

 CBINSIGHTS

# The Big Tech in Metaverse Report

How Meta, Qualcomm, and Microsoft are building the metaverse

# Guess Less. Win More.

[Sign up for a free trial](#)



CB Insights helps the world's leading companies make smarter technology decisions with data, not opinion.

Our Technology Insights Platform provides companies with comprehensive data, expert insights, and work management tools that enable them to discover, understand, and make technology decisions.



**I knew the platform was valuable, but there's so much more than just good research. It's the only platform with real-time visibility into every emerging tech market, and it's become my starting point for every project.**



**Moran Haviv**  
Strategic Innovation, Microsoft

[View success story →](#)



# Our Most Popular Research on Metaverse

[The metaverse could be tech's next trillion-dollar opportunity: These are the companies making it a reality](#)

[Metaverse of madness: 13 big industries the rise of virtual worlds could disrupt](#)

[These 95+ AR/VR companies hint at what the metaverse has in store](#)

[Analyzing Meta's Growth Strategy: How The Tech Giant Formerly Known As Facebook Is Building The Metaverse](#)

[Analyzing Qualcomm's growth strategy: How the semiconductor giant is building for the metaverse and next-gen digital technologies](#)

# Contents

Where big tech is making moves	7
Meta	13
Qualcomm	29
Microsoft	45

# Summary of findings

## Overview of big tech's activities in the metaverse

Big tech companies are largely entering the metaverse by expanding on core products and business units instead of building entirely new ones.

- Semiconductor company Qualcomm is developing chips for top AR/VR hardware developers.
- Meta is using its social media platforms to experiment with AR advertising.
- Microsoft is stockpiling gaming content for exclusive release on its Xbox console.

**Gaming is a key focus as big tech players expand virtual content to attract consumers to metaverse platforms.**

- Meta has acquired 8\* gaming startups since 2018.
- In 2022, MSFT announced it would buy gaming incumbent Activision Blizzard for \$68.7B.

## What's next?

- **Gaming will become increasingly competitive, with tech giants like Meta and Microsoft entering the fray.** The metaverse will largely be consumer-facing, and virtual entertainment like gaming will be key in attracting users to tech giants' platforms.
- **Big tech companies will expand to own more of the metaverse value chain.** Meta is attempting to build its own chips for AR/VR headsets, while Qualcomm is expanding beyond hardware to provide AR/VR software development tools.
- **Big tech companies will face more regulatory pressure due to concerns regarding antitrust laws, cybersecurity, and data privacy.** Early signs include FTC backlash to Meta's VR acquisitions and Microsoft buying an AI-powered content monitoring platform.



# Where big tech is making moves

# How big tech is entering the metaverse

---



Meta has two distinct advantages in the metaverse: its social media platforms and its dominance in the VR space. In social media, the tech giant is integrating smartphone-based AR experiences, such as virtual try-on or branded AR filters, with Instagram and Facebook. In VR, Meta is relentlessly acquiring and developing new immersive experiences, including games, virtual worlds, and fitness, to attract and retain consumers in its VR ecosystem.

---



Qualcomm is using its hardware expertise to target the metaverse infrastructure – i.e., technology for faster, more reliable internet and devices. The company is heavily investing in 5G infrastructures, which will improve the availability and quality of immersive experiences like AR/VR. Further, most popular AR/VR headsets runs on Qualcomm’s chips. As a result, the tech giant is also creating AR/VR developer tools for automatic object recognition, motion detection, 3D mapping, and more.

---



Microsoft’s primary metaverse focus is gaming. The tech giant is aggressively acquiring startups and incumbents aggressively to build its internal gaming studio, which will develop content exclusively for Xbox. Microsoft is also investing resources in tools to build and maintain games, from developer platforms to content moderation software. Outside of gaming, Microsoft is investing, partnering, and building within the digital twins space.

---



# What's driving big tech activity in the metaverse?



## Explosion in global gamers

There are over 3B gamers globally. This presents a massive opportunity for big tech companies to develop new games, gaming infrastructures, and in-game revenue streams.



## The next generation of internet devices

Smartphones powered the transition from desktop-based internet to mobile internet. Some big tech companies are betting metaverse devices like AR/VR headsets will ignite a similar transition – and big tech will have to adapt.



## The internet's growing role in day-to-day life

From remote work to online entertainment, humans are spending more time on devices and online than ever before. At its best, the metaverse will be a more natural and immersive way to engage with virtual experiences.

# Global gamers steadily climb past 3B

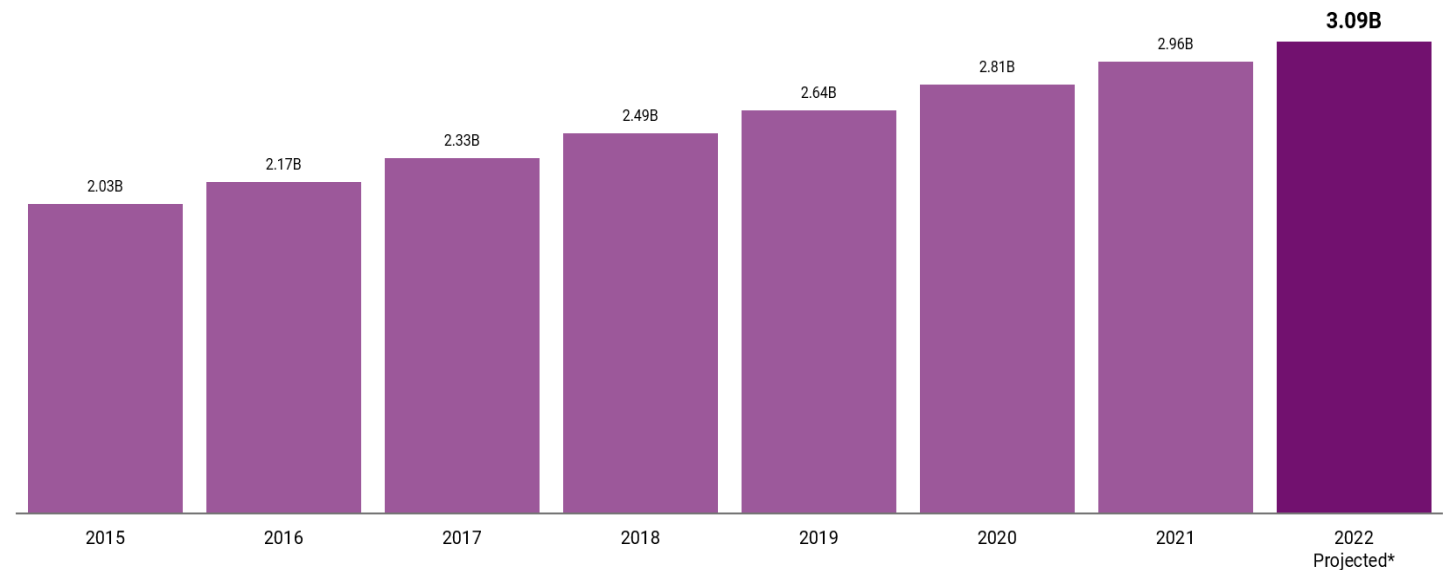
The growing number of gamers worldwide indicates consumers are more comfortable with virtual entertainment than ever.

This is a major boon for the metaverse, which will borrow heavily from games to provide virtual entertainment, virtual items, and close-knit online communities.

As a result, big tech players are building and acquiring gaming products to access the steadily growing gaming market and develop their metaverse strategies.

