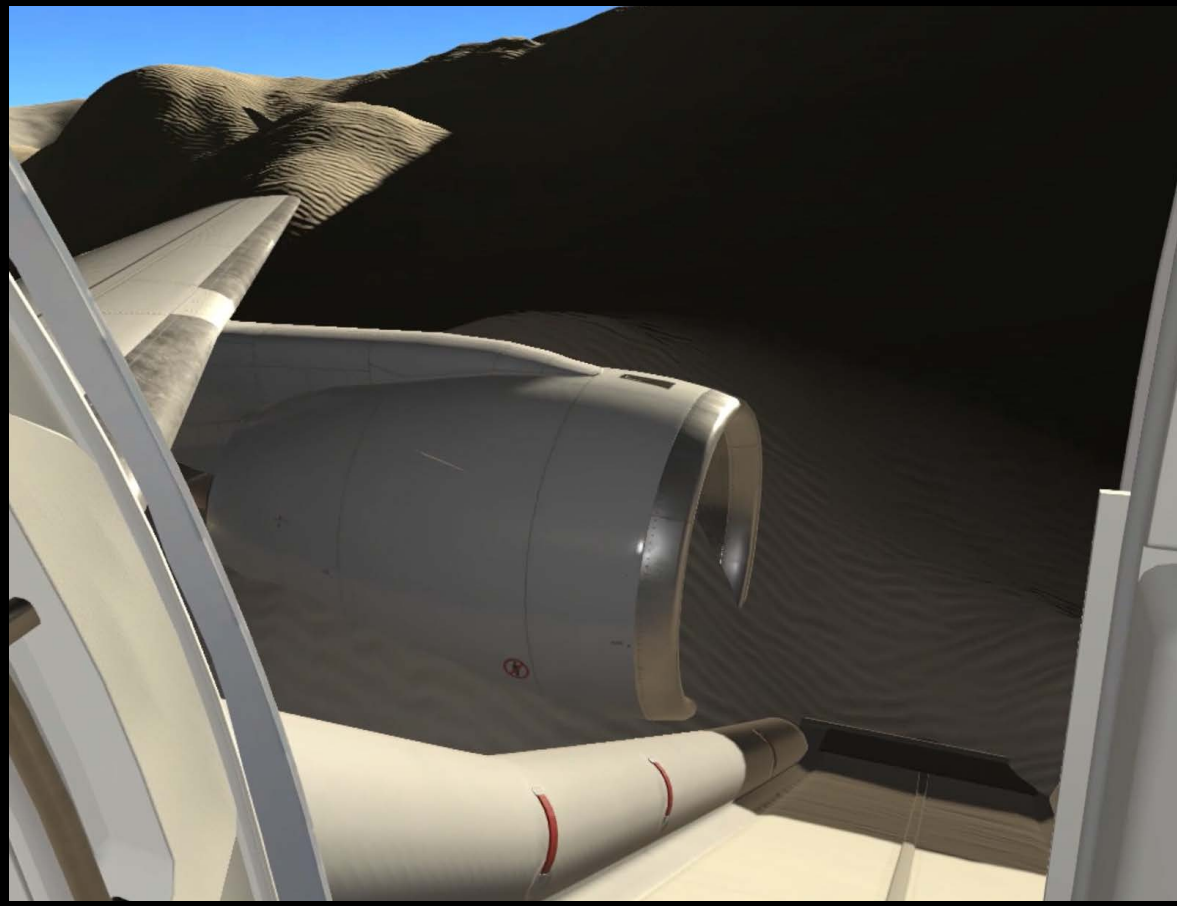

Image credit: Pacelab

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24

TOYOTA

WHAT

Prespective's digital twin platform is used to collect and visualize data from automatic guided vehicles (AGVs) and monitor hive behavior.

WHY

Visualizing large quantities of data improves stakeholder understanding of behavior changes after software updates.

