Factory Mixed Reality Solution
By
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WyzLink

- We focus on new Mixed Reality and Robotics integration
- Microsoft Mixed Reality Partnership Program Fast Track Member
- Build intuitive human-robot interface in immersive 3D space
- Control industry robots with cloud based Mixed Reality interaction system
- Mixed Reality 3D product assets management cloud
Why is Factory Mixed Reality Solution?

Improve performance, safety and ergonomics of industrial work force with the power of Augmented Reality and smart glasses

**Improve Productivity**
- Right information @ Right time increases performance
- No interruption in task flow; information in worker filed of View
- Illustrated visual work instructions and task flows

**Reduce Errors**
- Step-by-step visual instructions help reduce errors
- Improved worker ergonomics with smart glass
- Remote support by SME for complex tasks

**Reduce service cost**
- Reduce travel cost and downtime by remote AR support
- Improve first-time fix rate with smart instructions
- Faster response time

**Reduce skill gap**
- AR training modules with 3D models and animations
- Increased retention period with immersive learning
- Knowledge capture by skilled force using smart glass

Industrial AR trends
- AR Smart glasses sales are projected to grow from <1Mn in 2016 to >25Mn by 2021
- Majority of AR device OEMs focus on Enterprise (Microsoft, Vuzix, Google, Meta, Atheer etc.)
- For industry primary focus of adopting AR is on Field services and manufacturing
Current Application Scope

1. Visualizations of production lines and entire factories by the use of MR-infused 3D modeling used for optimal designing of the factory floor layouts.
2. Optimization of production workflows
3. Training & Support Systems

**Technology:** Mixed Reality, Advanced Displays, Factory Process Automation

**Business Impact:** Optimally feasible planning and design of factory facilities.
1. Mixed Reality Controlling Robotics
2. Mixed Reality Robot Path Planning
3. Mixed Reality machine assemble training

- **Model upgrade**
  - small change

- **Assemble Line Adjustment**
  - Layout change
  - Robot command change

- **Effective is important**
  - Less downtime
  - Quicker and safer
Our Factory MR Solution Features

**Mixed Reality Controlling Robotics**
- Use Mixed Reality Tracking Points to control industry robots
- Program the robot without writing code
- Program robots more effectively, and safer

**Mixed Reality Robot Path Planning**
- Use Advanced algorithms to optimize the robot trajectories
- Save energy for 20% for the same task
- Apply the intelligence with Mixed Reality 3D rendering

**Mechanical education & Virtual Machine Installation**
- Mixed Reality machine assemble training
- Use gestures to move the parts
- Interactive, realistic, and more effective
- Portal to all design data in Content Management Server

*Through our collaborative approach, we expect to develop more solutions tailored to Automotive Industrial 4.0 scenarios together with our partners*
Use HoloLens as human-robot interface

Click to play video above
Robot Simulations

- Build our own Robot Simulation and Testing System
- IK calculation, collision detection, path optimization, trajectory rendering
- Obstacle detection and avoiding

Mixed Reality Robot Path Planning

Use Advanced algorithms to optimize the robot trajectories
Save energy for 20% for the same task
Apply the intelligence with Mixed Reality 3D rendering
Training and Education

- Mixed Reality machine assemble training
- Use gestures to move the parts
- Interactive, realistic, and more effective
- Portal to all design data in Content Management Server
- Remote 3D assets distribution center

No Programming Flow Builder

Create the assemble flow in the Unity editor
Easy to use, and works with all part labels
Flexible to create for different kind of structures
Combine with assemble instructions with part labels
No programming skill needed and easy to extend
Virtual machine simulation