

\$19.99 USD



Executive Insights into the Why & How of
The Metaverse For Business



Metaverse Business
Guidebook



Featured Analysts



Kieron Allen

Metaverse & Web3
Acceleration Economy Analyst



Toni Witt

Founder, The Utopian
Acceleration Economy Analyst



Bill Doerrfeld

Tech Journalist
Acceleration Economy Analyst



Scott Vaughan

3X Chief Marketing Officer
Acceleration Economy Analyst



Wayne Sadin

CIO/CTO/CDO | CEO/Board Advisor
Independent Director



Kenny Mullican

CIO at Paragon Films
SMB CIO

Metaverse Business Guidebook

An introduction by Acceleration Economy
Co-Founder, **John Siefert**

The metaverse hit the scene hard in 2021 creating a craze of investments, acquisitions and hype, with businesses of all sizes trying to imagine how models can be recreated around these platforms and what is so “different” it. Today, business in multiple industries, like retail, manufacturing, healthcare and more are realizing there are unique applications of Augmented/Virtual and Mixed Reality metaverse-like approaches they can harness to change the way they get things done. However, this is just the top of the first inning in truly understanding the why & how of metaverse for business, which is exactly what the Acceleration Economy Analyst team explores in this guidebook.

Acceleration Economy Analyst Kieron Allen, who hosts the Metaverse channel in the network, explores just what the metaverse is and how it offers a different for the workplace, from employee engagement and training through to the impact on digital and cloud-based infrastructures. Kieron goes on to define what he refers to as “Reality 2.0” and the practical opportunities and applications offered via mixed and augmented reality.

CIO/CTO/CDO and Acceleration Economy Analyst Wayne Sadin picks up on the theme of augmented reality as he consider the impact of this technology on healthcare, manufacturing and the role of sensors in a future state of business.

Acceleration Economy Analyst and metaverse builder Toni Witt breaks down the “must have” tools to creating an immersive internet experience. Toni explains the why and how of these solutions within a modern workplace to drive everything from in-depth next level solutions to fun applications that can change businesses processes to be employee and customer centric.

Bill Doerrfeld, Acceleration Economy Analyst and Editor-in-Chief of Nordic APIs, explains the role APIs lay today and will play into the future iterations of the metaverse, followed by CIO and Acceleration Economy Analyst Kenny Mullican who describes how mid-market companies can get started today with metaverse solutions that drive immersive shopping experiences and gamification of learning tools.

Scott Vaughan, 3X CMO and Acceleration Economy Analyst breaks down what the metaverse means for go-to-market strategy and execution, and the “must-haves” from a marketing perspective to immerse the user in your brand.

Our goal is that this analysis puts context around the decisions you are making/need to make for your business, and our premise is that we always deliver insights on the “why & how” of your process, so that you can decide the “what & who” that align with the goals of your unique needs.

CONTENTS

The Metaverse Explained: What is it and Why Does it Matter?

Kieron Allen
[page 4](#)

How Will the Metaverse Impact the Global Economy?

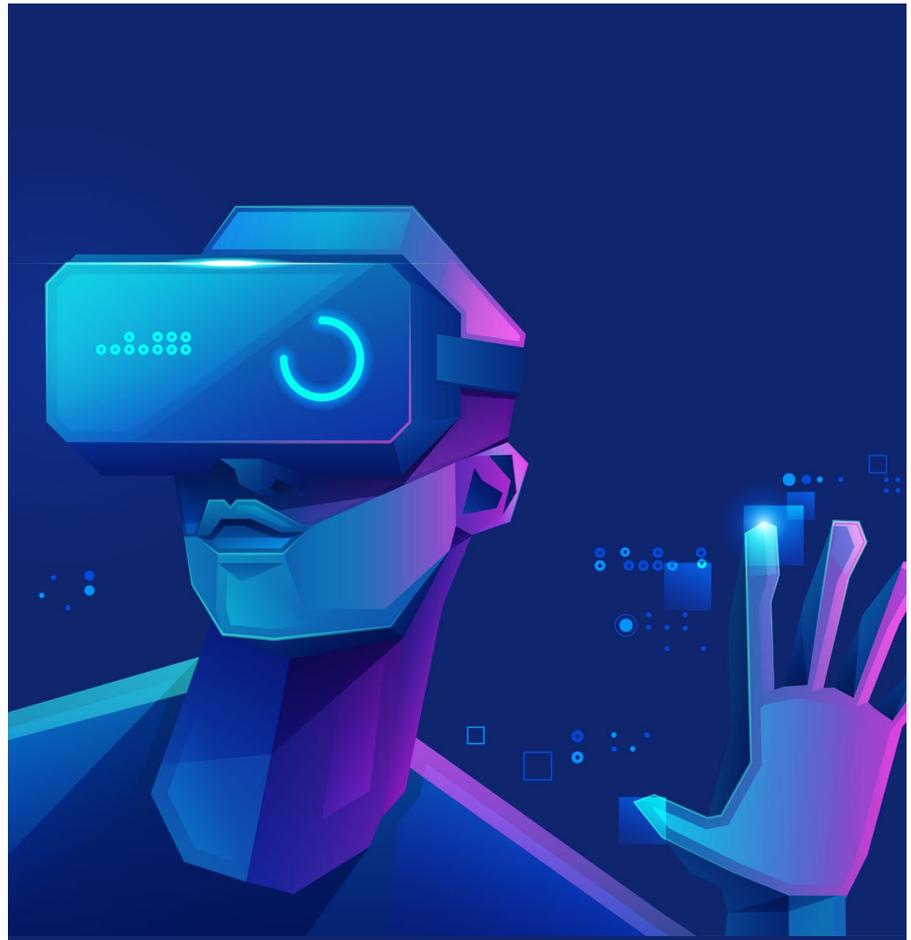
Kieron Allen
[page 8](#)

