THEOREM
EXTENDED REALITY - XR

TheoremXR is an enterprise ready, collaborative visualization suite, powered by a Visualization Pipeline, which gets your 3D CAD into XR quickly and easily!

Who should use TheoremXR?

TheoremXR is an invaluable tool for viewing and engaging with 3D CAD data. Whether you're involved in Design Reviews, Factory Layout, Training Guides, or Visual Digital Twin projects, as an individual, or as part of a global team, TheoremXR is designed for you. If you're currently exploring the potential of XR technology, but struggle to get data into devices, Theorem's Visualization Pipeline (TVP); provides a quick and easy solution.

The application is available on desktop, tablet, in virtual reality headsets (such as the HTC Vive or Oculus Rift) or Mixed Reality devices (such as the Microsoft HoloLens).

Why choose TheoremXR?

We have been working with 3D CAD for over 30+ years! We understand your 3D data better than anyone else, because we partner with all of the main CAD/PLM companies. Whether you want to visualize your 3D assets in AR, MR or VR, we can get your 3D CAD into your device in minutes. That's why so many companies choose Theorem Solutions.
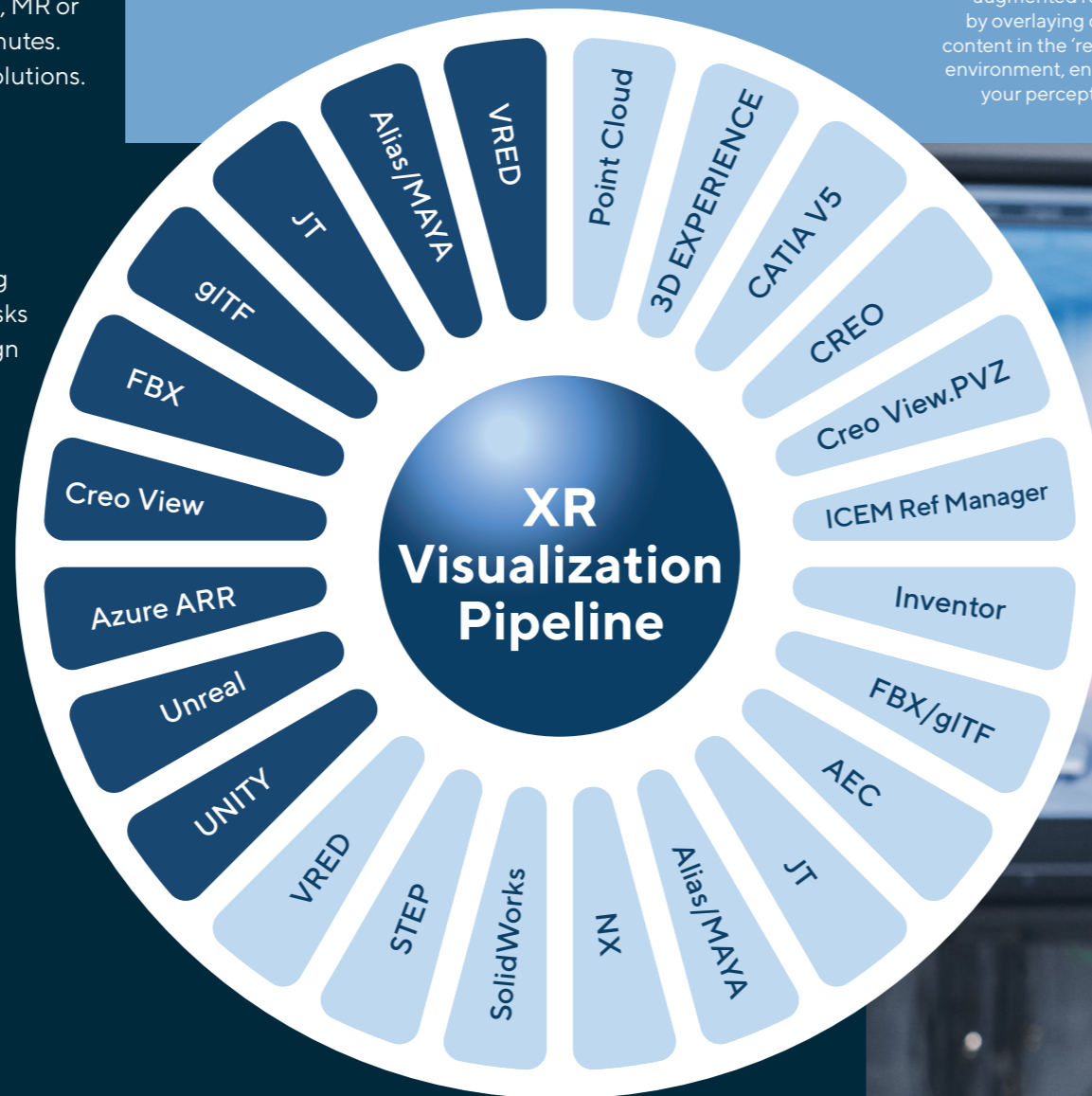
How?