## Number of active video gamers worldwide

(2015 to 2021, with forecasts for 2022)



# Battle for the next generation of internet devices

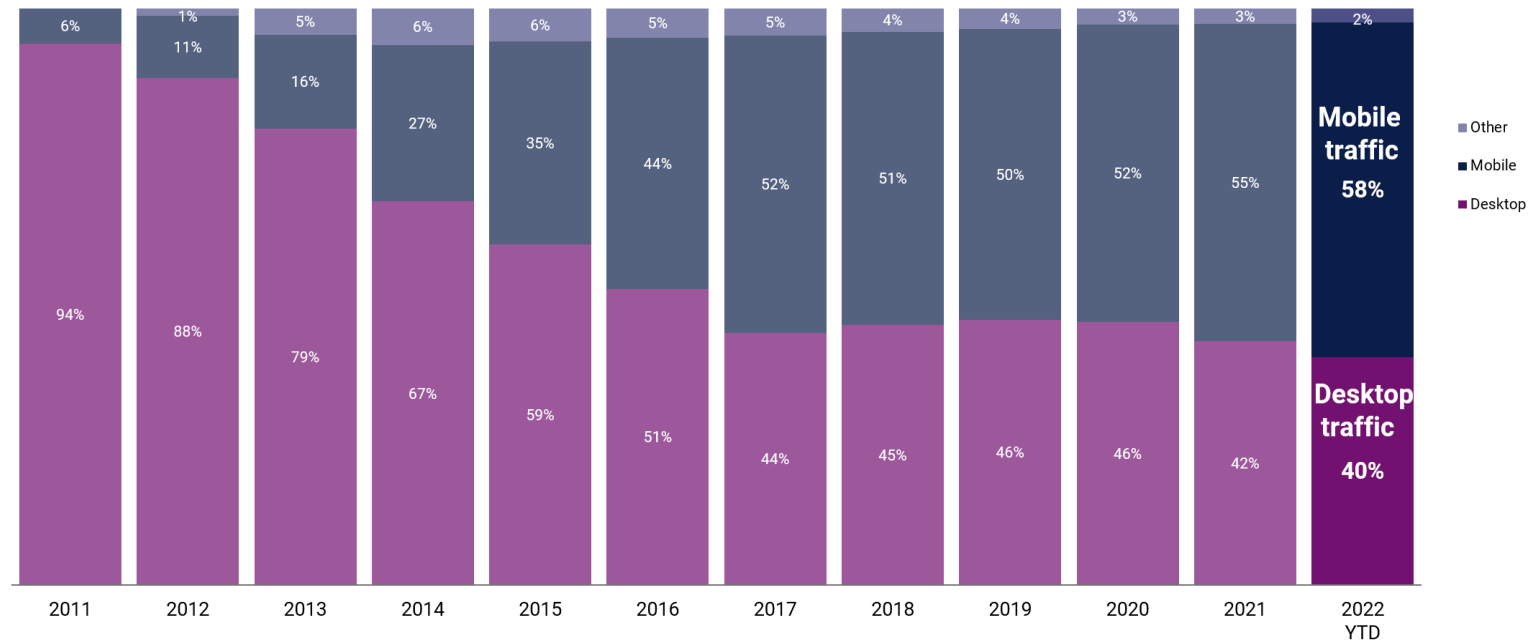
The transition to the mobile internet was both a moment of opportunity and disruption in the tech world.

In 2006, PC-based Microsoft's market cap was 4x larger than Apple's. In 2007, Apple released the iPhone, and it now boasts the largest market cap in the world.

Tech giants view AR/VR devices in a similar light. To ensure they don't miss out on the next generation of internet devices, Qualcomm, Meta, Microsoft, Apple, and others are investing heavily in AR/VR devices.

## Desktop and mobile devices' share of online web traffic worldwide

2011 – 2022 YTD (9/20/22)



# Consumers spend nearly 7 hours a day online

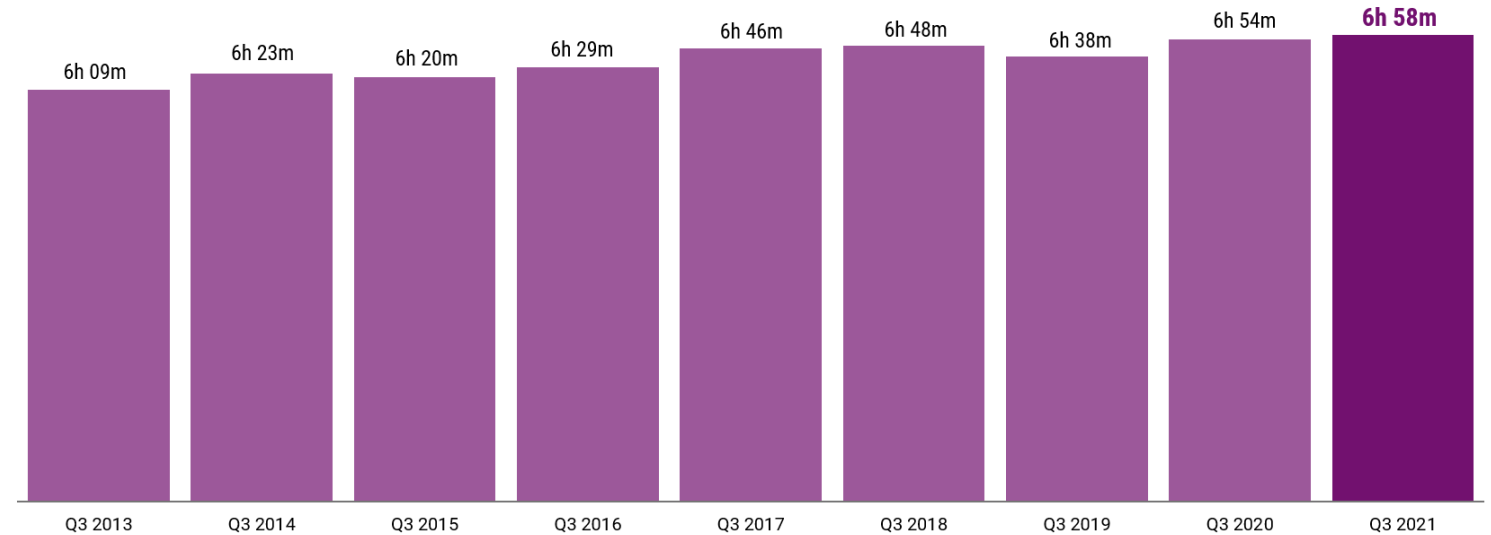
As the role of the internet grows in our day-to-day lives, so does the need for excellent internet infrastructure.

Big tech players are developing cloud, edge, and 5G solutions to support a seamless internet experience. This will usher in the low-latency, high-compute infrastructure necessary to power the metaverse.

The internet's growing role in our day-to-day lives also means more metaverse opportunities, from virtual entertainment to remote work to online health visits.

## Average time internet users spend online

Internet users ages 16 – 64





# Where Meta is focusing



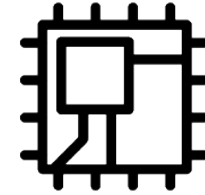
## Gaming

Meta is aggressively acquiring gaming startups to build out its metaverse content.



## Ad & marketing

Meta is attracting brands to its metaverse platforms by partnering with AR advertising startups and building customizable immersive experiences.



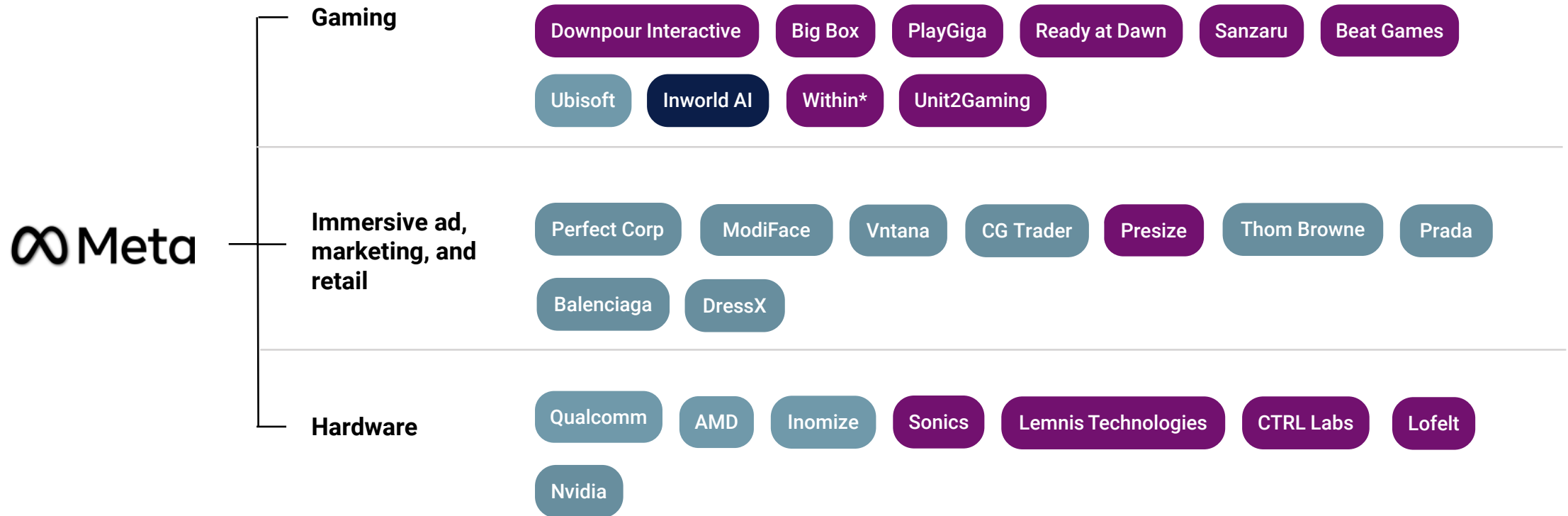
## Hardware

Meta turns to partnerships and acquisitions for AR/VR hardware as its internal hardware R&D teams struggle with challenges such as chip manufacturing and BCIs.

