



We enhance how teams learn, work, and communicate by leveraging XR and AI.

Smart Manufacturing & IT in Taiwan | Online | May 6-7, 2025

SKILL GAP = PRODUCTIVITY GAP!

- Skilled worker shortages combined with aging infrastructure, complex systems and rapid tech changes create a perfect storm of *inefficiency*.
- Traditional training methods and reliance on tribal knowledge lead to inconsistent performance, increased *errors*, and slow onboarding of new hires.
- Limited real-time visibility into operations makes it difficult to identify *bottlenecks*, predict failures, and respond quickly to disruptions.





OUR FOCUS: TRANSFORMING KNOWLEDGE & WORKFLOWS

- Capture Expertise in XR + AI
- Enable Real-Time Collaboration
- Control with Digital Replicas
- Automate Visual Inspection

Virnect's 10x Leap: Empowering frontline teams with XR and AI to unlock unprecedented productivity gains.



MAKE ANYONE AN EXPERT

BEFORE



Complex, hard-to-understand, and time-consuming instructions.



AFTER



Reduced cognitive workload with on-demand visual step-by-step instructions for training + maintenance.



SEE WHAT THEY SEE, SOLVE PROBLEMS FASTER

BEFORE



"Which one are you talking about?"



AFTER



"See what I see" with real-time visual cues to guide and instruct.



STREAMLINE VISUAL INSPECTION

BEFORE



Time-consuming inspections comparing paper and reality.



Reduced split attention and simplified inspections.
Have all the information in front of your eyes.



FROM REACTIVE TO PREDICTIVE OPERATIONS



Confusing 2D screens delay critical decisions."

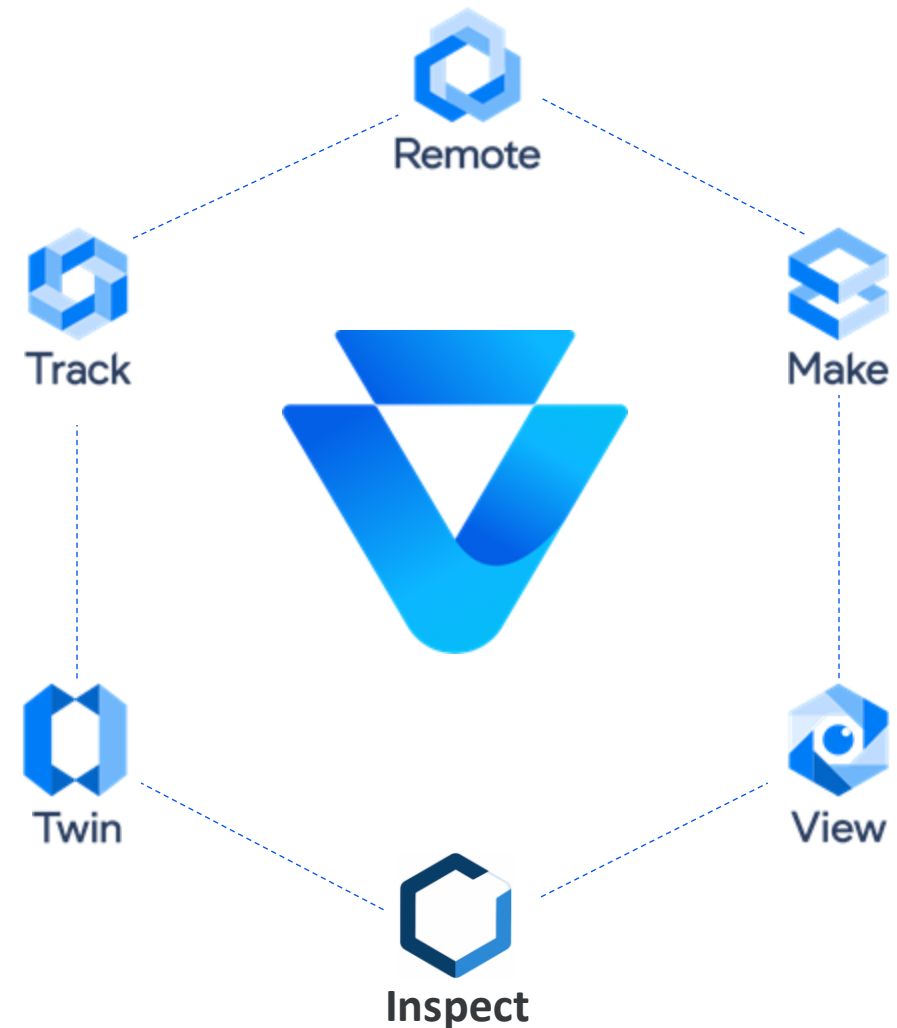


Immersive 3D replicas deliver real-time control.



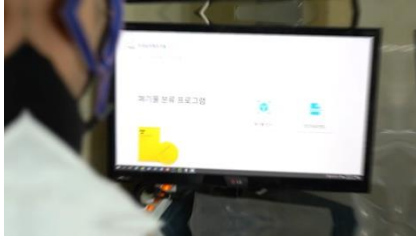
VIRNECT PLATFORMS: XR SOLUTIONS FOR CONNECTED OPERATIONS

- ✓ **Track:** Precise Object Tracking
- ✓ **Make:** Create AR Content, No-Code
- ✓ **View:** Access AR on Any Device
- ✓ **Remote:** Connect & Collaborate Remotely
- ✓ **Inspect:** AI-Powered Visual Inspection
- ✓ **Twin:** Digital Twins for Proactive Control