Reality 2.0: How Mixed and Augmented Reality Support Life Enchantment Experiences

Kieron Allen
[page 11](#)

4 Ways Augmented Reality Can Help Your Business

Wayne Sadin
[page 14](#)



9 Must-Have Tools for Building the Immersive Internet

Toni Witt
[page 18](#)

APIs Will Unlock the Power of the Metaverse

Bill Doerrfeld
[page 22](#)

How SMBs Can Get Started with Metaverse Technologies Today

Kenny Mullican
[page 26](#)

How Marketing Can Build Opportunities in the Metaverse

Scott Vaughan
[page 29](#)



The Metaverse Explained: What is it and Why Does it Matter?



By Kieron Allen

Metaverse. Unless you've been on a digital detox since mid-2021, you will have come across the term. However, if you're still struggling to get your head around what the term means, don't worry. You're not alone.

Although the word Metaverse has been in circulation for decades—it first surfaced in an obscure, 1992 sci-fi novel—it has reached the public conscious, in no small part

because of Facebook's bold name change. In October 2021, Facebook became Meta. And make no mistake, the change of name wholly represents a change of direction for the company that will now be focussing its efforts on positioning itself as the leading force in the Metaverse.

So, what exactly is the Metaverse, and why is a corporate powerhouse like Meta betting on it. In this article, you'll learn the answers to both of these questions as we introduce you to the next phase in digital innovation.

What is the Metaverse?

Essentially, the Metaverse is a replica of the physical world in virtual form. It's a digital space that bridges the two and enables you to virtually carry out the same real-life activities and experiences. The easiest way to perceive it is as the next wave of the internet.

The first wave of the internet laid the foundations, linking various websites and providing search functionality. The second wave made it possible for third-party apps, like Facebook, to function on these foundations. The third wave will enable wide-spread, 3D, immersive online experiences. The Metaverse is a decentralized space that blurs the lines between reality and virtual reality.

Why now?

There are several reasons that metaverse projects have taken off at this point. Of course, Facebook's headstart has certainly kicked other major organizations into action, but why now? Because of a perfect storm.

As we mentioned above, the term, Metaverse has been around for a long time. Today, the concept can become a reality because:

- Internet access is quicker and easier than ever before
- IoT devices are prevalent
- By 2026, an estimated 7.5 billion people will own a smartphone
- Blockchain technology has matured to enable seamless decentralized payments
- Virtual reality technology is capable of handling many use cases
- The Covid-19 pandemic has normalized a Work From Anywhere (WFA) culture

There may be more, but the primary factors we've cited above have provided the

perfect foundation for Metaverse technologies.

Why does the Metaverse matter?

When new ideas gain popularity, it's often said that they will change everything. This isn't far from the truth when it comes to the Metaverse. The Metaverse has the potential to touch on every area of our lives. It will be everywhere we currently see the internet, and with the growth of IoT technology, this list could grow exponentially. The following areas are some of the most significant that the Metaverse will affect.

Work

Working days will be transformed. Imagine hosting a virtual conference on Mars? It will no longer matter where you are, as you will still benefit from the same experiences as your co-workers. And this new space opens the doors for new forms of collaboration too, with no limit to the number of fellow contributors.

