



th3rd coast™
DIGITAL SOLUTIONS

Right Place

Manufacturing Leadership
Summit 2021

Taking XR from COOL to TOOL

Agenda

- Introducing XR
- The Need for XR
- The Benefits of XR
- Case Studies



Introducing XR (AR/VR/MR)

What is extended reality (XR)?

XR is an emerging umbrella term for all the immersive technologies. The ones we already have today- augmented reality (AR), virtual reality (VR), and mixed reality (MR) - plus those that are still to be created. All immersive technologies extend the reality we experience by either blending the virtual and “real” worlds or by creating a fully immersive experience.¹

AUGMENTED REALITY (AR) SOLUTIONS



The Layering of graphics or animations on top of your existing reality.

- Custom-made 3D models integrated in the regular environment
- Creation of interactions with the 3D model
- Links and shares on social networks

VIRTUAL REALITY (VR) SOLUTIONS



Full immersion in a Virtual World in which one can interact.

- Fully immersive virtual (CGI) world
- Interactive 360 Video
- Gamified Learning
- Available offline via mobile and head mounted display (HMD)

MIXED REALITY (MR) SOLUTIONS



Blending of real and Virtual Worlds linking human, computer, and environmental interaction.

- Uses computer vision to “map” a space
- Syncs real and virtual locations
- Uses Spatial Sound
- Makes real world “interactable”

1. Marr, B. (2019, August 12). *What Is Extended Reality Technology? A Simple Explanation For Anyone*. Forbes. <https://www.forbes.com/sites/bernardmarr/2019/08/12/what-is-extended-reality-technology-a-simple-explanation-for-anyone/?sh=353b90a47249>.

The Need for XR (AR, VR, MR)

The extended reality (XR) market was valued at US\$ 18.73 Bn in 2019 and is anticipated to grow at a CAGR of 51.3% throughout the forecast period to reach over US\$ 500.0 Bn by 2028.

In 2020, the industrial & manufacturing category had a major share in the global extended reality (XR) market and accounted for more than 30% of market revenue share in the same year. The growing use of immersive technologies in heavy industries such as oil & gas, manufacturing, mining, and chemical among others for training purposes is the key reason for category dominance.¹

1. Extended Reality (XR) Market Is Likely To Exhibit A CAGR Of 51.3% During The Forecast Period Between 2020 To 2028. Alchemy Market Research. (2020, September 30). <https://www.alchemymarketresearch.com/press-release/global-extended-reality-xr-market>.

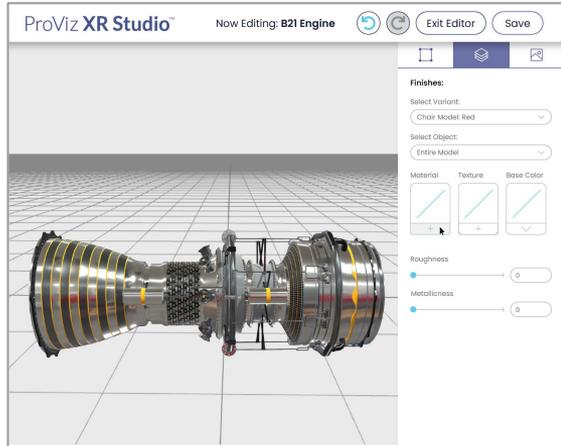


The Benefits of XR

Smarter | Faster | Better

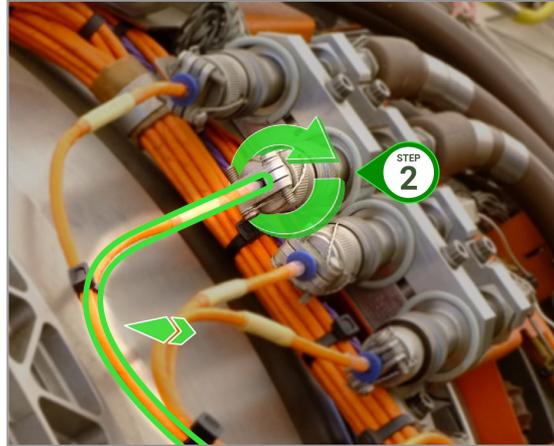
Immersive & malleable AR/VR/MR solutions that increase efficiencies, efficacy and value across industry verticals, including: Automotive, Aerospace, Consumer Appliance, MLM, Oil & Gas, Office Furniture, and more.