OUR CORE TECHNOLOGIES

COMPUTER (AI) VISION



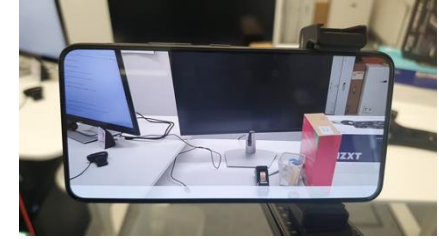
Object Classification



3D Reconstructions & Tracking



Object Tracking



Model Tracking

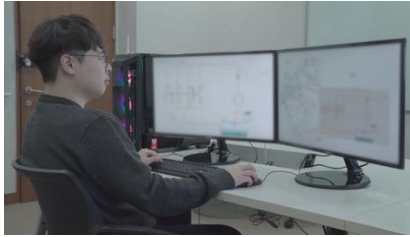


Object Tracking

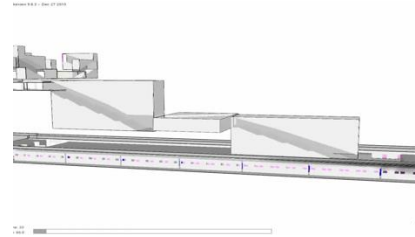
- Real-time object tracking for dynamic automation.
- AI-powered classification for error-free quality.
- 3D reconstruction for complete spatial understanding.
- Object tracking for precise visual insights.



DIGITAL TWINS / SIMULATION



Mirroring & Monitoring



Simulation & Modeling



Remote Control



Mirroring and Monitoring

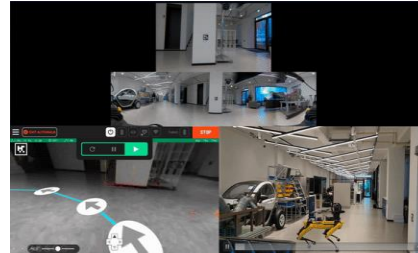
- Predictive maintenance with real-time mirroring.
- Optimize operations through virtual simulation.
- Control assets remotely for maximum uptime.



DIGITAL TWINS / SIMULATION



Mapping and Data Acquisition



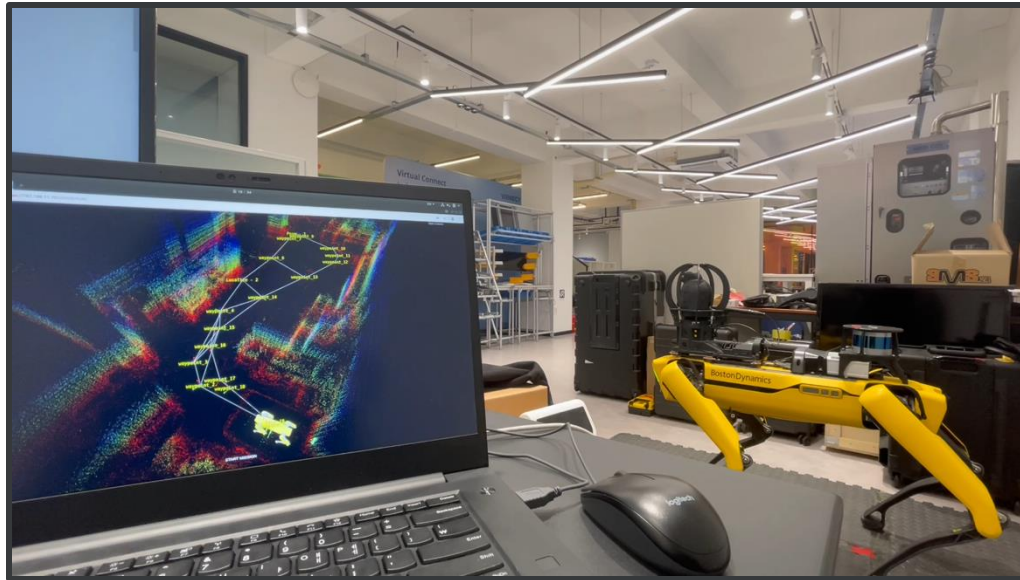
Tasks Automation



Support in risky environments



Robot Integrations' Simulation and Optimization

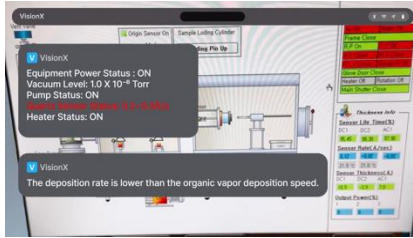


Mapping & Data Acquisition

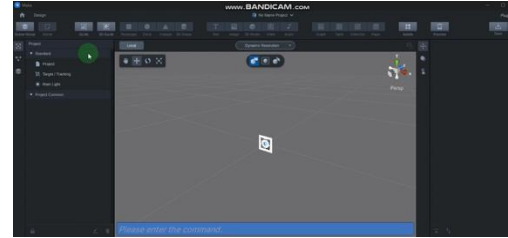
- Robotic navigation in complex environments.
- Automated data acquisition for efficiency.
- 3D laser scanning for accurate models.
- AI-driven spatial analysis.