Manufacturing and engineering companies already carry out tasks relating to factory layouts, design reviews, work instructions etc. on a daily basis. But using innovative XR technology takes away the need to get everyone in the same room at the same time, or spend time (and money) creating physical prototypes, travelling, or use up valuable physical resources on training people. When a lot of these tasks can now be done 'virtually', the benefits of the reduction in cost, time, and use of resources are easy to see.

XR

Extended Reality is an umbrella term that covers Augmented Reality (AR), Mixed Reality (MR) and Virtual Reality (VR).

Visualization Pipeline

Theorem Solutions has designed a solution that enhances visualization in every business; The Visualization Pipeline is a server-based technology that enables fast, efficient, flexible, and automated processing of all of your CAD, PLM and visualization data, while maintaining the associated metadata.

Experiences

Theorem's XR suite comprises of a range of use-case based, out of the box experiences. The Visualization Experience is the foundation layer that provides an entry point for the TheoremXR suite of experiences. Additional functionality is available by adding on one, or more, of the other XR Experiences which are focused on these specific use cases.

Visualization

With the *Visualization Experience*, access vital tools to view, navigate, explode, and section data at full-scale. Immerse yourself in a virtual reality for an immersive context or project 3D assets in the 'real world' for spatial understanding (mixed reality). Experience augmented reality by overlaying digital content in the 'real world' environment, enhancing your perception.

Design Review

Enhance collaboration with the *Design Review Experience*, uniting distributed design teams to resolve issues in real-time using powerful XR technologies. Simultaneously engage in a single session across virtual and mixed reality devices. Seamlessly integrate the out-of-the-box experience into existing workflows and processes, streamlining your operations.

Factory Layout

Maximize factory layout efficiency with the immersive *Factory Layout Experience*. XR prototyping offers cost-effective flexibility, simplifying the reconfiguration of layouts without disruptions. Import and reposition library components effortlessly using 'grab and move,' ensuring easy and precise object positioning with the snap-to functionality. Enhance your factory layouts today!

Guides

Utilize the *Guides Experience*, leveraging Mixed and Virtual Reality for interactive, immersive training and visual assistance. Train operatives in complex build processes using full-scale digital representations of CAD and PLM data in real-world or immersive environments. Accelerate planning, commissioning, and operation, enhancing efficiency and effectiveness.

Visual Digital Twin

With the *Visual Digital Twin Experience*, overlay digital 3D design data onto physical components using Edge Detection and SnapTo Functionality. Augmented Reality provides spatial and real-world context for inspection and quality purposes. Witness the correlation between the 3D design and physical manufacturing, enhancing understanding and ensuring precision.

XR Visualization Pipeline

- VRED
- Point Cloud
- 3D EXPERIENCE
- CATIA V5
- CREO
- Creo View.PVZ
- ICEM Ref Manager
- Inventor
- FBX/glTF
- AEC
- JT
- Alias|MAYA
- NX
- SolidWorks
- STEP
- VRED
- UNITY
- Unreal
- Azure ARR
- Creo View
- FBX
- glTF
- JT
- Alias|MAYA

Our 3-step approach

1 Consultative services to assist you in identifying how XR technology can improve your business and consider the options available to you.

2 Our consultants will help you create the business case to unlock the investment, by working with you to identify the key benefits to your business

3 Our XR specialists will provide on-site professional implementation services, so you can achieve maximum value as quickly as possible.

Collaboration

Today's products are rarely developed with the luxury of co-located teams. Globally distributed design is practically unavoidable, and this is increasingly placing a challenge on effective collaboration between design teams.

With the addition of the collaboration module to the Visualization Pipeline, the applications are further enhanced with the goal of bringing globally distributed teams closer together.

Uniquely

Theorem Solutions revolutionizes access to your 3D data, empowering you to share it with anyone, anywhere in the world!

With our unparalleled expertise in CAD to CAD conversion and PLM data exchange, we have developed an innovative approach to enterprise-level workflows. Our robust application grants you complete control over the preparation and optimization of your 3D data for various target formats.

Introducing the Visualization Pipeline, a groundbreaking tool that sets us apart from the competition. Unmatched in its capabilities, this enterprise-ready solution caters to all your Augmented, Mixed, and Virtual Reality requirements. Say goodbye to limitations and embrace a new era of seamless visualization.

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