# Meta's metaverse strategy map

2018 – 2022 (as of 9/15/2022)

● Acquisition ● Investment ● Partnership





Theme 1: Gaming

# Meta builds a gaming empire



# Meta acquires four VR-gaming studios

## BigBox VR



**Acquired:** 6/11/2021

BigBox VR is a game studio mostly focused on battle royale games for virtual reality, including Population: One, which has been described as “the Fortnite of VR.”

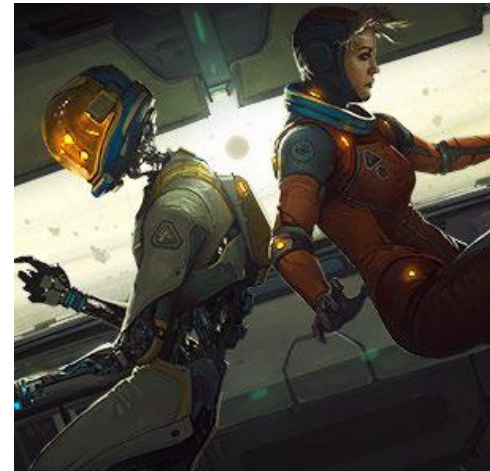
## Downpour Interactive



**Acquired:** 4/30/2021

Downpour Interactive is a VR gaming studio. Its feature game, Onward, is a Call of Duty-inspired first-person shooter (FPS) game.

## Ready at Dawn



**Acquired:** 6/22/2020

Ready At Dawn Studios is the VR startup responsible for the Echo series, in which players can solve puzzles and battle robots in simulated zero-gravity environments.

## Sanzaru



**Acquired:** 2/25/2020

Meta acquired Sanzaru shortly after the VR studio released its award-winning fantasy adventure game, Asgard’s Wrath.

# Cloud gaming acquisition powers new product

## Meta acquires cloud gaming startup PlayGiga



**Acquired:** 12/18/2019 **Amount:** \$78M

**About:** PlayGiga developed a cloud-based platform to host games for telecoms, media companies, and internet service providers (B2B2C). The acquisition occurred a month after Microsoft [released](#) its cloud gaming platform, Xbox Cloud Gaming, and Google [released](#) its cloud gaming platform, Stadia.

## Meta launches cloud gaming platform



**Product release:** 10/26/2020

**About:** Less than a year after PlayGiga's acquisition, Meta announced Cloud Games. Meta's cloud gaming platform is currently available via web browser, Android, and iOS. The tech giant is [reportedly](#) testing to see if it can host VR-powered cloud games. In July 2021, the tech giant [claimed](#) over 1.5M used its cloud gaming platform.

# Meta buys two gamified VR fitness startups

## Meta acquires Beat Games, creator of Beat Saber



**Acquired:** (11/16/2019)

**About:** Beat Saber was Meta's first disclosed pure-play VR acquisition since it purchased Oculus in 2014. Beat Saber, a VR game where players slash at blocks to the rhythm of selected songs, has sold over 4M copies, generated about \$180M in revenue in under 3 years, and was the most downloaded game on PlayStation VR in 2021.

## Meta acquires\* Within, the studio behind Supernatural



**Acquired\*:** (10/29/2021)

**About:** Supernatural transports players into immersive worlds where they can squat to duck through floating rings and slash at oncoming projectiles. Friends can compete against each other for top spots on leaderboards or take workout classes led by Supernatural's workout coaches or celebrity guests. As of August 2022, the FTC is suing to block the acquisition due to antitrust concerns.

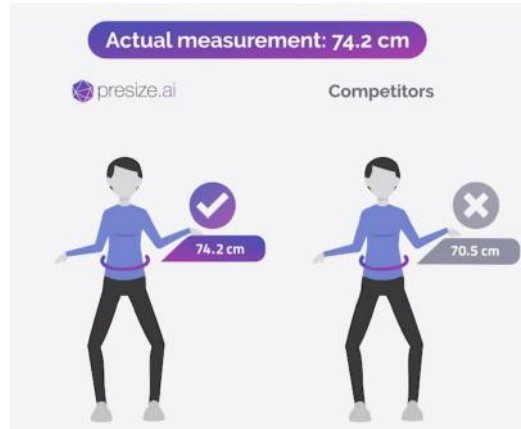




Theme 2: Advertising

# Meta explores marketing in the metaverse

# Meta enhances try-on tech for AR advertising



**Latest round:** Acquired **Amount:** N/A

**About:** In April 2022, Meta acquired **PreSize**, which makes a white-label body-scan tool that measures customers' bodies to help them buy clothes that fit.

Perfect Corp. integrates with Facebook for AR beauty try-ons

September 3, 2021 |

**PYMNTS.com**

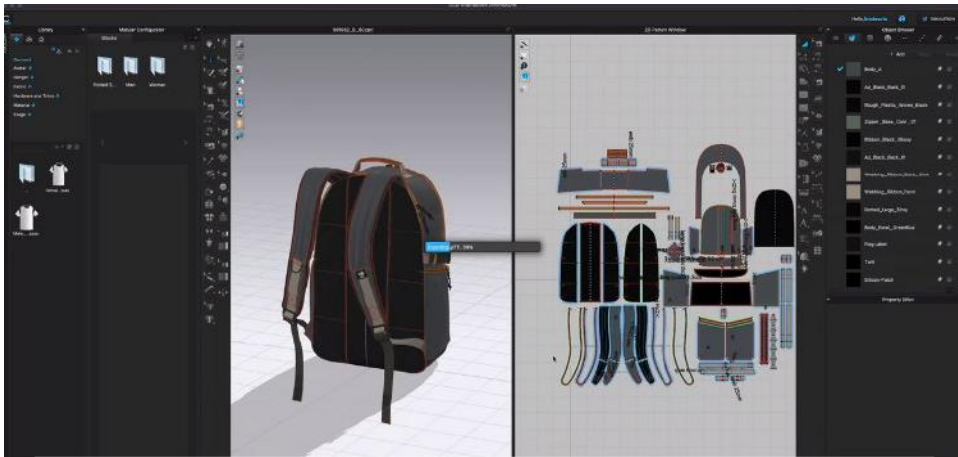
Facebook, Modiface offer breakthrough beauty tech

December 3, 2021 |

**XR TODAY**

# Meta integrates with immersive ad startups

## VNTANA



**Partnered:** 4/26/2022

**About:** VNTANA's technology optimizes existing 3D designs and scans to meet web, media, and game-engine standards. Through this partnership, brands interested in uploading 3D or AR content can use VNTANA to convert 3D files to Facebook or Instagram standards instead of taking days to meet Meta's design requirements.

## CGTrader



**Partnered:** 4/11/2022

**About:** CGTrader is a 3D model marketplace and design studio where users can quickly access pre-made 3D content or use tools to develop their own. Through the startup's partnership with Meta, CGTrader users can automatically convert 3D models into content that meets Meta platforms' standards for AR-based advertising.

# Brands tap Horizon Worlds for custom experiences

Horizon Worlds is Meta's VR-based virtual world, where users can come together to play games, build new landscapes, and even attend VR comedy shows.

Brands are building custom experiences in Horizon Worlds to engage with consumers in new fun and immersive ways.

In June 2022, BMW-owned MINI developed its MINIVERSE, a Go-Kart style racing game. Similarly, instrument manufacturer Fender uses Horizon Worlds to host its Strataverse, a guitar-shaped island where users can take on an air guitar challenge or compete in guitar trivia.