MULTIMODAL GEN AI



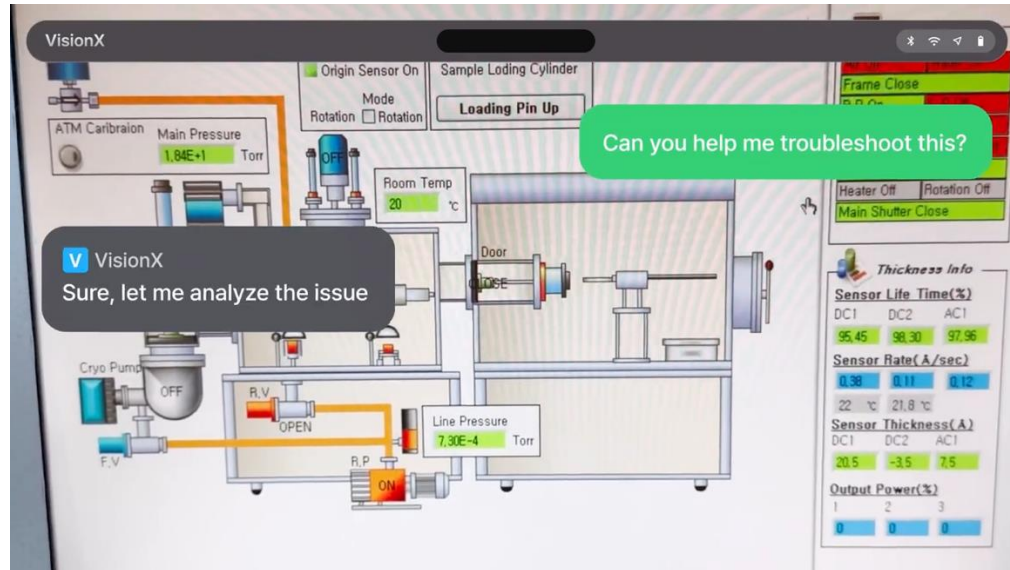
Support in Natural Language



Text, Images, Video, 3D Creation



Natural interactions with different applications



Support in Natural Language

- AI-powered answers: Precise, industry-specific, secure.
- Streamlined support: From troubleshooting to compliance.
- Smarter decisions: Data-driven insights, faster workflows.



AI GOGGLES



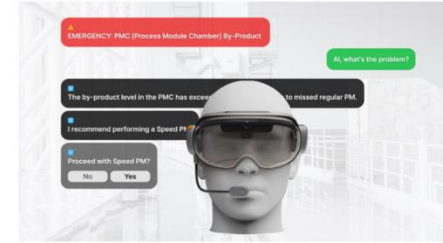
Voice-Controlled AI Agent Just Like Jarvis



Collaborate with VIRNECT Remote



Streamlined AR Content Visualization



AI Copilot for Accurate Information Retrieval



VisionX

- Hands-free efficiency with AI/XR goggles.
- Real-time data access for faster decisions.
- Remote expert collaboration, anywhere.
- Guided workflows for error-free tasks.



HOLOGRAPHIC DISPLAYS



- Revolutionize presentations with 3D holograms.
- Transform remote collaboration with lifelike presence.
- Elevate retail and marketing with interactive displays.
- Innovate training and healthcare with immersive visuals.



XR SOLUTIONS



Make – No-code Content Creation



View – Content Visualization



Inspect – Object Tracking and Comparison



No-Code Content Creation

- Supercharge training with immersive XR.
- Enable hands-free remote maintenance.
- Reduce errors with AR-guided workflows.
- Drive smarter decisions with real-time XR data.