Businesses will provide more meaningful experiences to their employees regardless of where they are located. These connections could lead to closer relationships with staff, despite greater distances.

Entertainment

Many large corporations are investing in the gaming industry. Why? Because video game creators are already one step ahead and in possession of the virtual-world-building tools that will define the creation of the Metaverse. Games like Second Life and Fortnite already enable users to exist as avatars and make real-life purchases in a virtual space.

Moving forward, video games will become increasingly immersive. And it won't stop there. You will be able to virtually visit an art exhibition, see a play, sit in a movie theatre, or even participate in a show yourself.

Tourism

You'll no longer have to visit a country physically to experience it. As the Metaverse evolves, users will be able to visit places virtually and experience the sites, sounds, and perhaps one day the tastes and smells of places without leaving their homes.

Culture

With users appearing as avatars, any existing prejudices regarding race, sex, age,

or else disappear. This devolution of bias could mean a considerable amount when it comes to leveling the playing field in opportunities for work, education, and social connections.

Retail

Some companies have already started selling products in the Metaverse. And this is a trend that will undoubtedly define the beginning of this period. Recently, Samsung set up a pop-up shop in Decentralland, a vast metaverse space. At the same time, Nike has purchased a virtual shoe company.

Wrap up

The Metaverse is fascinating, and at times, confusing. However, as it grows and develops, you can rely on mymetaverseminute.com to guide you through the fog.

Forget the fluff, stick with us, and together, we'll discover the benefits, innovations, and even potential pitfalls that this world-changing technology has in store for us all.



How Will the Metaverse Impact the Global Economy?



By Kieron Allen

Today, the Metaverse economy is under construction. Major organizations are ramping up their efforts to get a foothold in the space, and the virtual land grab has begun.

However, the internal economy that the Metaverse will support is far from virtual reality. These innovations have far-reaching and profound implications in the real-world economy too. The Metaverse will impact many aspects of existing

economic influences from employment opportunities, specialized industries, infrastructure, and more.

This article explains where to expect the most considerable impact to help you understand where this might provide an opportunity.

Distributed Workforce

The Covid-19 pandemic did a lot to shift attitudes to remote working. Many large organizations are moving toward a structure that actively supports WFA culture. Now, this seismic shift in attitudes to work location is presenting huge opportunities for employees across the globe.

Skilled workers can apply for positions without having to leave their home country. This means workers generate funds and direct them back into these economies. And, as the Metaverse evolves, these opportunities are set to increase.

The Metaverse will enable the capabilities of remote work platforms to grow exponentially. Users will be able to access complete office suites, interact with colleagues, and much more, regardless of location. This advancement will expand the employment options for workers in every community and jurisdiction, funneling cash into economies that may not have received it before.

Training Opportunities

Along with multiple WFA options, the Metaverse will open up vast opportunities for people to increase their skills. Why? Because education and training facilities in the Metaverse will be highly advanced and more immersive.

Imagine a virtual training college complete with professors, classrooms, colleagues—even a dining hall. And this is just one example of the possibilities. In the Metaverse, not only do users from anywhere in the world gain access to skill-advancing programs, but businesses have the opportunity to send their staff on virtual training programs.

Altogether, these advancements could see more trained staff getting paid higher wages. And in many cases, higher wages mean higher taxes, and more opportunities for national economic growth.

Digital Infrastructure Expansion

One area in particular that will benefit from the Metaverse is digital infrastructure. Massive digital infrastructure projects are required to keep the Metaverse eco-system afloat. In fact, you could argue that far from requiring digital infrastructure, the Metaverse is digital infrastructure.

However you look at it, one thing is certain, the Metaverse will significantly bolster digital infrastructure industries. From a data perspective, expect massive demand for large-scale data centers to hold the sheer volume of data created.

Chip manufacturers will have to meet the massive demand, as will developers of other computer and device parts. Each node in the Metaverse needs digital infrastructure support, and with a potential for a 24/7 alternate virtual world that users can jump in and out of, infrastructure will have to meet these needs. As well as being the most significant digital infrastructure project of all time, it could turn into one of the largest infrastructure projects full stop.

Overall Economic Growth

Beyond everything else, the Metaverse will support overall economic growth. With all the acquisitions, buzz-words, and hype, it's easy to forget that fundamentally, the Metaverse is a reflection of the real world. It will support the people, places, and experiences that constitute society, a separate virtual economy with virtual jobs that create real value.

The sheer number of opportunities for income generation in the Metaverse is difficult to comprehend, and the global economy is about to grow exponentially. And the best part is, in a virtual world, there are no limits.



