

Augmented Reality

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What is Augmented Reality (AR):

**Augmented reality** is the integration of digital information with the user's environment in real time. Unlike virtual reality, which creates a totally artificial environment, augmented reality uses the existing environment and overlays latest information on top of it.

AR applications for smartphones typically include global positioning system (GPS) to pinpoint the user's location and its compass to detect device orientation. Sophisticated AR programs used by the military for training may include machine vision, object recognition and gesture recognition technologies.

AR apps are written in special 3D programs that allow the developer to tie animation or contextual digital information in the computer program to an augmented reality "marker" in the real world. When a computing device's AR app or browser plug-in receives digital information from a known marker, it begins to execute the marker's code and layer the correct image or images.

Augmented Reality provides a change of perspective for manufacturers:

Augmented Reality, which enhances the physical world with digital data and images, could make the industrial repairs easier.

Augmented reality adds digital imagery and data to supplement views of the real world, giving users more information about their environments. That's a step beyond virtual reality, which attempts to simulate reality. Smartphones and tablets, with their crisp screens and built-in cameras and motion sensors, are popular platforms. Head-mounted displays continue to emerge, especially where hands-free operation is essential.

Augmented Reality technology may transform work as we know it:

Wearable technology hasn’t quite made it to mainstream business- but it will, and it’s going to change the way people do their work.

The Internet of Things (IoT) has been heralded as the next wave in mobility and personal computing. But most of the interest to date has centered on consumer use of wearable devices like smartwatches, fitness bands and 3-D head-up displays -- devices that let people view data while looking straight ahead. These are interesting areas of exploration, as they provide

incentive for users to experiment with computer-aided, real-world environments known as "Augmented Reality."

Most businesses today are still in the "toy" phase with this technology. But over the next few years, employees will start bringing wearables to work, as they did with smartphones, and start using them for business purposes. But the coming change will be much bigger than that simply say, “Enterprise of Things”.

Companies will instinctively search for tools that increase the efficiency of their workers and maximize the effectiveness of their resources. Indeed, by 2020, most people will use augmented-reality technology: sensors, head-up displays, even perceptual systems -- the kind of computing that lets us control devices without even touching them, or allows software to adjust to movements captured by video cameras.

On the spectrum between virtual reality, which creates immersive, computer-generated environments, and the real world, augmented reality is closer to the real world. Augmented reality adds graphics, sounds, haptic feedback and smell to the natural world as it exists. Both video games and cell phones are driving the development of augmented reality. Everyone from tourists, to soldiers, to someone looking for the closest subway stop can now benefit from the ability to place computer-generated graphics in their field of vision.