Smarter



ProViz XR Studio™

Faster



AR CHEATSHEET™

Better



INSPECT & COLLECT

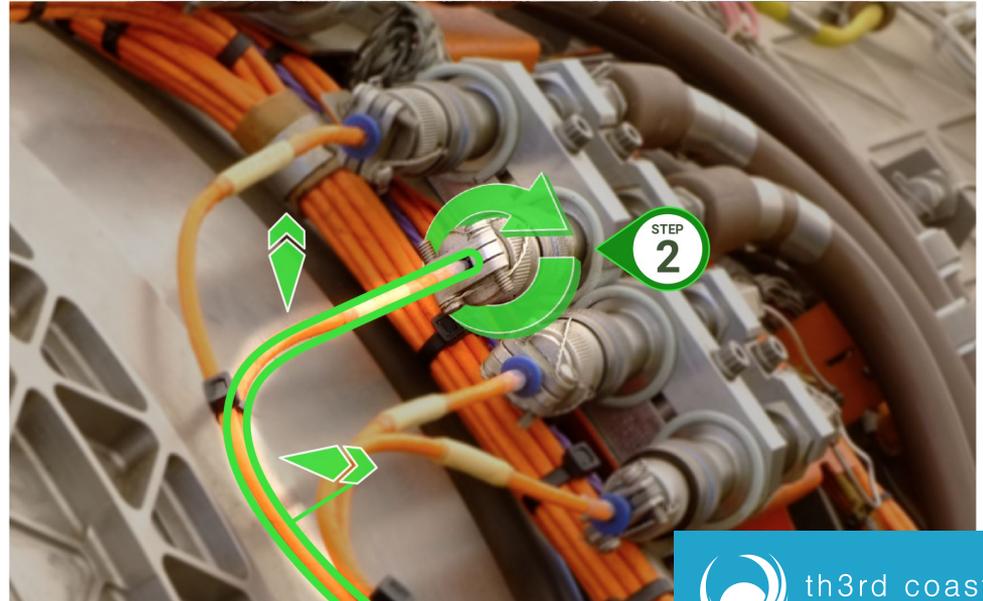
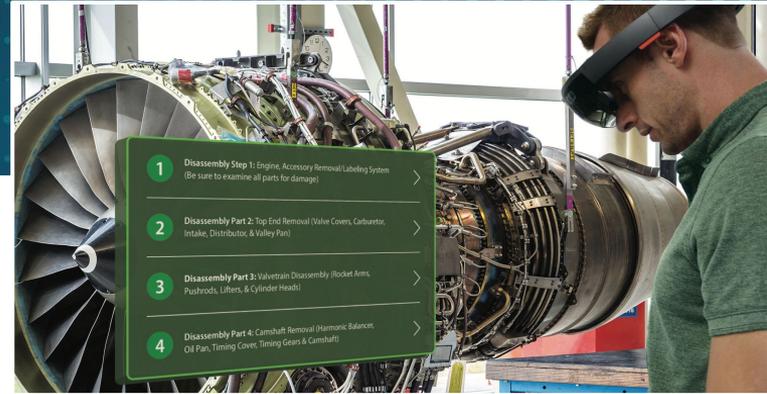
The Benefits of XR

ARHeatSheet (ARCS)

ARHeatSheet is an immersive XR training solution that allows **expert knowledge transfer** and the ability to create efficient and highly effective AR training content that is easily built and customizable on-the-fly, in AR!

Create standardized, SME processes more efficiently than ever before, with a solution that gets your team up-to-speed and working the SAME DAY.

Using Augmented Reality, or a combination of AR and VR technologies, ARCS provides immersive at-the-point-of-need guided steps that build muscle memory from the very beginning and encourage higher retention of procedures and processes. It also offers a unique builder mode that lets technicians modify, update, and create brand new AR on the fly, from within AR... making knowledge gaps and “speed to market” a thing of the past.



