AR/VR

Augmented Reality/Virtual Reality

Immersive technologies like AR and VR are transforming the way businesses design and produce products, manage inventory, train employees, and interact with customers. While often used interchangeably, there is a difference between AR and VR. Augmented Reality (AR) doesn't block out the real world or replace it with a completely digital one–it lets the real world show through, only with digital objects or information on top of it.. Virtual Reality (VR) on the other hand is entirely computer generated. VR requires a headset, while AR can be accessed with a smartphone, tablet or headset.

Webinars/Videos to Watch

Webinars:

- **Iowa Manufacturing 4.0 Consortium** webinar recording: Augmented & Virtual Reality Webinar

- CIRAS Industry 4.0 Webinars on Demand

Videos:

- Augmented Reality Warehouse - Extended Warehouse Management
- The Top 4 Reasons to Use AR for Manufacturing
- VR Safety Training for Electric Power Industry

AR/VR Articles worth Reading:

- How to Train Employees Effectively with Virtual Reality (Forbes)
- 5 Innovating Examples of AR for Marketing (VR Vision)
- Is Manufacturing Ready for XR Technologies? (SME)

Public sector service providers for your businesses:

- Iowa Technology Institute at the University of Iowa – Virtual and Augmented Reality Business Unit offers VR services to the public, including software development, device consulting, and system integration.
- CIRAS offers assessments, assistance with cost benefit analysis and integration planning, among other services.
- CIRAS Digital Manufacturing Lab powered by Alliant Energy offers hands-on technology testing, training, education, and more.
- Iowa State's Virtual Reality Applications Center

Iowa Vendors & others:

- Mechdyne Americas AV/VR Headquarters, Marshalltown, IA
- TeamViewer Assist AR for remote service and training
- Vive Business by HTC specializes in virtual reality applications for businesses
- VR Vision specializes in job training and other HR objectives
- PTC offers digital technologies for manufacturers, and white papers and other information on website
- Atheer offers AR for manufacturing

Disclaimer: This is not meant to be a comprehensive list of service providers

Six Tips for Starting Down the AR/VR Path

1. Decide what you will use it for. Though immersive tech possibilities are endless, define a clear plan for using it, whether with customers, products, inventory, or employees.
2. Visualize outcomes to secure leadership and employee support. Develop a clear image of success for immersive tech to convince potential cynics of why it's useful.
3. Assign an internal champion. Find an employee passionate about the technology who has a vision for its implementation.
4. Imagine the impossible. Using immersive technology doesn't have to be exactly like a real experience. The emerging tech can be anything so businesses should look at their ideas through a more creative lens.
5. Get your 3D assets together. Organization is key for the 3D technology. Creating a centralized database of all 3D assets can make it easier for employees and vendors.
6. **Plan for interoperability.** To continue a unified experience, merge data generated from AR and VR with traditional data systems.

Excerpted from an Altimeter research report by analyst Omar Akhtar

Keeping it all straight…

Researching AR and VR for your business can be confusing! Here's a quick definition of each of the terms you will run across as you look further into these technologies:

- **Augmented reality (AR)** adds digital elements to a live view often by using the camera on a smartphone. Examples of augmented reality experiences include Snapchat lenses and the game Pokemon Go.
- **Virtual reality (VR)** implies a complete immersion experience that shuts out the physical world. Using VR devices such as HTC Vive, Oculus Rift or Google Cardboard, users can be transported into a number of real-world and imagined environments such as the middle of a squawking penguin colony or even the back of a dragon.
- In a **Mixed Reality (MR)** experience, which combines elements of both AR and VR, real-world and digital objects interact. Mixed reality technology is just now starting to take off with Microsoft's HoloLens one of the most notable early mixed reality apparatuses.
- **Extended Reality (XR)** is an umbrella term that covers all of the various technologies that enhance our senses, whether they're providing additional information about the actual world or creating totally unreal, simulated worlds for us to experience. It includes Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR) technologies.

Sourced from The Franklin Institute

Conferences/Trade Shows

- Iowa Technology Summit, Annually, Des Moines
- Automate, May 22-25, 2023, Detroit
- Smart Manufacturing Experience, On Demand
- FABTECH, November 8 – 10, Atlanta