END-TO-END XR DELIVERY PARTNER



SaaS/Perpetual
Cloud/On-prem



Customization



Hardware



XR Consultation



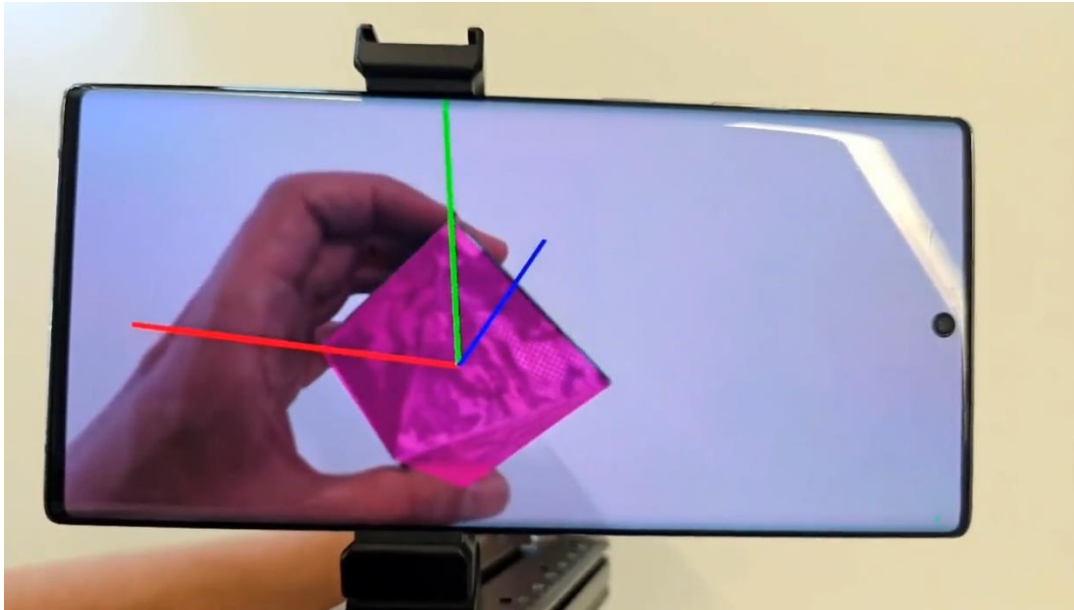
Bespoke
Content Creation



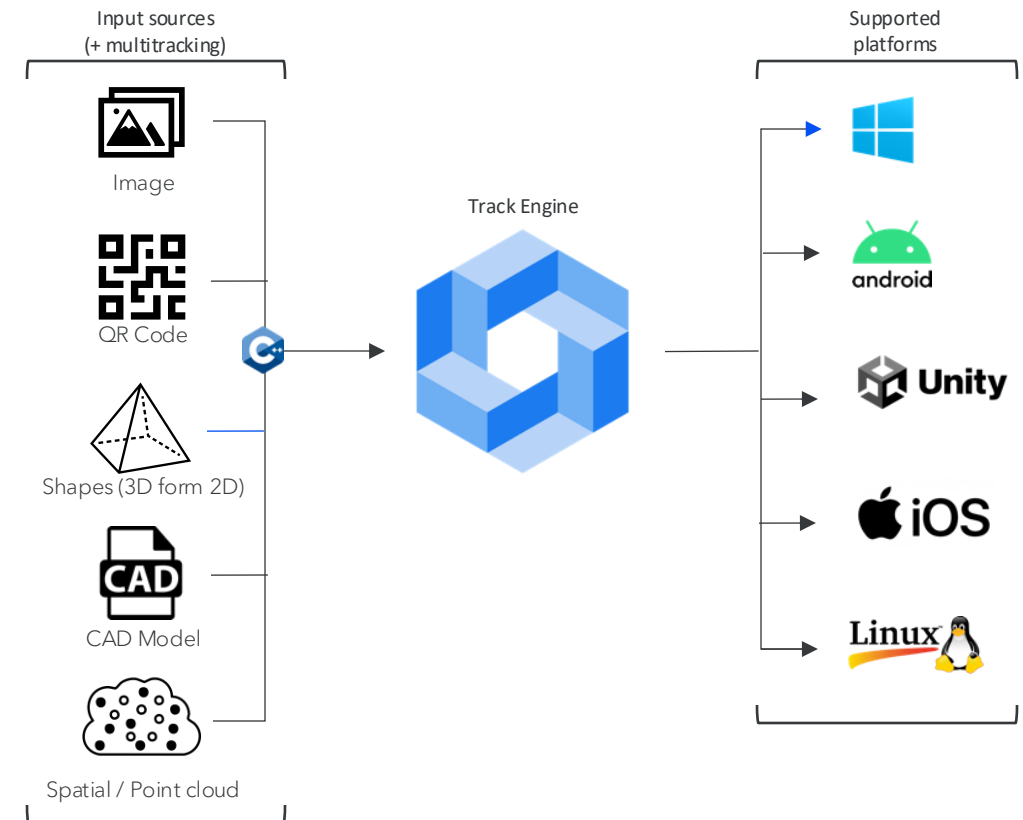
DEEPDIVE: TRACK OUR OBJECT-CENTERED TRACKING FRAMEWORK

TRACK: NEXT-GENERATION AR FRAMEWORK

Precise object tracking:
Fast, real-time, on-device



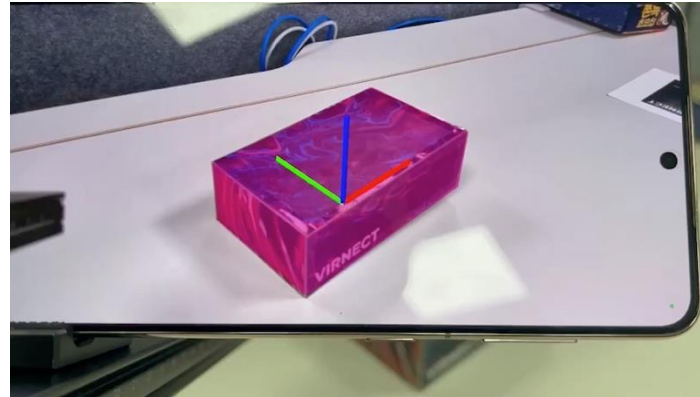
Industrial efficiency:
Multi-target, lean pipeline



TRACK TARGET TYPES



QR Code



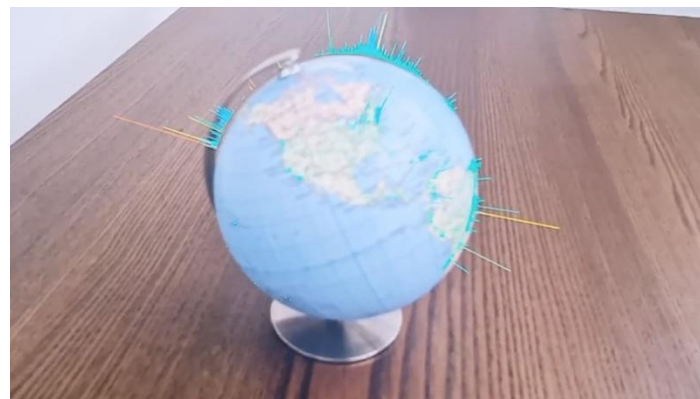
Shapes | 3D form 2D



CAD Targets | Untextured 3D files



CAD Targets | Guided detection



Object 3D | Textured 3D files

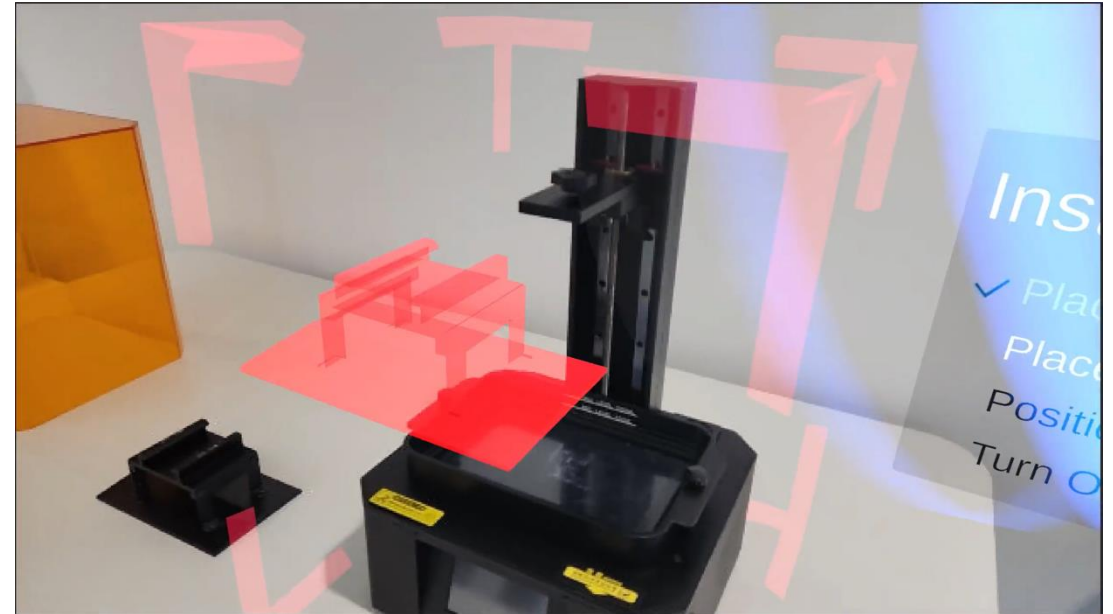


Map / spatial targets (point cloud)