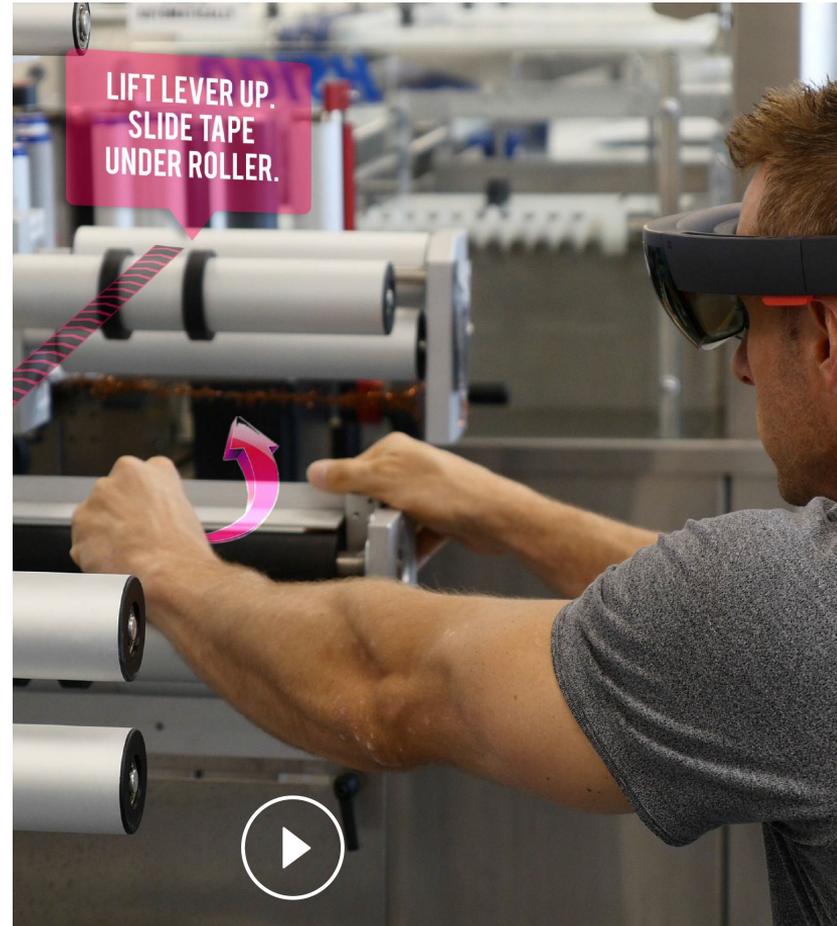
AR CASE STUDY

Industry: BioMedical

Opportunity: This client had limited experts on their technical machinery and no employee cross pollination from machine to machine. They wanted to train multiple employees on various complex machinery to have a more flexible workforce. The challenge? No CAD of the machine for the AR to use as a reference model/target.

Solution: ARCS (ARHeatSheet): By utilizing ARCS, an augmented reality “Paint-by-numbers” solution, we were able to leverage the “builder mode” of ARCS that allows users to build AR in AR at the point of interest—eliminating the need for CAD models or references of any kind.

Result: This solution provided **just-in-time** training for their entire team allowing everyone to now be the expert. The solution can also be **easily updated** onsite or remotely as processes change over time.



AR CASE STUDY

Industry: Oil & Gas

Opportunity: Lockout-Tagout is a huge challenge with many companies as they look to standardize process and procedures that often can have dire consequences if done incorrectly. No industry feels that pressure more than the oil and gas industry as they try to keep their employees and the environment safe.

Solution: ARCS (ARHeatSheet): By utilizing ARCS, we were able to leverage digital scans of the environment and use the “builder mode” of ARCS to build step by step LOTO procedures that included a VALIDATION aspect that archived each step to an IoT database to ensure and prove the LOTO was executed correctly.

Result: This solution provides the standardized process training needed with the validated proof of proper execution to ensure employees and the environment are protected.