Click to learn more. Source: Prespective

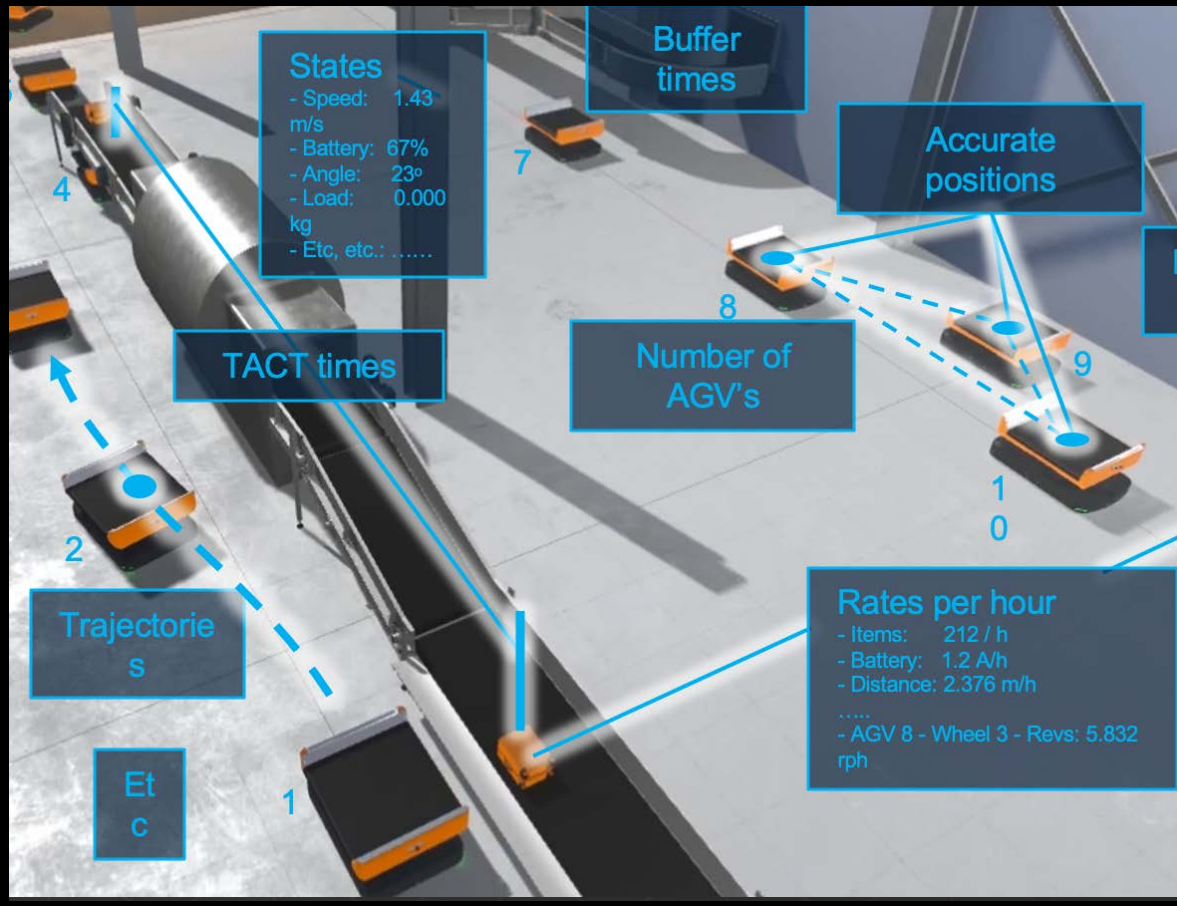

Image credit: Prespective

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25

VirtaMed

WHAT

Practice surgical skills on a true-to-life abdomen model in a highly realistic anatomical virtual environment.

WHY

Simulation sequences reduce reliance on cadaver training, improve training outcomes, and support better patient care.

