

The Future of XR Marketing Hinges on Modern Data Storage



Nothing accelerates change like a crisis. The coronavirus pandemic forced many companies to hit the gas on innovation to support their workers and customers. For many, [the acceleration of digital transformation](#) has included a new or widened embrace of extended reality (XR) technologies, including augmented reality (AR) and virtual reality (VR).

By definition, these technologies support the human-centric, digital-first approach to customer engagement we're all working toward—but they'll come with a caveat.

What Is XR—and Why Should You Care?

XR technologies can be effective ways to engage employees and consumers when in-person interactions can be challenging. And let's admit it: XR, done well, can be super fun and interesting.

XR applications immerse users in a virtual world (VR) or enhance surroundings with a layer of 3D content (AR). Some XR experiences offer a bit of both—that's mixed reality, or MR, and it best encapsulates the concept of XR.

What about the Metaverse?

Now, there's a new frontier for developing deeper XR experiences: the metaverse. This online world has been described as "a combination of multiple elements of technology... where users 'live' within a digital

universe.”¹ (A recent in-game live music event featuring singer Ariana Grande provided a glimpse of what this emerging, virtual world offers.²)

As a CMO, [my take is that XR could be an important sandbox for marketers to evolve our campaigns and how we distribute content](#). This not only includes a metaverse of real-virtual experiences but also Web 3.0 (aka “Web3”), a new iteration of the internet that’s built on [blockchain technology](#) and “where people control their own data and bounce around from social media to email to shopping using a single personalized account.”³

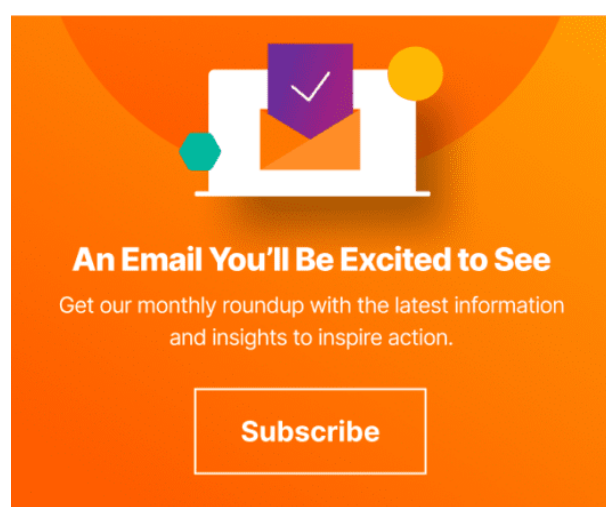
Why (and How) XR Will Take Off

Leading technology companies are racing to build and own a share of the metaverse. Facebook, which changed its name to “Meta” to demonstrate its commitment to helping “bring the metaverse to life,”⁴ is working on a haptic feedback glove to add touch sensations in AR and VR environments in the metaverse.⁵

But, the exponential spending on XR that’s expected isn’t all because of the new metaverse “space race.” [Industry 4.0](#) and the digital transformation trend are key factors, too. It’s forecasted that the XR market will grow to \$333.16 billion by 2025, up from \$42.55 billion in 2020.⁶ The VR and AR market will keep growing, reaching sales of 71 million devices in 2025—up from 11 million in 2021.⁷ And enterprise adoption of AR is expected to increase 66% per year through 2026.⁸

This is notable but not shocking. More people are comfortable interacting in virtual worlds in everyday life and work. Education, healthcare, retail, and real estate are all using—or planning to use—some form of XR for training and development opportunities, enhanced workforce collaboration, or [customer experiences](#). (Leading companies like Amazon, Boeing, Walmart, and UPS are using AR and VR for worker education and training programs.)

Now that 5G, cloud, and [edge computing](#) are on the scene, I don’t think it will be long before we see XR go mainstream.



How XR Consumes and Integrates with Data-intensive Resources

XR technologies do require a *lot* of data. And XR developers are employing other technologies that also have a voracious appetite for data, such as:

5G networks: XR will evolve as 5G networks advance. Futurist Bernard Marr notes that the benefits of 5G for XR “aren’t just faster data transmission, but the possibility of different types of data and services... needed to run XR, making wireless and cloud-based VR and AR a possibility.”⁹

Machine learning (ML): Artificial intelligence (AI) and ML algorithms are used to [generate content in VR games automatically](#), known as “procedural content generation.”¹⁰

IoT: Energy, manufacturing, law enforcement, and military organizations have integrated AR and the [internet of things \(IoT\)](#) for applications ranging from predictive maintenance to surveillance.

Neural networks: Immersive, AR- and VR-assisted 3D data visualizations can take data storytelling to the next level.¹¹ The Stanford Computational Imaging Lab has developed algorithms using neural networks to create a “neural holography system” that creates realistic-looking, high-quality AR and VR visuals.¹²

The Catch: Outdated Infrastructures Can’t Support XR

The quality of XR experiences will rise with faster access to data and lower latency, and the shift to 5G will mean more bandwidth for streaming, more reliable connectivity, and the ability to deliver engaging experiences to users in more places.

Underpinning XR innovation are [modern data storage solutions](#). XR tech uses a *lot* of data and companies need to rethink their storage if they want to deliver optimal XR experiences to users *today*. I’m not even talking about readying for what lies ahead... including in the metaverse. Even the internet will need a new architectural model to support the metaverse, which reportedly “needs 10 petaflops of computing processing power and 10 petabytes of storage in 10 milliseconds” to work.¹²

Your organization may not need to support the metaverse, but if you want your business to engage fully in the future of XR, legacy infrastructure won’t get you there.

-
1. <https://www.usatoday.com/story/tech/2021/11/10/metaverse-what-is-it-explained-facebook-micro-soft-meta-vr/6337635001/>
 2. <https://techcrunch.com/2021/08/09/fortnite-ariana-grande-concert-metaverse/>
 3. <https://www.npr.org/2021/11/21/1056988346/web3-internet-jargon-or-future-vision>
 4. <https://about.meta.com/>
 5. <https://www.pcgamer.com/metasp-haptic-feedback-glove-lets-you-touch-things-in-the-metaverse/>
 6. <https://www.businesswire.com/news/home/20210107005435/en/Global-Extended-Reality-Market-2020-to-2025—Analysis-and-Forecast—ResearchAndMarkets.com>
 7. <https://www.ccsinsight.com/blog/extended-reality-deserves-optimism/>

8. <https://www.prnewswire.com/news-releases/demand-for-augmented-reality-in-enterprise-and-consumer-markets-to-create-us175-billion-ar-market-by-2026-301309399.html>
9. <https://www.forbes.com/sites/bernardmarr/2022/01/07/the-5-biggest-virtual-augmented-and-mixed-reality-trends-in-2022/?sh=7d6d437c4542>
10. <https://medium.com/machine-learning-for-all/virtual-reality-and-artificial-intelligence-d8281d22db98>
11. <https://builtin.com/data-science/ar-vr-data-visualization>
12. <https://news.stanford.edu/2021/11/12/using-ai-create-better-virtual-reality-experiences/>
13. <https://www.msn.com/en-us/news/technology/intel-aims-to-develop-computing-infrastructure-for-the-metaverse-watch/ar-AARYQPJ>