

A look at

Virtual reality in the enterprise



What is it?



Virtual reality (VR) headsets and VR-enabled smartphones immerse users in a computer-generated 3-D environment where spatial data, such as the data that produces a rendering of a building or a product design, becomes more real and more actionable. While VR is often associated with gaming and entertainment, VR applications for business hold great promise.

What are other related technologies?



Augmented reality (AR)

Devices or wearables provide information tailored to the context and space in which a user works. The information appears as visual or audio supplements that help a worker more efficiently undertake a task. AR and VR will ultimately converge in five to ten years.



Mixed reality

A superset of AR, mixed reality adds digital objects to physical ones, anchoring them to points in the real world. Users can then perceive physical and digital objects in the same space.



Extended reality

Humans direct devices through separate physical spaces in real time. Those devices could be flying drones, remote undersea exploration craft, or surgical robots.



Benefits

- Faster prototyping, design, and training
- Risk-free exploration
- Less expensive than real-world applications
- Improved safety
- Increased flexibility



Limitations

- Lack of data and hardware standards
- Limited optics, 3-D, and interaction capabilities
- Complex content authoring tools
- Inadequate VR technology skills in enterprises

Potential applications



Architecture and construction

Customers can evaluate more alternatives, refine the design within the VR program, and conduct a walk-through before breaking ground.



Product design

Designers, managers, and potential users can see the product from every angle, interact with it, and make changes—all without ever creating a physical model.



Training

VR provides an immersive substitute when real-world training is costly, hazardous, or otherwise difficult, such as in mining, welding, and healthcare.



Merchandising

In business-to-business or consumer settings, VR enables better customer intimacy, improved data collection, and new revenue streams by offering more options and experiences in a single environment.