Click to learn more. Source: VirtaMed

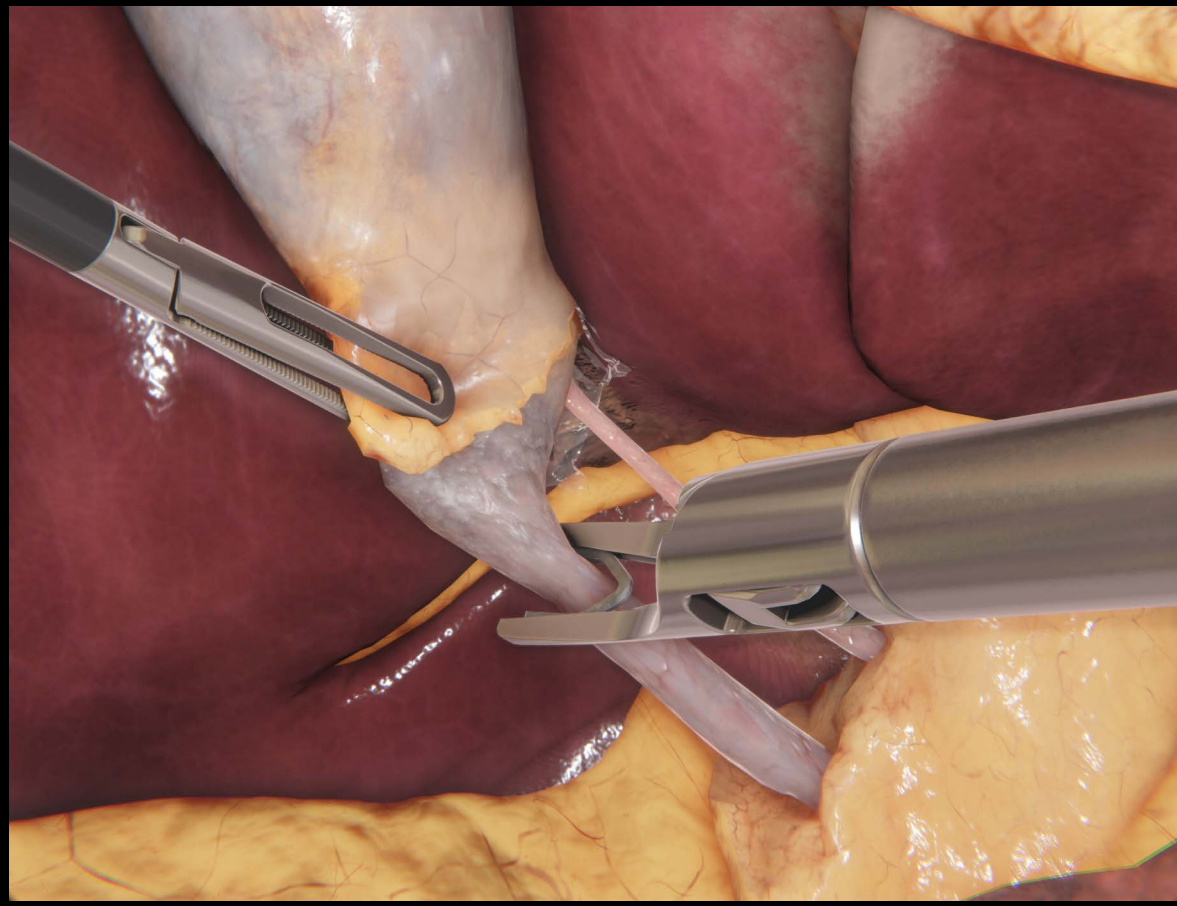

Image credit: VirtaMed

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Inspired?

Learn more about how you can apply this game-changing technology to your business.

Web page
Real-time 3D for Industry, Explained

eBook
The Incredible Impact of Enterprise AR and VR

Study
Digital Experiences In The Physical World: Are AEC And Manufacturing Companies Ready For Real-time 3D?

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