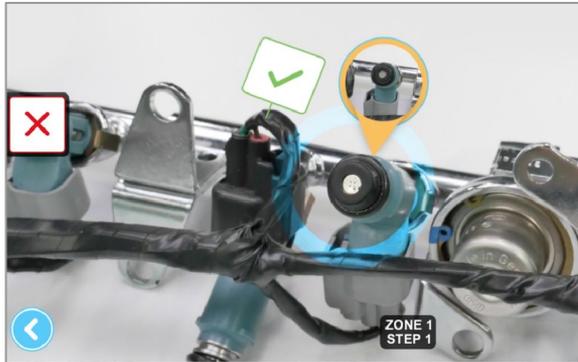


The Benefits of XR

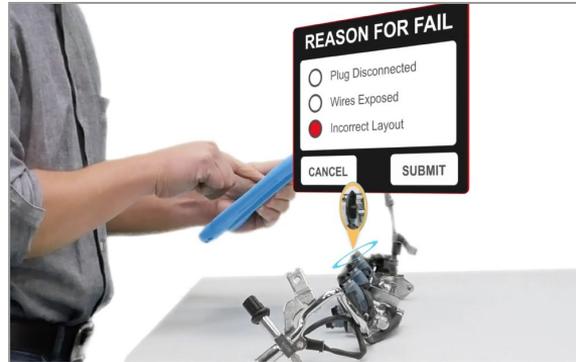
Inspect & Collect

Inspect & Collect takes the power of Augmented Reality (AR) to the next level, beyond mere visualization, and provides operators with a CAD-assisted IoT-based, Data Input Tool that plugs into or establishes your Smart Connected Operation (SCO).

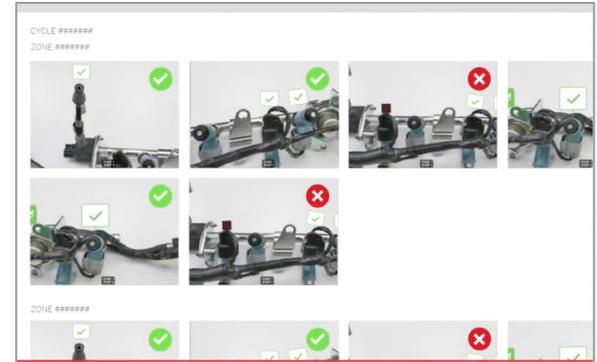
Inspect & Collect is the **intelligent approach to Artificial Intelligence (AI) driven automation** as it makes your factory smarter and your staff more efficient while creating a clean, precise dataset for AI to learn from. Opportunities include QA and SAFETY.



**Standardize
Processes**



Collect & Archive Data



Analyze Results

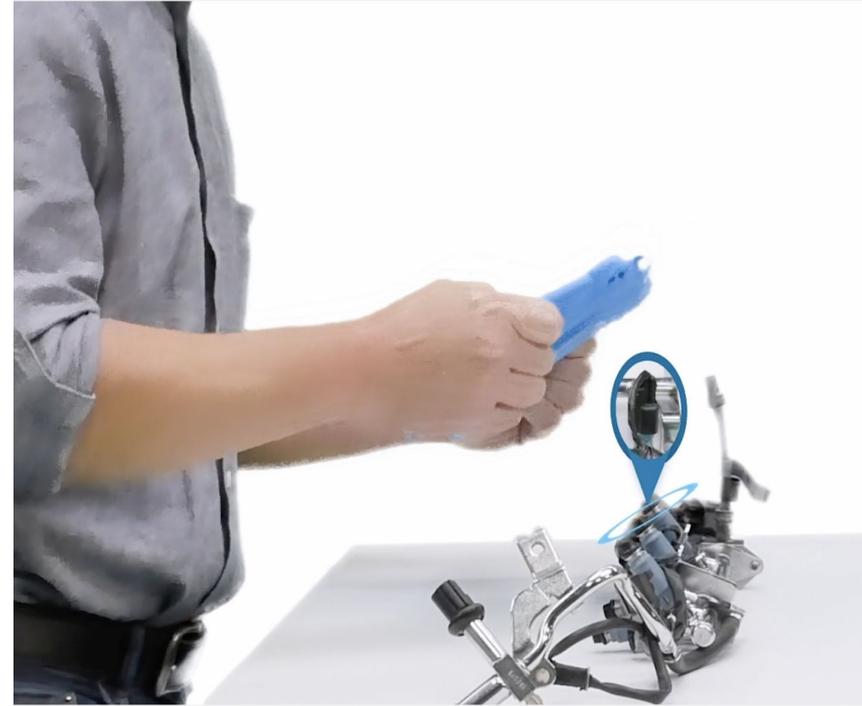
AR CASE STUDY

Industry: Automotive

Opportunity: This client had Quality Issues at the end of line, prior to shipping. All QC was still done as analog and they were looking for a way to digitize the process without sacrificing cycle time.

Solution: Inspect & Collect By utilizing CAD, AR overlays and IoT analytics, we are able to take the guesswork out of inspection by offering a solution that guides inspectors through a step-by-step sequence derived from any control plan to verify, ensure and uphold the quality standards of any of their produced products.

Result: No more missed steps. No more time referencing a printed control plan. No more working from memory. Users are now empowered to be FAST, ACCURATE, and INFORMATIVE.