EXAMPLE: AR-POWERED ASSEMBLY - STEP-BY-STEP PRECISION

- Guide users through assembly steps with simultaneous multi-target tracking
- Verify part existence and placement for accurate assembly



EXAMPLE: SCALABLE AR FOR LARGE ENVIRONMENTS



Area scanned by VIRNECT for data capture

- 1,831 images from video
- ~ 750 meters
- Time: 6 hours (3d point reconstruction only)



Result: Reconstructed 3D point cloud enabling precise AR tracking

TRACK TARGET TRAINER



- Generates trackable data for a wide range of AR targets:
 - Images, QR Codes, CAD Models
 - 2D/3D Shapes (Plane, Box, Cylinder, Object3D)
 - Spatial Targets (including Gaussian Splat refinement)



OUR HISTORY + CLIENTS

COMPANY OVERVIEW

IPO	R&D Center Vienna, EU	CAGR 52%	300+ Use Cases
KOSDAQ LISTED COMPANY	since 2020	From founding year 2016 to 2024	Working with many global enterprises

Selected customers by sector

Major private companies	Government & Utilities	Education
<div><p>6 Subsidiaries: Electronics, C&T, SDS, Multi-campus, SDI, Electronics Service</p></div> <div><p>6 Subsidiaries: Mtron, Metal, Automotive, e-mobility, solution, Electric</p></div> <div><p>8 Subsidiaries: Engineering, Samho Heavy Industries, Heavy Industries, Mipo Dockyard, Power System, Korea Shipbuilding & Offshore Engineering, Elevators, Electric Steel</p></div> <div><p>2 Subsidiaries: E&C, EPS</p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p>Tire & Technology</p></div> <div><p>11 Subsidiaries: Holdings, Chemicals, E&C, Telecom, Eco Plant, Energy, C&C, Shields, on, SMcore, Hynix</p></div> <div><p>7 Subsidiaries: Electronics, Chem, Display, Innotech, Energy Solution, Household & Health Care, Xii C&A</p></div> <div><p>5 Subsidiaries: Total Energies, Solutions, E&C, Precision Machinery, System</p></div> <div><p>3 Subsidiaries: E&C, Cannon, Chemical</p></div> <div><p>2 Subsidiaries: E&C, Chemical</p></div> <div><p>7 Subsidiaries: Group, Nuclear Fuel, EWP, WP, KOSPO, KEPCO, KDN</p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div> <div><p></p></div>		



CASE STUDIES

From Major Prior Partnerships

CASE STUDY:

KOREA AIRPORTS CORPORATION

AVIATION-TRANSPORTATION | TRAINING



XR-based training curriculums for the jet transition program

KAC (Korea Airports Corporation) operates the major airports in South Korea and has partnered with VIRNECT since 2019. KAC relies on VIRNECT to develop a training program for cadets transitioning from turboprops to jet aircrafts.



CASE STUDY:

MIRAE-SEOHAE ENERGY

ENERGY | TRAINING

Mirae 

Reliable Gas Supply through Remote Support and XR Training

Mirae-Seohae Energy provides natural gas throughout the western provinces of Korea. MSE has been working with VIRNECT since 2021, implementing remote support solutions and AR training to maintain facilities and provide a safe & stable gas supply for the region.



CASE STUDY:

HANWHA TOTAL

ENERGY | INSPECTION



Saving up to 90% on Inspection Costs


Hanwha Total Energies Petrochemical is a comprehensive material and energy company that produces high value-added chemical and energy products.

Hanwha Total has been working with VIRNECT since 2020 to achieve major reduction in its OpEx.



