

# Virtual & augmented reality

Applications using virtual and augmented reality are becoming more diverse and useful for workplaces, sport and recreation. Technological developments are improving system performance and helping reduce costs. The pandemic is also helping increase demand through workplaces realising they can operate differently.

## What we're seeing

### VR & AR starting to deliver

For over a decade VR & AR have been, it was predicted, on the verge of becoming mainstream consumer and workplace products. They would provide more immersive entertainment and business applications and experiences. That's now starting to happen.

### Multiple types of reality

AR and VR are part of what is called Extended Reality. AR overlays digital information on the real world. VR takes you out of the real world into digital worlds. In between sits Mixed Reality (MR), which involves greater interaction between real & digital worlds.<sup>1</sup> Meta's (formerly known as Facebook) 2021 depiction of the "Metaverse" was vague and uninspiring to many.<sup>2</sup> However, VR systems have already become much cheaper and more powerful over the last 5 years. VR applications that people actually want, beyond games, are already available.

### The pandemic was a stimulus

Adoption was increasing before the pandemic. However, the need to work from home has opened employers and employees minds to working in different ways. Being stuck at home also helped boost entertainment sales. Demand for existing as well as new VR and AR products is growing rapidly.<sup>3</sup>

### Types of VR applications

In the workplace VR is being used to improve productivity and safety, and as a training tool. Examples include allowing surgeons to train using virtual bodies, and for athlete training. Military exercises can involve Immersive simulations. Manufacturers and architects use VR in design processes.<sup>4, 5</sup> Virtual office spaces are being used to reduce distractions to boost productivity and provide environments to stimulate creativity. VR is also used to help improve mental health and social skills.<sup>6</sup>

### Types of AR applications

AR is now part of online shopping. By overlaying data on the real world AR is also being used in the construction and insurance industries to help measure or assess structures and conditions.<sup>7</sup> In sport, AR is being used in stadia to improve spectator experiences. Athlete team and individual athlete information and statistics can be displayed in real time. It can be used to make at-home viewing feel a bit more like being in a stadium. It also helps coaches and athletes in training through visualising and analysing body positions and movements in real time.<sup>8</sup>

### Mixed reality is less developed

MR is still focused on entertainment.<sup>9</sup> However, a variety of workplace applications are expected, using devices such as Microsoft's HoloLens. These can enhance communications, simulate work operations or environments, and data visualisations.<sup>10</sup>

## Potential implications

### Create

- More engaging work and recreational experiences
- New urban forms and patterns of mobility as commercial business districts become less important

### Relate

- New ways to relate to other people using digital tools

### Consume

- More personalised services, products and experiences
- Consume information in new ways

### Degrade

- Weakening of some real world social interactions
- Reduced risks of injury or failures due to better training and design
- Risk of further reduction in privacy through increased digital presence

### Connect

- Social & workplace interactions changed, for better or worse
- Stronger connections to athletes and sports teams through enhanced digital experiences

### Define

- Personal identities increasingly shaped by digital personas and interactions
- Workplaces becoming more than just physical locations

### More information (links)

<sup>1</sup> [AR and VR in the workplace](#)

<sup>2</sup> [We already live in Facebook's metaverse](#)

<sup>3</sup> [Augmented and virtual reality after Covid-19](#)

<sup>4</sup> [How has Covid-19 impacted the future of VR innovation?](#)

<sup>5</sup> [Level up your game with VR sports](#)

<sup>6</sup> [Can virtual reality fix the workplace?](#)

<sup>7</sup> [The benefits of AR for employee training](#)

<sup>8</sup> [AR digital experiences in sports](#)

<sup>9</sup> [Mixed reality sports](#)

<sup>10</sup> [Mixed Reality examples: 5 uses in the workplace](#)