Theme 3: Hardware

# Meta finds strategic partners and acquisitions for its AR/VR hardware



# Meta partners with chipmakers to power its metaverse...

Meta has a giant new AI supercomputer to shape the metaverse (Nvidia partnership)

January 24, 2021 | **CNET**

AMD collaborates with Meta to help make the metaverse a reality

May 12, 2022 | **yahoo!news**

Meta collaborates with Israel's Inomize to develop metaverse chips

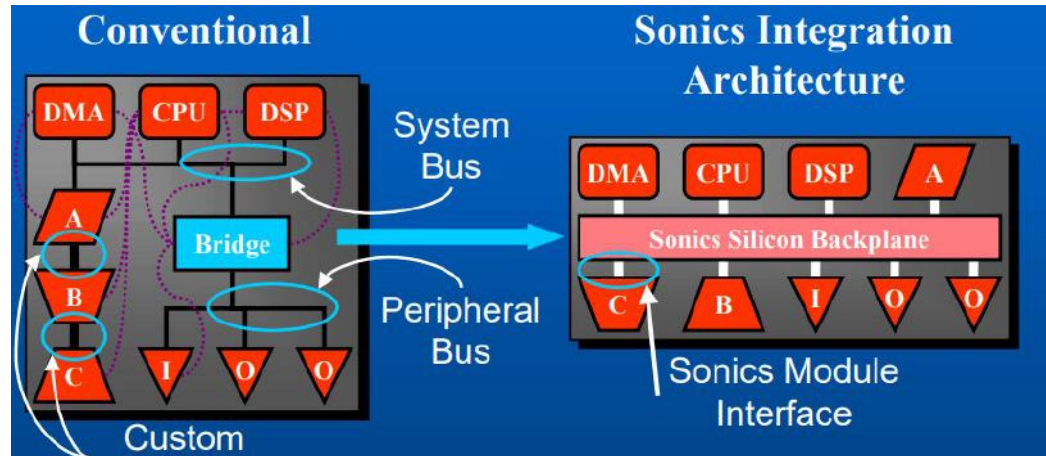
October 1, 2021 | **yahoo!news**

Meta selects Qualcomm chips for Ray-Ban smart glasses

April 11, 2022 | **BENZINGA**

# ...as it faces challenges with in-house chips

## Meta acquires chip company Sonics



**Acquired:** 3/13/2019

**About:** Meta acquired chip company Sonics about 6 months after the tech giant revealed it was building an internal chip team. When asked about the acquisition, a Meta spokesperson said, "We're rapidly developing new VR and AR products and deepening our technology expertise in silicon is an important step for our 10-year roadmap."

## Meta's silicon team faces setbacks



**Project paused:** 4/11/2022

**About:** Despite its acquisition and internal R&D efforts, Meta has reportedly put its chip project, Brasilia, on pause as its slow progress would hinder the development of Meta XR devices. While the tech giant has turned to Qualcomm for AR/VR chips, Meta will likely continue to pursue chip development as it looks to own more of its XR supply chain and cut manufacturing costs.

# Meta buys brain-computing startup for \$1B

Meta is also developing hardware to change the way people interact with AR/VR and, by extension, the metaverse.

In March 2019, Meta published research on how a head-mounted brain computer interface (BCI) could enable people to interact with computers through their thoughts. It then acquired CTRL-Labs, a startup using a wristband to translate muscular and electrical signals from the brain into computer instructions, for \$1B in September 2019.

Meta has since discontinued its internal head-mounted BCI research to focus solely on CTRL-Labs' wristband. In 2021, the tech giant showed off how an AI-powered wristband can interpret gestures and movements as commands in AR/VR environments.



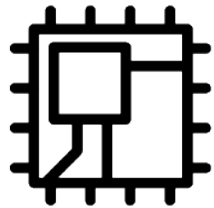
# Meta plans point to key trends for 2021

	Gaming	Immersive marketing	Metaverse hardware
<b>Takeaways</b>	Meta’s gaming strategy has largely depended on inorganic acquisition – especially within VR – as its Oculus platform enables access to performance metrics like game downloads, retention, and more.	Meta is leveraging existing social media platforms like Facebook and Instagram to help brands provide immersive advertising experiences (e.g. AR try-on or 3D products).	Meta’s challenges in its internal hardware teams have forced the tech giant to seek out strategic partners and acquisitions.
<b>Implications</b>	In the short-term, Meta may pull back on acquiring VR-based entertainment due to FTC woes. However, in the longer-term, <b>Meta will continue to aggressively acquire content in order to bring consumers into its VR ecosystem.</b>	As Meta grows Horizon Worlds’ users and capabilities, <b>anticipate the tech giant to develop custom marketing experiences for brands to use in virtual worlds.</b>	<b>In the short term, Meta will continue to partner and acquire to address immediate hardware needs. In the long term, the company will continue to attempt to bring hardware in-house,</b> especially as the cost of supply chain disruption, chip shortages, and inflation reinforce its desire to own more of its value chain.



# Qualcomm

# Where Qualcomm is focusing



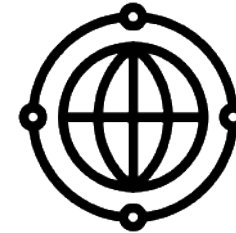
## Chips

Qualcomm looks to become the go-to chip provider for AR/VR devices.



## XR dev platforms

Qualcomm's acquisitions set the foundation for its XR developer platform.



## 5G

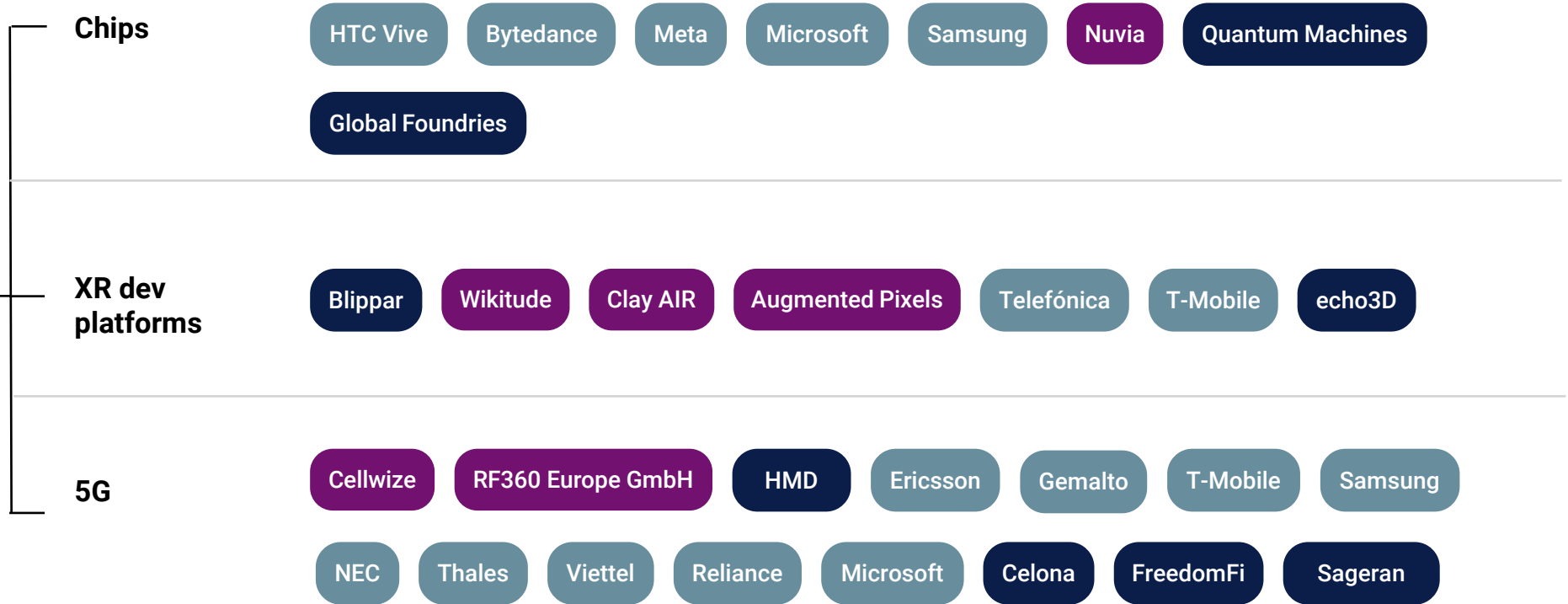
Qualcomm's 5G strategy will help the tech giant develop the infrastructure necessary to host the metaverse.