COMMERCIAL USE CASES

Sectors We Positively Impact

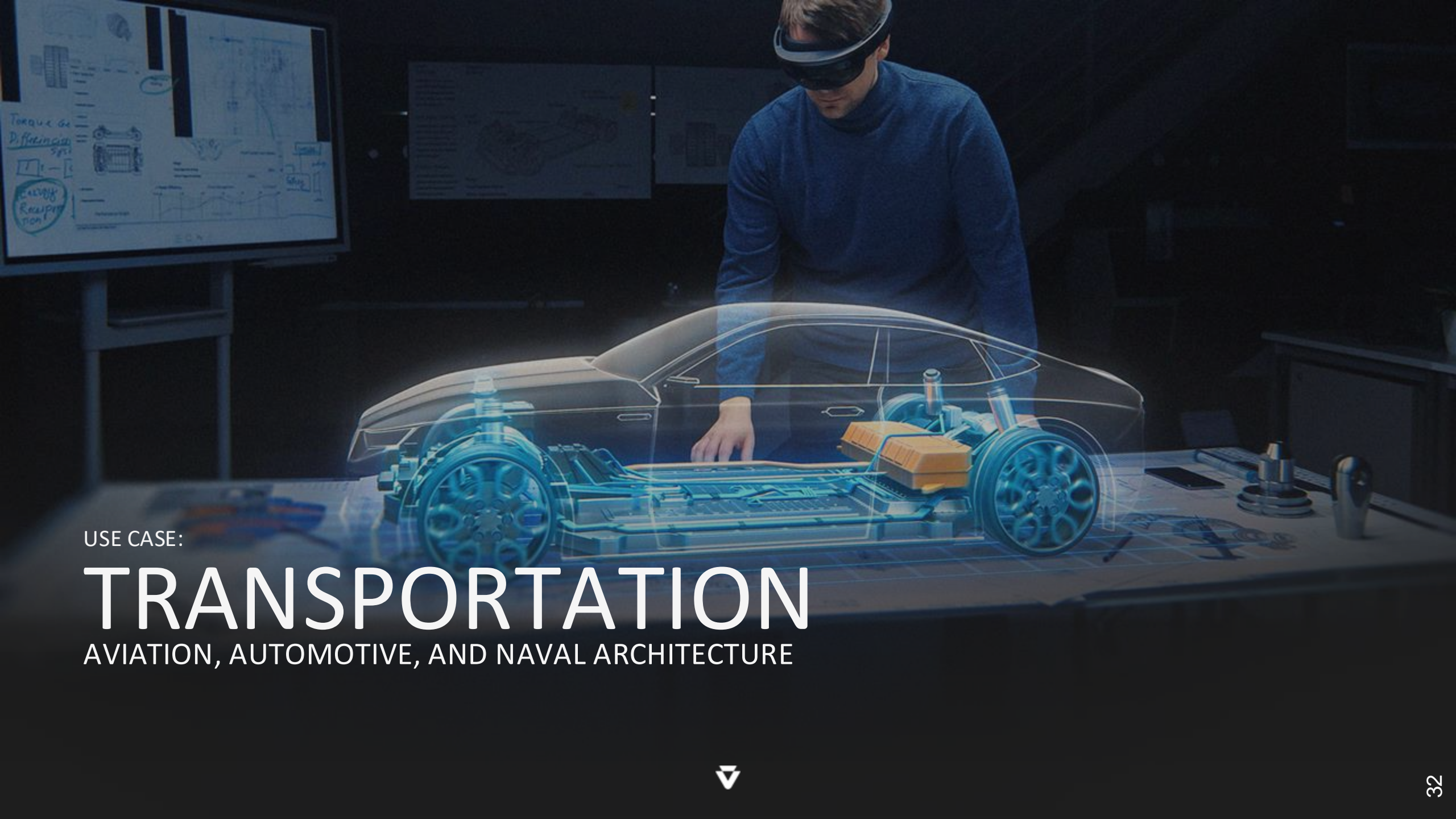


USE CASE:

ARMED FORCES

TRAINING AND SIMULATION






USE CASE:

TRANSPORTATION

AVIATION, AUTOMOTIVE, AND NAVAL ARCHITECTURE





USE CASE:

