

# What Microsoft's HoloLens means for the future of augmented and mixed reality

 By [Jason Ried](#)

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While the consumer tech world has been abuzz with excitement over Virtual Reality (VR) and its pioneers (Oculus Rift, for one), there are strong indications that Augmented Reality (AR) and 'mixed reality' applications could have a far more transformative impact in the near future.



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This is not least because AR-based and mixed reality (the merging of real and virtual worlds) innovations such as Microsoft's HoloLens look to immediately change the way in which we approach problem solving, creative development, design and manufacturing. So while virtual reality looks to entertain and engage, AR and mixed reality has the potential to fundamentally change the way people create, and the way businesses make stuff.

By comparing the functions of two of the most high-profile devices, the Facebook-owned Oculus Rift headset and Microsoft's HoloLens, the differences between VR and AR can be more clearly understood. The Oculus Rift is a virtual reality head-mounted display; and software, mostly video games, must be custom programmed to use the Rift. This technology creates an entirely new, immersive and virtual world for the user.

He or she can 'travel' to Paris and experience the city virtually, but the user can only physically move around with the aid of outside elements, such as a game controller (this experience of 'movement without movement' leaves some people feeling sick). Moving around physically within a VR experience thus requires a dedicated and specially equipped space.

Arguably, Microsoft's HoloLens promises a far more interactive, lifelike and beneficial encounter. It allows users to physically move around within the experience without a dedicated space, meaning that it's an experience one can enjoy with other people around. The device, which has been designed specifically for the enterprise environment, is the first self-contained, holographic computer, 'enabling you to engage with your digital content and interact with holograms in the world around you.'

The HoloLens harnesses specialised components, such as multiple sensors, advanced optics, and a custom holographic processing unit, to enable users to 'go beyond the screen'. With the HoloLens, you can still see your own table and chair, while also being able to see the dancing ballerina in the rubbish bin and the black unicorn tapping impatiently at the door. So you can walk around your regular office, while still seeing and interacting with exciting digital elements.

This type of functionality – whereby AR is seamlessly integrated into your daily life and work – has massive potential ramifications for industries and professions across the board.

## **Mixed reality turning into daily reality...**

Take, for example, the recently introduced SketchUp Viewer, developed by Trimble, which is reportedly the first 'extensible commercial HoloLens solution available in the Windows Store'. According to Microsoft, any company in the Architecture, Engineering, Construction and Operations (AECO) industries can buy and use it right away.

At the moment, SketchUp Viewer is widely used for 3D modelling and design by AECO professionals. By introducing the new HoloLens solution, Trimble says that it is taking 3D modelling further and into what they call 'experiential review'.

Put simply, this solution allows people to 'inhabit' their designs in a very lifelike way – they can either view a holographic scale model on the table in front of them, or 'walk around' within the projected building or design (hologram). This functionality allows designers and architects to not only visualise and see how a project is unfolding, but to make possible changes and iterations within the hologram. So instead of spending time and money on expensive adjustments to buildings/designs, people can make these changes 'virtually' using the HoloLens SketchUp Viewer solution.

The transformative potential of HoloLens, and by extension, AR and mixed reality, can seep into any industry or profession – and particularly those with intensive and expensive training elements. AR can be used to enhance pilot, engineering and technician training within the airline industry, for example. It is very expensive and onerous for an airline to reserve equipment for training, that should be operational.

Now using AR, and the HoloLens, airlines can bring a virtual and interactive jet engine into the office or classroom. Japan Airlines has already demonstrated how they can train jet engine technicians using a self-contained app (as opposed to booking expensive training days in the airline hangar).

There are also infinite possibilities for use in the medical profession – some of which are already being tested.

## Highly disruptive

With companies such as the secretive Magic Leap working furiously to bring AR and mixed reality into our everyday lives, this potential may be realised sooner than we think. Magic Leap is reportedly working on disruptive new technology that, as Forbes writer David Ewalt put it, “...could affect every business that uses screens or computers and many that don’t. It could kill the \$120 billion market for flat-panel displays and shake the \$1 trillion global consumer-electronics business to its core.”

Forbes’ Ewalt is no doubt referring to a billion-dollar prototype head-mounted display that Magic Leap has developed. Analysts are surmising that the final product will fit into a pair of eyeglasses. If this turns out to be true, and the technology becomes accessible, our working lives may soon look – and feel – vastly different.

## ABOUT JASON RIED

Jason Ried is the founder and MD of Fuzzy Logic. Jason’s vision for Fuzzy Logic is to create world-class games and apps while growing the games industry in South Africa which has a wealth of untapped potential and talent. To date, Jason has led Fuzzy Logic in releasing chart-topping products, winning an international award and starting work on a big budget, highly ambitious game for an international game and toy company.

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