# Qualcomm's Metaverse strategy map

2018 – 2022 (as of 9/15/2022)

● Acquisition ● Investment ● Partnership

Qualcomm





Theme 1: AR/VR chips

# Qualcomm dominates the AR/VR chips market




# 90%


**During Qualcomm's investor day in November 2021, executives claimed to have won 90% of chipset designs for XR devices.**

# Qualcomm chips have been in high demand for AR/VR applications


Qualcomm and Microsoft to launch custom chips for gen-x glasses

January 4, 2022 | Seeking Alpha 

TikTok parent ByteDance partners with Qualcomm on XR hardware and software

March 4, 2022 | 

HTC VIVE and Qualcomm Technologies work together to help accelerate XR and 5G experiences

June 10, 2020 |  VIVE

Meta selects Qualcomm chips for Ray-Ban smart glasses

April 11, 2022 | 

# Qualcomm acquires a semiconductor unicorn

In January 2021, Qualcomm agreed to acquire chip startup NUVIA for \$1.4B.

While the tech giant claimed the acquisition was mostly a way to remain competitive in 5G, Qualcomm also explained NUVIA's chips could be used across its broader technology portfolio, including XR applications.

Qualcomm has also invested in semiconductor startups like Quantum Machines and Global Foundries. While these companies are not explicitly targeting the AR/VR market, remaining on the cutting edge of silicon technology will solidify Qualcomm's place as an infrastructure player in the metaverse.

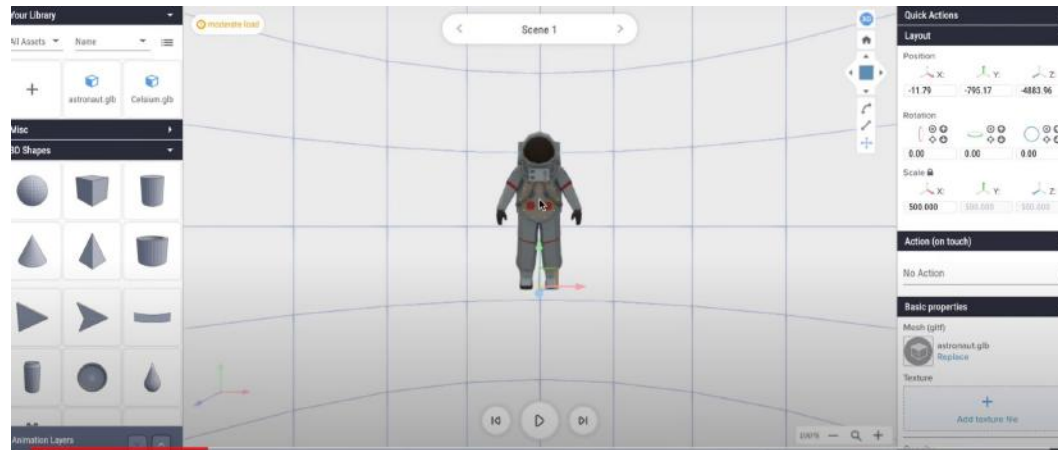


**Theme 2: XR development platform**

# **Qualcomm uses inorganic growth to build an XR development platform**

# Qualcomm invests in XR development platforms

## Blippar



**Latest Round:** Undisclosed (3/21/2021)    **Amount:** \$5M

**About:** Blippar's AR development platform included tools for computer vision and AR mapping. In 2018, the company sold its assets to Candy Ventures due to financial trouble, but its products remained available with a new B2B model. In 2020, Blippar reported a 200% revenue increase, and it has since received funding amid the renewed AR/VR hype.

## echo3D



**Latest Round:** Seed (6/15/2022)    **Amount:** \$5.5M

**About:** Brooklyn-based echo3D is developing a content management platform for AR/VR developer. The platform, which includes API integrations with mobile devices, browsers, and game engines, acts as a space for developers to store 3D content and automatically share it across applications.

# Qualcomm also buys XR development startups...

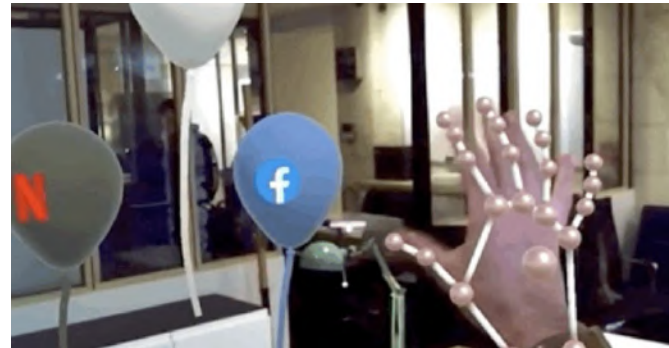
## Wikitude



Acquired: 9/10/2021

About: Qualcomm acquired Austria-based Wikitude, a startup building software development kits (SDKs) to speed up augmented reality app design.

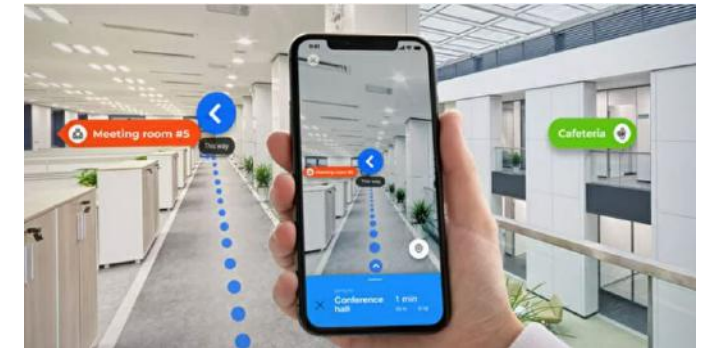
## Clay AIR



Acquired: 11/9/2021

About: Paris-based Clay Air creates developer kits for hand-tracking and gesture recognition in AR environments.

## Augmented Pixels



Acquired: 1/18/2022

About: Augmented Pixels 3D mapping technology included an AR Navigation SDK to help developers integrate location data into augmented reality apps.



# ...as it builds its own XR developer platform

In November 2021, Qualcomm launched Snapdragon Spaces, an XR platform.

Snapdragon Spaces is currently focused on building AR tools. Users can create 3D applications for AR glasses and headsets or add AR features to existing smartphone apps.

Qualcomm's XR platform acquisitions have clearly influenced Snapdragon Spaces. The platform was launched about 2 months after the company acquired Wikitude. Its features include gesture tracking and hand recognition SDKs (Clay Air), as well as spatial mapping and anchoring (Augmented Pixels).



Theme 3: 5G

# Qualcomm builds 5G infrastructure to support the metaverse



# Qualcomm considers 5G key to the metaverse

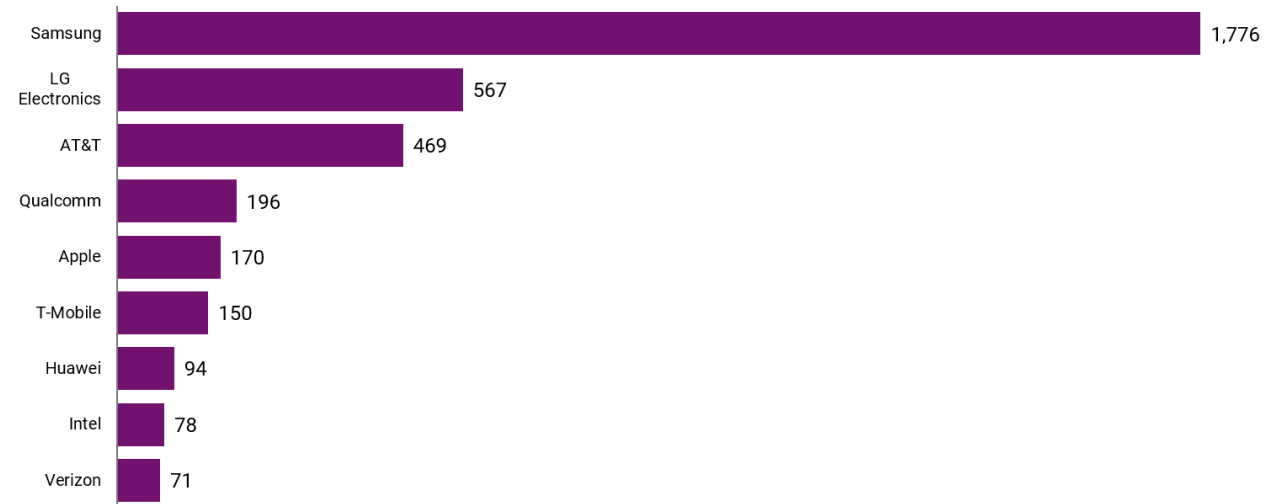
5G is crucial to making the metaverse work, [according](#) to Hemanth Sampath, Sr. Director of Engineering at Qualcomm:

“If you want to have a ubiquitous metaverse, or augmented reality or virtual reality working anywhere, then 5G enables a direct connection between AR/VR glasses all the way to the cloud edge server.”