ENERGY

OIL + GAS, AND RENEWABLE ENERGY



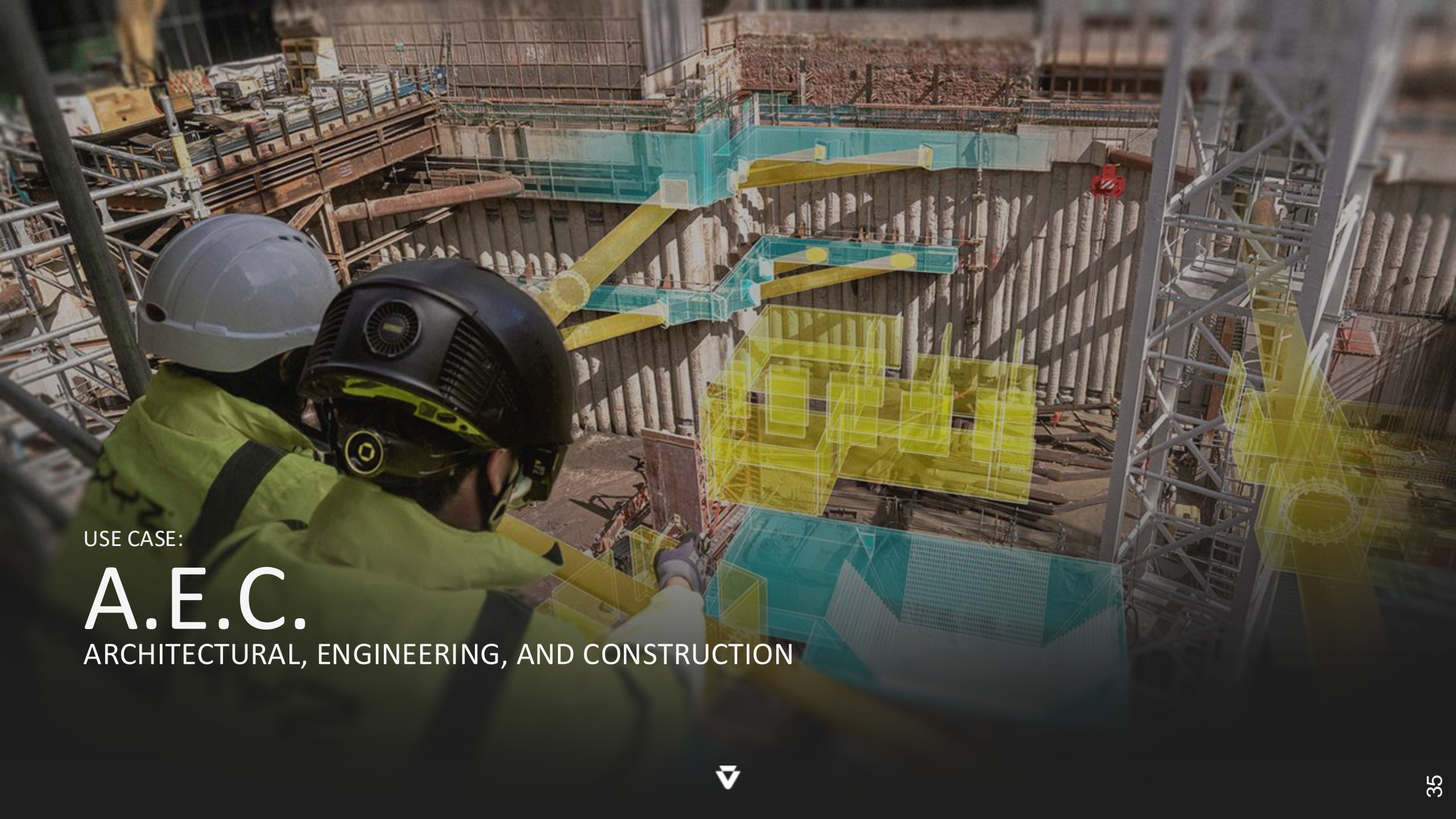


USE CASE:

HEALTHCARE

MEDICAL, BIOTECH, AND PHARMACEUTICAL



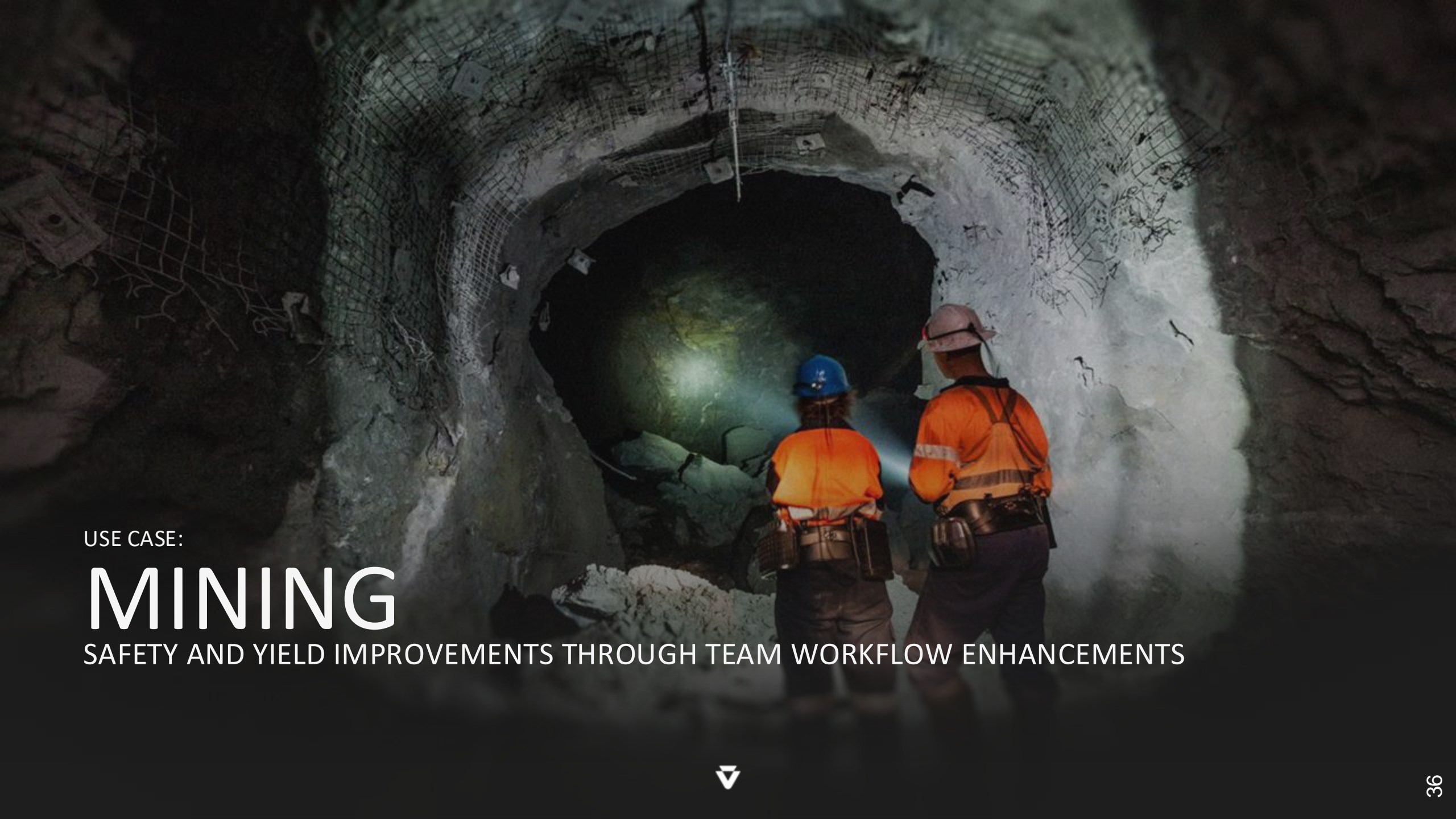


USE CASE:

A.E.C.

ARCHITECTURAL, ENGINEERING, AND CONSTRUCTION



A photograph of two miners in an underground tunnel. They are wearing orange high-visibility shirts, dark pants, and hard hats (one blue, one pink). They are standing in front of a large, dark, irregular opening in the rock wall, which is illuminated by a bright light source. The tunnel walls are covered in a wire mesh. The overall scene is dimly lit, with the primary light source coming from the opening ahead.

USE CASE:

MINING

SAFETY AND YIELD IMPROVEMENTS THROUGH TEAM WORKFLOW ENHANCEMENTS



A young man with brown hair, wearing a maroon hoodie and a white VR headset, is shown in profile, gesturing with his hands as if interacting with a virtual environment. He is in a classroom or office setting. In the background, there are large yellow and blue gear-shaped wall decorations, a computer monitor, and other people working at desks. The overall atmosphere is modern and educational.

