XR is an emerging umbrella term for all the immersive technologies. The ones we already have today—[augmented reality (AR), virtual reality (VR), and mixed reality (MR)](https://www.bernardmarr.com/default.asp?contentID=1313) plus those that are still to be created. All immersive technologies extend the reality we experience by either blending the virtual and “real” worlds or by creating a fully immersive experience. Recent research revealed that[more than 60% of respondents believed XR will be mainstream in the next five years](https://www.visualcapitalist.com/extended-reality-xr/). To get a better picture of XR, let’s review each of the existing technologies that exist today.

**Extended Reality Applications for Business**

There are many practical applications of XR. Here are a few:

·    Retail: XR gives customers the ability to try before they buy. Watch manufacturer Rolex has an AR app that allows you to try on watches on your actual wrist, and furniture company IKEA gives customers the ability to place furniture items into their home via their smartphone.

·    Training: Especially in life-and-death circumstances, XR can provide training tools that are hyper-realistic that will help soldiers, healthcare professionals, pilots/astronauts, chemists, and more figure out solutions to problems or learn how to respond to dangerous circumstances without putting their lives or anyone else's at risk.

·    Remote work: Workers can connect to the home office or with professionals located around the world in a way that makes both sides feel like they are in the same room.

·    Marketing: The possibilities to engage with prospective customers and consumers through XR will have marketing professionals pondering all the potential of using XR to their company’s advantage.

·    Real estate: Finding buyers or tenants might be easier if individuals can “walk through” spaces to decide if they want it even when they are in some other location.

·    Entertainment: As an early adopter, the entertainment industry will continue to find new ways of utilizing immersive technologies.

**Challenges of XR**

Those developing XR technologies are battling with some of the challenges to mainstream adoption. First, XR technologies collect and process huge amounts of very detailed and personal data about what you do, what you look at, and even your emotions at any given time, which has to be protected.

In addition, the cost of implementing the technology needs to come down; otherwise, many companies will be unable to invest in it. It is essential that the wearable devices that allow a full XR experience are fashionable and comfortable as well as always connected, intelligent, and immersive. There are significant technical and hardware issues to solve that include but are not limited to the display, power and thermal, motion tracking, connectivity and common illumination—where virtual objects in a real world are indistinguishable from real objects especially as lighting shifts.

As each day passes, we are one step closer to solving these issues so that we will see many more mainstream applications of all XR technologies over the coming years.