Sampath goes on to explain that the low latency of 5G will also help to power gaming and XR experiences.

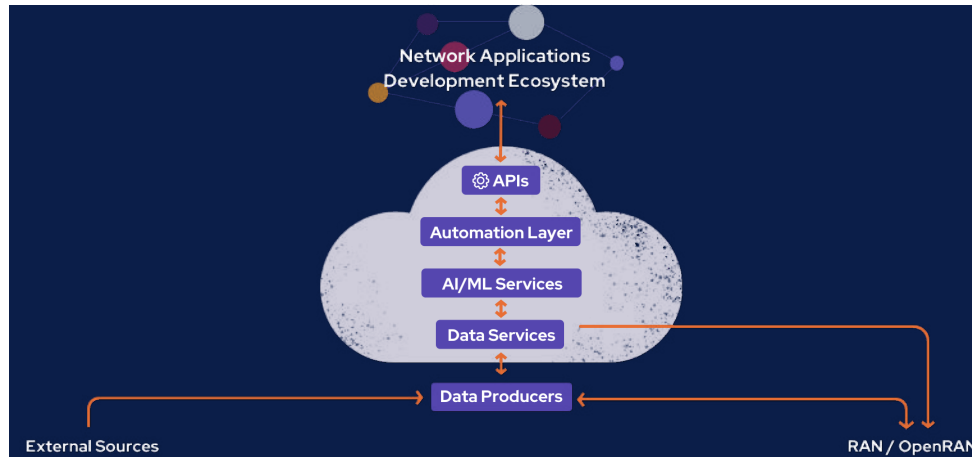
## Qualcomm is among the top patent owners for 5G technology

Companies with the most 5G patents (1/1/2018 to 8/29/2022\*)



# Qualcomm accelerates 5G via acquisitions

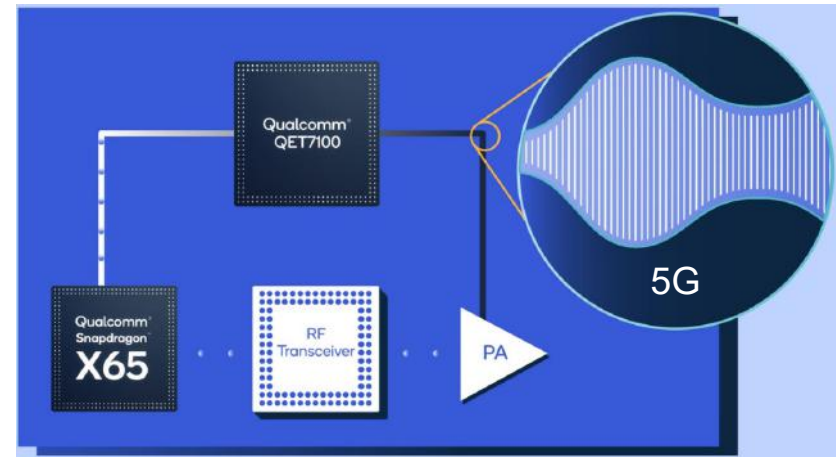
## Cellwize



**Acquired:** 6/13/2022 **Amount:** \$350M

**About:** Israel-based Cellwize developed an AI-powered network automation platform to deploy 5G solutions at scale.

## RF360



**Acquired:** 9/16/2019 **Amount:** \$3.1B

**About:** In 2017, RF360 began as a joint venture between Qualcomm and electronics company TDK to develop the next generation of radio frequency filters. The filters ended up being optimal for the development of 5G hardware, and Qualcomm acquired the remaining shares of RF360 from electronics company TDK to offer a full-suite offering for 5G hardware components.

# Qualcomm also forges strategic 5G partnerships

Qualcomm, Microsoft team on private 5G play

February 28, 2022 |



T-Mobile, Qualcomm partner to build 5G AR experiences for smart glasses

August 28, 2022 |



Reliance to partner Qualcomm to develop 5G solutions

August 29, 2022 |



Viettel and Qualcomm collaborate on 5G infrastructure development

May 16, 2022 |



# Qualcomm plans point to key trends for 2022

	Chips for metaverse hardware	XR development platforms	5G infrastructure
<b>Takeaways</b>	Qualcomm has positioned itself as the go-to provider for chips in AR/VR devices. As a result, it will likely win new business as enterprises and consumer alike adopt immersive tech like AR/VR hardware.	Qualcomm is strategically expanding its AR/VR business. Customers that tap the tech giant for hardware are also potential customers for its XR software development tools.	Qualcomm is rapidly building, investing, and partnering in 5G to expand access to the low-latency networks necessary to power AR/VR and gaming experiences.
<b>Implications</b>	To remain competitive, especially as big tech companies like Meta and Apple bring chip manufacturing in-house, <b>Qualcomm will continue to invest heavily in R&amp;D and acquisitions to ensure it remains on the cutting edge of silicon for XR.</b>	Qualcomm foraying into software development may be challenging for a company whose expertise lies in semiconductors. Also, the XR dev market is early stage. <b>As a result, expect the tech giant to turn to acquisitions as it looks offer more products and build talent to attract developers to its ecosystem.</b>	The 5G ecosystem involves an array of hardware and telecommunication companies. To establish itself as a relevant player in 5G, <b>Qualcomm will likely continue to expand its 5G partners and invest in semiconductor companies developing silicon with the computational power to support 5G.</b>



# Microsoft

# Where Microsoft is focusing



## Game studios

Microsoft is aggressively acquiring gaming studios to bring popular games in-house and, in many cases, offer them exclusively on Xbox. The most prominent MSFT gaming acquisition includes its pending \$68.7B purchase of Activision Blizzard.



## Gaming infrastructure

Microsoft is investing in game developer platforms to both assist in the development and management of its internal games and capitalize on a growing demand for low-code game development tools.



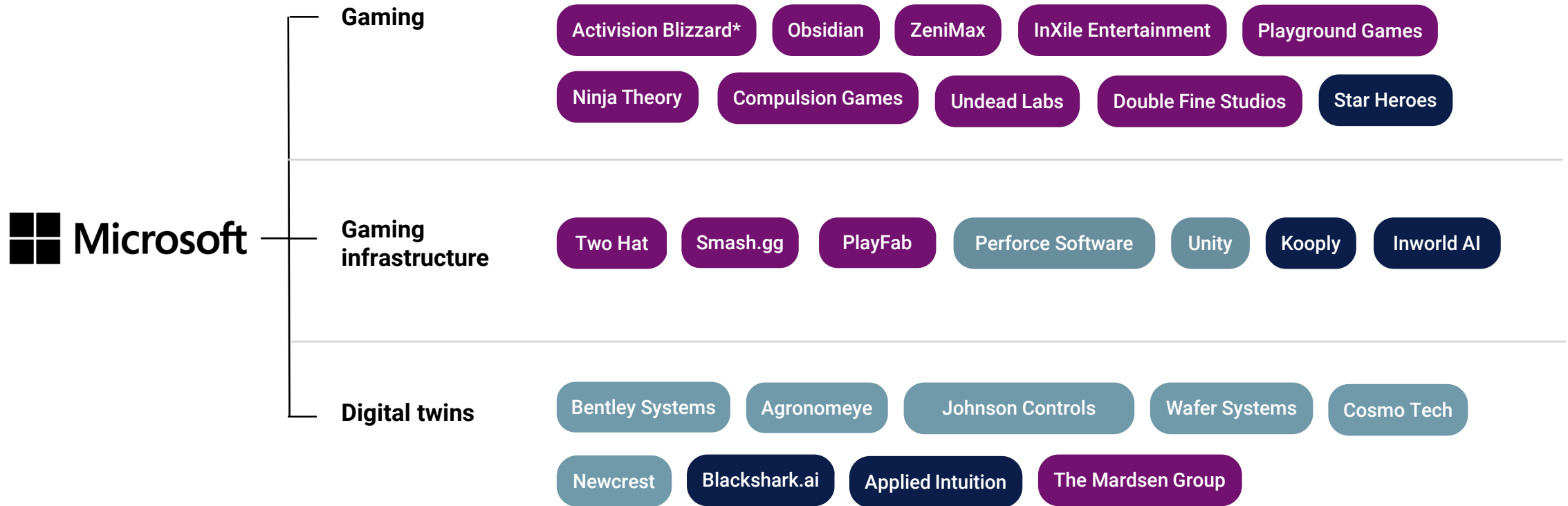
## Digital twins

In order to build worthwhile digital twins, Microsoft will need access to vast amounts of data. The tech giant is partnering with startups and corporates across industries to experiment with simulation solutions in agriculture, manufacturing, and more.