USE CASE:

EDUCATION

IMPROVED LEARNER ENGAGEMENT AND MATERIAL RETENTION



Thank You

Contact sales@virnectglobal.com for a custom demo session

Appendix

The world's first AI - enabled XR safety goggles

Delivering exceptional support in every situation.

Meets safety standards, fits over glasses.

Clear voice in noisy environments with detachable boom microphone and directional speakers..



Currently in development: XR + AI embedded Customizable Safety Goggles for Manufacturing

Customizable safety goggles

Eye shield effortlessly swaps out for job-specific usage or upon damage/wear and tear.



Customizable bands

Head straps in various sizes for a perfect fit.

Easily identifiable customizable bands in different colors and patterns for classification set up.

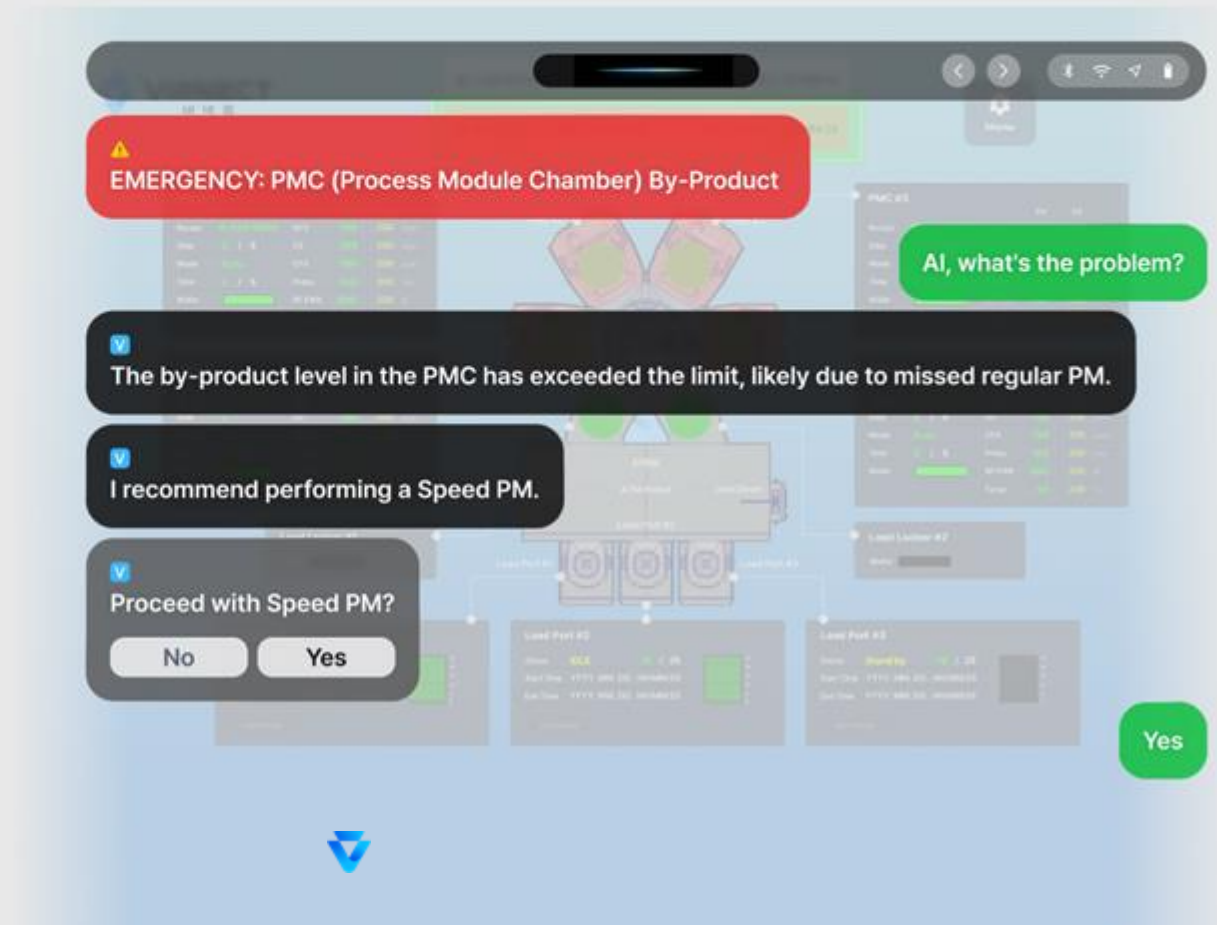


Troubleshooting Made Easy with AI

Intuitive device and app control with Large Action Model.

Situational awareness, manual search, and remote collaboration.

AI delivers the right manual directly and quickly in front of you (literally).





Directional Speaker

Deliver clear sound to ears even in noisy environments.



Battery Hot-Swap

Easy to replace, use without interruption.

Detachable Boom Microphone

Clear voice recognition and communication in noisy environments.



APPENDIX 01:



Resolution		DLP 1280 × 720, 500nits
Field of View		Diffraction Waveguide, FoV32
Chipset		Qualcomm Snapdragon XR2 Gen1
Memory		8GB LPDDR5
Flash		128G UFS2.1
Operating System		Android 12
Weight		230g
Camera (MIPI)		20MP
Sensors		6DoF IMU, Proximity sensor
Audio	Microphone	Detachable Boom Microphone 1pc, Microphone 3pcs
	Speaker	Directional speaker 2pcs
Battery	Built-in	1000mAh
	Replaceable	1000mAh
Dedicated Buttons		Power button, Back button, Hot button
Interface		4PIN Pogo Pin for charging, TypeC USB3.1 (OTG)
Operational Duration		4 ~ 8 hours

