



Occupational Safety and Health Administration Trenching and Excavation

“With the HoloLens, we can show hazards in a safe, realistic environment. We can put a tractor close to the edge or show fissures inside the trench...It’s that realistic.”

— Eric Reinhardt, OSHA Instructor, Trenching and Excavation Safety

Key Products and Services

Microsoft HoloLens
Microsoft Azure
Clirio software



As part of the Department of Labor, the Occupational Safety and Health Administration (OSHA) aims to ensure safe and healthy working conditions for all American workers. In the construction industry, trench hazards—like cave-ins and collapses—are the leading cause of death among workers. To help mitigate the dangers of trenching and excavating, OSHA needed a way to teach hazard recognition to workers without the risks of an actual construction site.



OSHA teamed up with Clirio, a Microsoft mixed-reality partner, to create an Azure-based augmented-reality application giving students hands-on hazard training from the safety of a classroom. Wearing a HoloLens, OSHA trench safety instructors and students are immersed in a near real-world environment where they can view and engage with trenches, hazards, and safety equipment.



Teaching hazard recognition to students is safer and simpler than ever before. Using locally hosted sessions, OSHA instructors can provide hands-on training to multiple students simultaneously. OSHA believes this will allow them to reach hundreds more students per year, further increasing the safety of America’s construction workers.