# Microsoft's Metaverse strategy map

2018 – 2022 (as of 9/15/2022)

● Acquisition    ● Investment    ● Partnership



Game studios

# Microsoft goes on a game studio shopping spree



# MSFT buys 4 gaming studios in a single day...



**Acquired:** 6/11/2018

Undead Labs developed popular zombie apocalypse series, State of Decay, for Microsoft game platforms Xbox and Windows PC.



**Acquired:** 6/11/2018

Canada-based Compulsion Games produced a series of experiences from puzzle games to horror survival. Since its acquisition, the team has doubled its staff and released popular dystopian survival game We Happy Few.



**Acquired:** 6/11/2018

UK-based Playground Games is the studio behind the Forza Horizon racing game series. Its games are exclusively available on Microsoft platforms.



**Acquired:** 6/11/2018

After its Microsoft acquisition, UK-based Ninja Theory announced its plans to develop psychological thriller games and smaller games to help people manage negative emotions.

# ...and spends billions on popular gaming companies

## Activision Blizzard



**Acquired:** 1/18/2022 (pending)      **Amount:** \$68.7B

**About:** When Microsoft's acquisition of Activision Blizzard closes, it will be the tech giant's largest acquisition to date. Activision Blizzard is the studio behind popular games such as World of Warcraft, Call of Duty, and Overwatch.

## Zenimax Media



**Acquired:** 9/21/2020      **Amount:** \$7.5B

**About:** Zenimax Media develops gaming content for console, PC, and mobile. The studio is known for its adventure game series The Elder Scrolls, which included breakout title Skyrim.

# These acquisitions fuel Microsoft's internal studio

In 2019, Microsoft rebranded its gaming studio as Xbox Gaming Studios to reflect the tech giant's new gaming strategy: developing games exclusive to Microsoft-supported platforms.

After acquiring Zenimax, Xbox Game Studios now oversees over 20 studios. While some of these studios are developing games for non-MST platforms, the tech giant claims this is only due to prior contracts.

Microsoft's purchase of Activision Blizzard is an exception to this rule. Activision Blizzard will exist under the Microsoft Gaming umbrella but independent from Xbox Game Studios, likely due to the gaming companies' massive size and popularity across consoles.

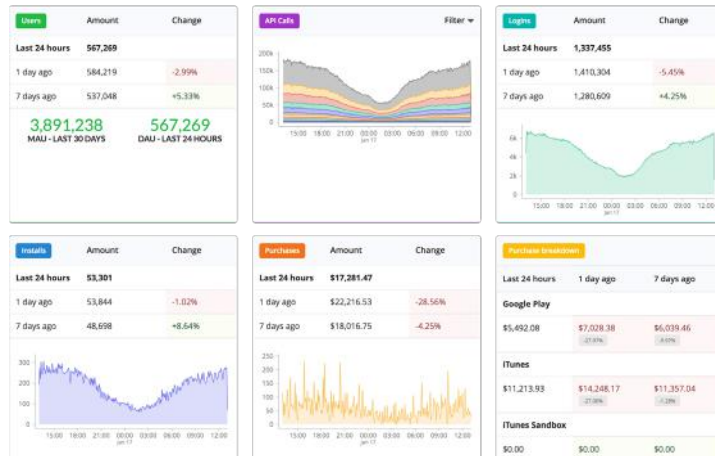


Gaming infrastructure

# Microsoft invests resources in tools to develop and deploy games

# Microsoft buys tools to power and moderate games

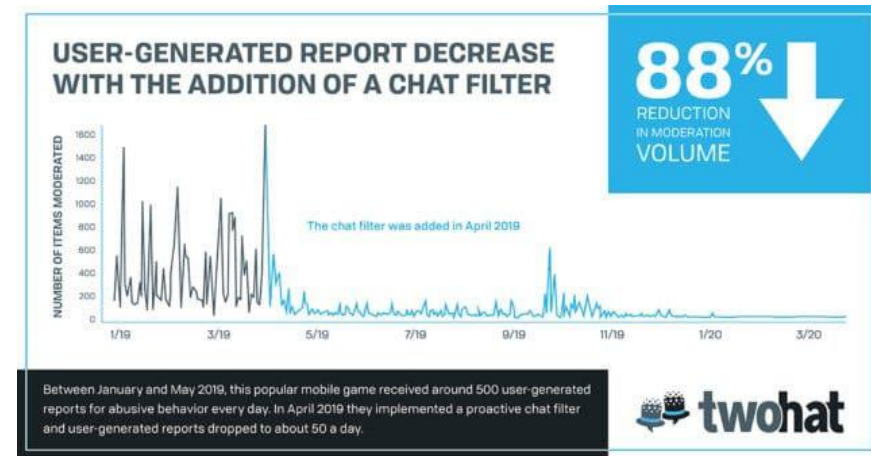
## PlayFab



**Acquired:** 1/29/2018

**About:** PlayFab owns a suite of tools to help developers build gaming infrastructures. Products include matchmaking for multiplayer games, payments processing and management, and data analytics on game performance, user engagement, and more.

## Two Hat



**Acquired:** 10/29/2021

**About:** Two Hat develops AI-powered content moderation tools. Two Hat can detect harmful language-based content, such as hate speech or abuse, in 20 languages. It also has visual moderation tools, including flagging inappropriate content in video, livestream, and images.



# Microsoft is also building game dev platforms...

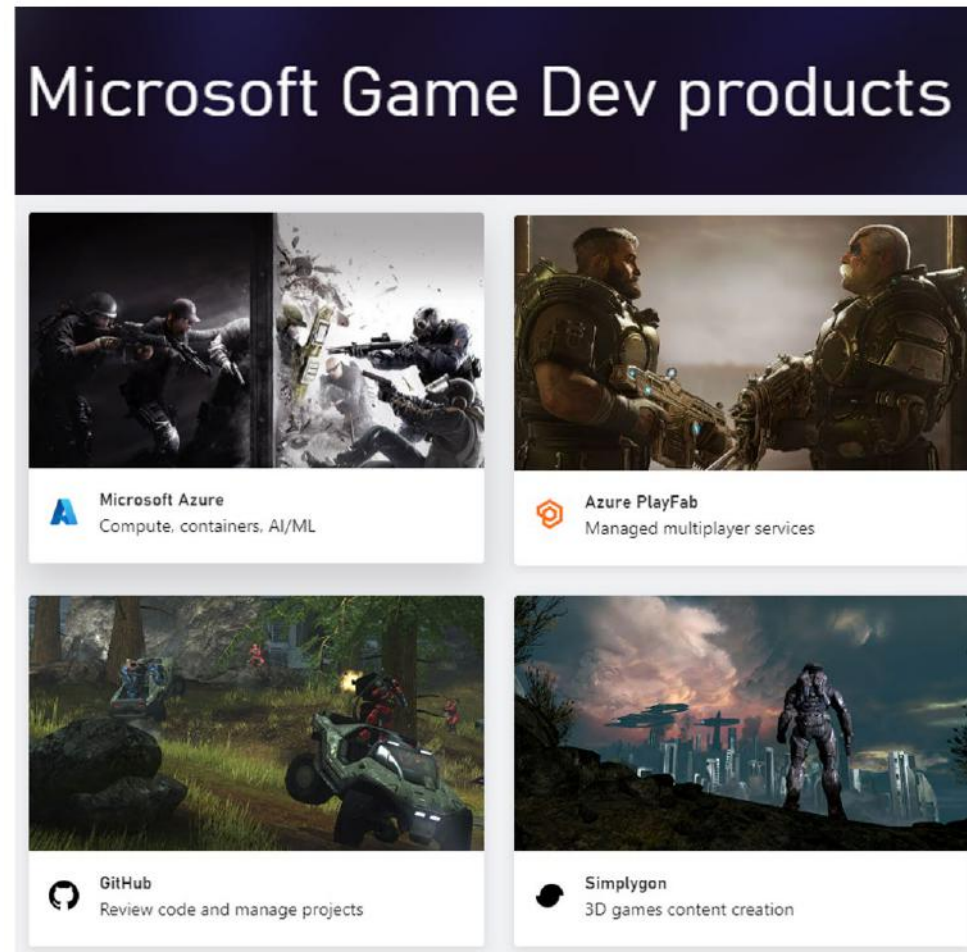
Microsoft now owns a out a suite of internal game development platforms.