Reality 2.0: How Mixed and Augmented Reality Support Life Enchantment Experiences



By Kieron Allen

In many discussions about the Metaverse, the focus is on how technology can transport us to a place outside of real life. The narrative is often about immersion and removal, particularly when it comes to VR, and less about combined experiences. Of course, augmented reality (AR) and mixed reality (MR) provide a segway between full immersion and a combined approach.

However, in many cases, the focus is on how AR and MR technology can benefit

users practically. For example, much publicity has been around how AR and MR can support educators, medical professionals, and manufacturers. Yet, AR and MR have taken a back seat for entertainment purposes.

This article will focus on how Metaverse technologies can contribute to life enhancement. Specifically, we'll look at how using AR and MR can enable companies to provide these enhanced experiences. Ultimately, the aim is to give users more than what is possible.

Life Enchantment: When Fantasy and Reality Combine

We coined a new phrase or a new use case for an existing idea, life enchantment, to describe this approach. As a play on life enhancement, life enchantment describes the way organizations can use AR and MR technologies to interweave virtual experiences impossible in the physical world into real-life situations.

Importantly, life enchantment is less about practicality and more about pleasures. It's about how Metaverse technologies can support higher engagement and enjoyment in a real-world setting.

Life Enchantment Enhances Music Festivals

One of the most recent and high-profile examples of life enchantment occurred at the 2022 SXSW music festival. During a performance by the band Miro Shot Collective, audience members used head-mounted devices to experience enhanced versions of the live show.

Show-goers were treated to a visual spectacle that included enhanced visuals and warped perspectives. Ristband, an AR and VR live events organization, curated the event.

Life Enchantment Builds on Metaverse Events

In another example, the creators of Giudizio Universale used projection mapping and other AR techniques to transport attendees to the Sistine Chapel. The performance enables viewers to experience live visual, special effects whilst on stage, live performances combine with the virtual elements.

Although the Giudizio Universale show doesn't rely on 'traditional' Metaverse technologies, it represents the possibilities for MR and AR at Metaverse events. Imagine using projection-mapped visuals that respond to touch. Perhaps, users could

interact with the images through their smartphones to learn more about a brand.

Best of Both Worlds

Of course, there is a space for life enchantment in full immersion too. In these circumstances, VR technologies can mirror real-world events and provide options for users to improve or expand on them.

For example, in April 2022, Coachella and Absolut announced a new innovation. The 2022 Coachella Festival would include a VR twin of its Absolut stage, Absolut.Land. In Absolut.Land, visitors can experience a more immersive take on the real-time events taking place in a physical tent at the Coachella festival.

Hosted in Decentraland, the Absolut Coachella experience will enable users to, amongst other things, fly from one dance floor to the next. The event and accompanying technology will ultimately merge the physical and virtual worlds.

Although the notion of life enchantment here is an immersive experience, it differs in other ways, too, from AR or MR. It provides users with a choice to attend in-person or through a virtual Metaverse platform. However, this choice isn't a booby prize, second best to participate in-person.

Instead, it is an enhancement of the original proposition. It's providing users with the option to experience the event while also enabling them to experience more immersion and added extras impossible to experience IRL.

Final Thoughts

We predict entertainment organizations will focus more on these AR and MR experiences to provide advanced enjoyment. As the Metaverse expands and evolves, it will become ever more common for practicality to take a back seat. Instead, experiences may be judged on how they contribute to life enchantment instead of life advancement.



4 Ways Augmented Reality Can Help Your Business



By Wayne Sadin

I live in the world of technology, awash in acronyms and cryptic references to new technologies. I have been doing this for 40 years, and I still love it! Techies often forget that our friends and family have no idea what we are talking about much of the time.

When I was asked to write this article, my first thought was, “Do most CxO/BoD

executives—my audience—know what AR stands for?”

AR stands for Augmented Reality. ‘Reality’ is what we perceive with our senses.[1] Augmented Reality superimposes data over what we see (mostly) and hear and touch (sometimes) to increase our knowledge or understanding of the sensory input we are receiving.

Unlike its flashier cousin ‘Virtual Reality’ (VR), AR is a terrific productivity enhancer that is used in a variety of real-world business applications today.

First, let me clear something up about AR. Most of us have seen pictures of people wearing bulky headsets over their eyes and ears, with long cords trailing behind them. Those are the state-of-the-art in VR headsets and serve to cut the wearer off from the real world to immerse them in the Virtual world. I am sure you said, “No way I’m wearing this thing all day to work!” While there are immersive AR applications that use VR headsets, most AR doesn’t need those contraptions.

