MR STUDIO Solution Brief

Augmented and Mixed Reality for AEC, Engineering, Energy & Industry

Key Features

- Optimize and manage large and complex 3D models
- 30+ spatial data formats supported including CAD, BIM/IFC, OBJ, FBX, STL, glTF, etc.
- Support of large LiDAR point cloud models (billions of points)
- Hybrid Rendering for high definition model visualization
- Metadata handling for structured models
- Dynamic LOD capabilities
- Real-time collaboration with local and remote participants
- Rapidly connect and sync headsets with QR Code
- Integrate with IoT data streams
- 1:1 scale interaction with holographic models including point clouds
- Automatically scale and align models with the physical world
- Accurate in-model and real-world measurement tool
- Real-time and persistent annotation capabilities
- Project data and document viewing and collaboration
- iOS and Android mobile device participation

Microsoft Partner | Mixed Reality

magic leap

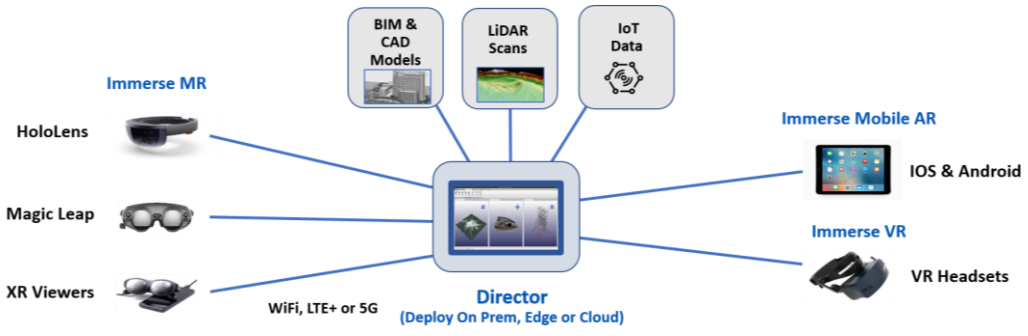
The Arvizio Platform

Arvizio's MR Studio is an enterprise augmented and mixed reality platform for hybrid rendering, multi-user, real-time collaboration and 3D model optimization to create shared XR experiences with massive 3D BIM and CAD models, with hundreds of millions of polygons, and LiDAR point clouds with billions of points. Features include integration of real-time IoT data, the ability to walk through designs at life size, align models with the real world for AR/MR digital twin scenarios and conduct virtual design reviews or training programs with multiple participants sharing a synchronized view of virtual objects.

MR Studio Solution Architecture

The Arvizio MR Studio platform combines advanced 3D visualization, real-time sharing and data integration in a single comprehensive solution with these key components:

- **MR Studio Director** – An extensible platform that manages the full AR/MR experience including import, processing and hybrid rendering of complex 3D models optimized with automatic Level of Detail (LOD). Director also provides real-time, multi-site and multi-user sharing, IoT data integration, document viewing and annotation capabilities.
- **Immerse MR** – A mixed reality application for complex 3D holographic model viewing and collaboration. Immerse provides a fully synchronized operation with MR Studio Director and allows HoloLens, Magic Leap and VR users to load, rotate, zoom and manage models as well as view integrated real-time IoT data and associated documents.
- **Immerse Mobile AR** – Leverages MR Studio Director in conjunction with ARCore & ARKit to visualize 3D models on mobile devices and tablets in augmented reality. Offers alignment, annotation, sharing and large model visualization capabilities with the ability to share in the experience via iOS or Android devices.



Optimization & Hybrid Rendering of BIM, CAD, LIDAR & Photogrammetry 3D Models
Multi-User Sharing Sessions with 3D Models, Annotations, Documents, IoT Data
Real World Alignment Tools to Align Models & Scans On Site

About Arvizio

Arvizio delivers enterprise solutions for augmented and mixed reality experiences utilizing Magic Leap One, Microsoft HoloLens, virtual reality devices, tablets and smartphones. Our MR Studio software platform brings new levels of efficiency with state-of-the-art 3D collaboration, visualization and real-time data integration capabilities, to a variety of industry verticals including automotive, AEC, industrial engineering, energy, mining, technical training and education.

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MR Studio Key Features

Advanced 3D Visualization

MR Studio incorporates an advanced spatial processing engine that tames large scale 3D data for rapid visualization of complex 3D objects. MR Studio has the ability to process and manage large, complex 3D models and maintain precise Level of Detail (LOD) including real-world scanned images, CAD files, LiDAR sources, BIM/IFC, glTF, GIS, OBJ, FBX and numerous other spatial data formats. Massive data stores are hybrid rendered and streamed to mixed reality headsets. Advanced management allows 3D models to be viewed in different positions and scale whether as life sized images or dynamically sectioned for closer inspection.

Multi-User Shared Experience

MR Studio optimizes the mixed reality experience by enabling multi-party collaboration on disparate devices including real-time sharing of holographic images, IoT data streams, pdf documents, and annotation and highlighting capabilities. Single site and multi-site options are available by sharing spatial anchors to allow multiple users to view the same model concurrently. A master device can be nominated, and other devices slaved to the device using the HoloSync feature, allowing many participants to share a common viewing experience. MR headset participants can be represented as individually labeled avatars.

Flexible Data Integration

MR Studio provides integration with real-time IoT data allowing augmented and mixed reality experiences to display and interact with real time machine to machine data. Flexible data uploading also allows metadata and external data sources to be seamlessly integrated with the AR/MR experience.

MR Studio Director