EMPOWERING OPERATORS
STANDARDIZING PROCESSES
ARCHIVING RESULTS

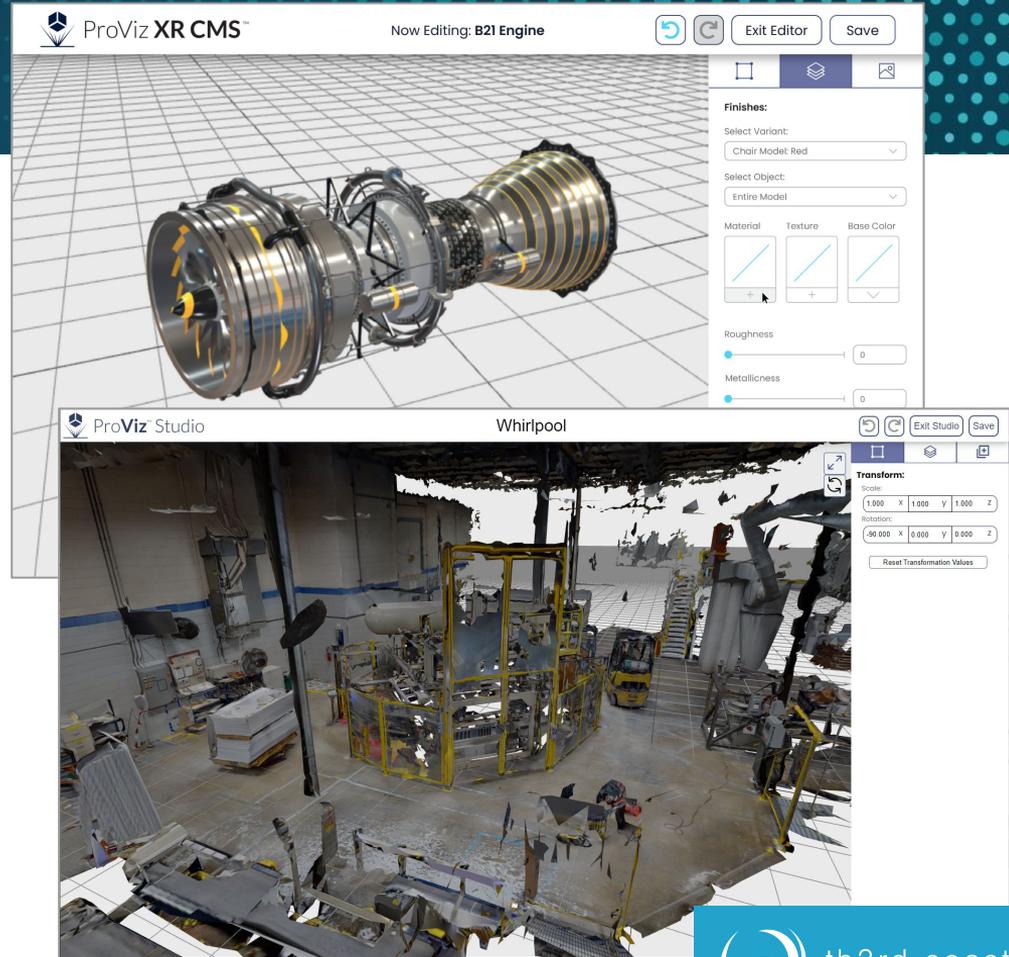
The Benefits of XR

ProVizXR CMS + Studio

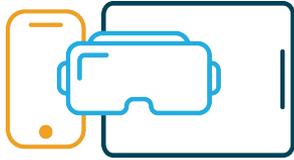
At the core of all our solutions is **ProVizXR Studio**, a powerful 2D&3D Asset CMS, which allows you to upload, store, manipulate, and utilize any 3D CAD/model, scan or 2D digital asset across any XR experience.

All our tools work through this base CMS platform and follow a “once in / many out” philosophy. The functionality is extendable to “all realities” by combining various modular widgets, which **allow you to repurpose 3D CAD/models, scans and any 2D digital asset for:**

- AR/VR Training Scenarios
- Quality Assurance Inspection Processes
- Step-by-Step Work Instructions and Validation
- Custom Virtual Tours
- e-Commerce
- [Video Overview](#)



XR (AR/VR/MR) SOLUTIONS



XR solutions give you the ability to solve the many problems businesses deal with everyday - training inefficiencies, ineffective sales tactics, quality assurance issues, and much more.



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