XRA — XR ASSOCIATION

INCLUSIVE XR

WHAT IS THE XR ASSOCIATION?

The XR Association promotes the dynamic growth of the XR industry. We convene and educate policymakers, thought leaders, researchers, developers, civil society, and the public on XR's infinite potential and serve as the premiere resource for anyone interested in learning about the applications of immersive technologies. Our members—Oculus from Facebook, Google, HTC VIVE, Microsoft, and Sony Interactive Entertainment—are united in our mission to champion the responsible development and thoughtful advancement of XR solutions that foster positive societal outcomes. Let us help you explore the endless potential of XR.

WHAT IS XR TECHNOLOGY?

XR is an umbrella term encompassing virtual, augmented, and mixed reality technology as well as other forms of alternate, expanded, or immersive reality applications, including those not yet invented.

Virtual Reality (VR)

VR replaces or occludes a user's reality with a new virtual reality. This new reality can be fantastical, like a faraway galaxy, or practical, like a training warehouse.

Augmented Reality (AR)

AR layers virtual content, such as digital objects or information, onto real-world images captured from a device's camera.

Mixed Reality (MR)

MR blends the digital and physical worlds, empowering users to interact with both in real time.

XR is changing the way we learn, do business, and provide essential human services. By delivering efficiencies in manufacturing, enhancing workplace safety, accelerating learning and job training, providing risk-free first responder training, improving healthcare and medical services, and providing rich experiences to individuals living with disabilities, XR is poised to become a part of daily life for users across the globe. XR is the technology of the future—today.

XR IS MAKING EXPERIENCES AND TECHNOLOGY ACCESSIBLE TO PEOPLE WITH DISABILITIES

XR developers are broadening the realm of the possible for users with disabilities, making once-inconceivable experiences available to users with limited mobility, sensory impairments, and cognitive disabilities. Beyond democratizing experiences, the XR industry is focused on ensuring XR technology is itself accessible. To that end, XRA recently released an update to its Developers Guide—"Accessibility & Inclusive Design in Immersive Experiences"—a set of best practices for platform and application developers on creating programs that can be enjoyed by all.

CREATING EXPERIENCES AND ENHANCING LIVES

Limited Mobility

For users with limited mobility, VR's ever-expanding range of sights and sounds can mean the ability to explore caves, play sports, and summit mountains. In VR, a once-avid skier living with mobility impairments can virtually reconnect with the thrill of the sport.

Sensory Impairments

AR is helping individuals overcome sensory barriers. AR is providing blind and visually impaired users with a significantly more unobtrusive and hands-free way to access the world around them. AR is also bridging the gap for the hard of hearing. Developers are creating AR glasses that provide a holographic interpreter to translate verbal speech into sign language in real time. These technologies are proving useful for job training, workplace collaboration and new levels of independence.

Cognitive Disabilities

Michigan State University researchers are teaming up with colleagues in Ireland to explore how wearable technologies like Oculus Rift can be used by individuals with autism to navigate virtual social situations and develop life skills that can lead to secure employment and independent living. VR is also helping teachers to work more effectively with autistic students by replicating the experience of those students in their classrooms. In addition, VR is showing promise to improve the lives of those living with dementia who experience poor memory, confusion, and increased aggression towards caregivers. VR has been shown to improve mood, reducing levels of anxiety, depression, confusion and hostility, thus improving quality of life and social interaction. What's more, a 2020 review published in the Journal of Alzheimer's Disease found that VR is emerging as a viable method not only of therapy but may also help with early diagnosis.

ACCESSIBLE BY DESIGN

XR hardware is rapidly evolving, and while some facets are unique to individual manufacturers, all are working to maximize accessibility in conjunction with software development partners. The concepts of inclusive and ergonomic design provide a strong set of guiding principles for software developers building platforms for XR and creating programs across multiple platforms. Rather than creating a separate experience, tool, or plug-in specifically aimed at a particular disability, inclusive design aims to create a universal XR experience that integrates tools that all users can enjoy. Both hardware and software developers have a shared interest in and commitment to incorporating iterative practices and working closely with the disability community to test advancements at each stage of development.