This suite includes MSFT acquisitions, such as previously mentioned PlayFab and 3D design engine Simplygon.

It also includes internally developed products, such Azure Cloud for server hosting and software development platform Visual Studios.

Azure has been a particularly powerful tool for Microsoft gaming. In August 2022, game engine company Unity selected Microsoft to be its cloud provider, and the two companies are developing improved integrations to place Unity designs in Microsoft gaming platforms.

Similarly, Sega not only uses Microsoft Azure, but the gaming company is also working with MSFT on new development environments.



# ...as it invests in game dev startups

## Inworld AI



**Latest Round:** Series A (7/20/2022)      **Amount:** \$50M

**About:** Non-player characters (NPCs) typically rely on static decision trees to communicate with players. Inworld AI is developing conversational AI to bring intelligence to “native inhabitants of the metaverse,” enabling game developers to create more natural, immersive characters without having to map out intricate decision trees for dialogue.

## Koopy



**Latest Round:** Seed (3/29/2022)      **Amount** \$18M

**About:** Koopy has not officially launched its product yet, but the stealth startup hints it is building a mobile game platform for both experienced and non-technical developers. CEO Ido Yablonka explains, “We are allowing for very significant no-code developing ... and for users who wish to extend beyond that, we will allow for script writing.”

Digital twins

# Microsoft builds a digital twin platform



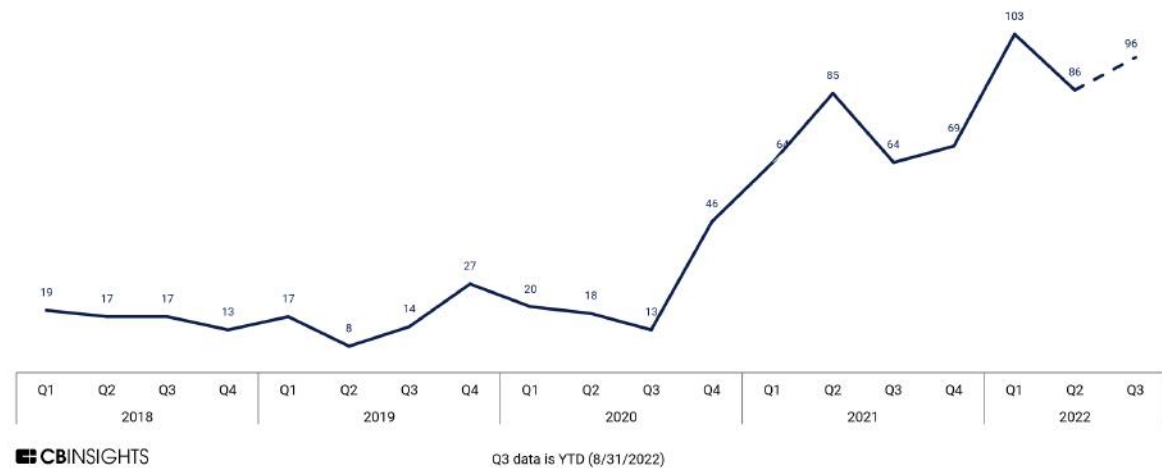
# Digital twins are key to MSFT's metaverse strategy

Earnings mentions of digital twins have increased amid metaverse hype, and Microsoft is among the companies discussing the technology most.

During Microsoft's Q4 2021 earnings, CEO Satya Nadella said, "As the virtual and physical worlds converge, the metaverse comprised of digital twins simulated environments and mixed reality is emerging as a first-class platform. We are leading and seeing traction across public and private sector."

## Executive mentions of digital twins spike amid metaverse hype

Earnings call mentions of "digital twins" (1/1/2017 to 8/31/2022\*)




# Microsoft's digital twin platform attracts strategic partners and clients

**Cosmo tech collaborates with Microsoft to drive strategic sustainability outcomes with simulation digital twins**

July 13, 2022 |  **businesswire**  
A BERKSHIRE HATHAWAY COMPANY


**Newcrest and Microsoft partner on digital twin and sustainability modelling projects**

March 21, 2022 |  **INTERNATIONAL MINING**

**Bentley Systems expands alliance with Microsoft to accelerate infrastructure digital twin innovations**

October 19, 2020 |  **Microsoft News Center**

**Microsoft and CSIRO partner with Agronomeye for farm digital twins**

December 13, 2021 |  **Technology Record**  
A Division of Informa PLC. All rights reserved. Informa PLC is an equal opportunity employer.

# Microsoft invests in upcoming digital twin startups

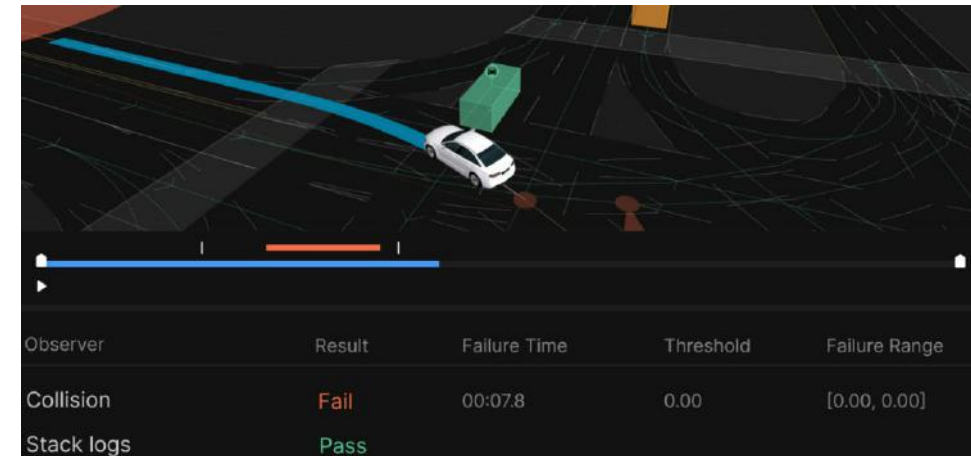
## Blackshark.ai



**Latest Round:** Series A (11/10/2021)      **Amount:** \$20M

**About:** Blackshark.ai is using machine learning to analyze geospatial imagery and create hyper realistic simulations, or digital twins, of earth. These digital twins are used to generate synthetic training data for AI, detail movie backgrounds, or help insurers plan for natural disasters.

## Applied Intuition



**Latest Round:** Series D (11/11/2021)      **Amount** \$175M

**About:** Applied Intuition is developing simulation software to train autonomous vehicles to recognize edge cases, from a pedestrian running in front of a car to a vehicle being boxed in by trucks.

# Microsoft plans point to key trends for 2022

	Gaming	Gaming infrastructure	Digital twins
Takeaways	Microsoft is building an arsenal of gaming content to offer exclusively on Xbox.	Microsoft is investing in gaming infrastructure tools for faster game development to capture a share of the growing gaming market.	Digital twin platforms are still in early stages, and Microsoft is investing, partnering, and building to capture an emerging (and likely lucrative) market.
Implications	By building up its gaming content, <b>Microsoft could expand on consumer-facing experiences and virtual worlds to add new revenue streams (e.g., advertising) and compete with Meta.</b>	Going forward, <b>Microsoft's gaming infrastructure will attract developers to its gaming ecosystem, allowing the tech giant to fuel its content for Xbox Gaming Studios and future virtual worlds it builds.</b>	In the long term, <b>a digital twin platform would be a major competitive differentiator for Azure Cloud, and give Microsoft unprecedented data across industries (e.g., agriculture, manufacturing, and more).</b>