Now, let’s look at some top uses for augmented reality:

Navigation and Directions

In this most common set of applications, the camera looks in front of you and sees what you are seeing. Maybe it’s the road in front of your car.

AR software can superimpose speed limits, directional arrows, and points of interest on top of the real-life image—on a dashboard display or right in front of you in a ‘Head-Up Display.’ This sort of presentation is easier—and safer—to process and act on than ‘turn north in 250 feet’ as text or spoken words.

A related AR use is to guide workers at a worksite—like a warehouse, factory, mine, construction project’ from place to place to transport materials or pick products. These directions can be based on fixed routes or in response to real-time alerts (pick up a new drill bit from stores and deliver to machine ‘x’).

Inspection and On-Job-Training

This class of applications involves more than guiding the user somewhere; it also guides the user in performing a task.

Let’s say you’ve got to inspect the machinery on an offshore oil platform. ‘Old

hands' with decades of experience might be able to bring just a clipboard and do the job. But they may not be inclined to take a helicopter ride, then clamber up slippery ladders—especially during a pandemic or other 'disturbance.' A younger, nimbler person might be happy to do the physical job, but they lack the experience.

Using AR, the on-site tech can point the camera on a tablet in the direction of the equipment. The live video feed then draws a highlight around a device needing inspection (this could be done using software that reads blueprints or by a remote expert interacting with the app from the comfort of their home office). The on-site tech then points the camera at a barcode on the device to be inspected, and the inspection procedure for that exact model is displayed.

If training is part of the objective—and it should be—the 'old hand' can participate, watching the video feed and listening to machine noises while instructing the on-site tech on the finer points of inspection, adjustment, and repair. And given the ongoing worker shortages, sharing the guidance of one senior tech across workers at different worksites multiplies productivity as it helps train more workers.

Teleoperation

To take the prior application to the next level, imagine replacing the junior tech with a 'dumb robot': a set of sensors that transmit necessary data—visual and auditory feeds plus meter readings and other measurements—to a remote operator. Combine the sensors with appropriate actuators ('arms and hands') that allow the remote operator to act upon the device.

Teleoperation—'action at a distance'—isn't science fiction: it's a regular part of working with dangerous nuclear materials and pathogens as well as space-borne maintenance and repairs[2].

As robots become more mobile, stronger, and get better sensors, such a combination of AR and robotics will increase productivity and worker safety. It is fun to imagine AI robots doing mundane, dirty, dangerous, or remote tasks—but until AI gets lots better at handling the 'edge cases' (i.e., situations the designers didn't foresee), combining a human's brains plus experience plus judgment with a robot's special-purpose capabilities might prove far more cost-effective.

Healthcare Applications

Take everything I said above about AR in industrial situations and then apply them in spades to healthcare. Medicine generates more data that needs to be correlated with 'sense data': sight, sound, and touch (and smell, if we can figure that out) than any other profession.

The Stat Trek Tricorder is an aspirational goal for healthcare AR: a device that 'looks' across the body and builds an integrated model of what is happening from the outside in. I am in the midst of a comprehensive cardiac workup (Ah! The joys of getting older): structural, functional, and electrical examinations of my circulatory system—generated by a series of separate machines that each output a stream of data plus a video or audio/video record.

As the patient, I'd love for my doctor to see an integrated 'model' showing all aspects of my circulatory system rather than having to integrate these overlapping data/audio/video data streams in their head!

Training, 'arms and legs' collaboration, and teleoperation (literally!) are all enhanced using AR to provide vital real-time and historical data right there in the clinician's field of view. And based on my survey of the literature (as a non-medical person!) I am encouraged by the AR progress I see in healthcare.

Final Thoughts

Augmented reality enables us to better 'see' what we are looking at. It makes employees 'smarter,' safer, and faster while improving the customer and the employee experience as well as the cost of service delivery. AR should be a C-Suite level discussion from a strategic as well as a tactical perspective.

1. I minored in Philosophy, so let's just let this statement stand, OK?
2. Historical note: teleoperators were nicknamed 'Waldos' by NASA engineers in honor of a science fiction short story by Robert Heinlein that came out in 1942!



9 Must-Have Tools for Building the Immersive Internet



By Toni Witt

Last week I discovered the inspiring story of Dorothy Vaughan, one of the three female African-American mathematicians represented in the movie *Hidden Figures*. Between 1943 and 1958 she worked in NACA's West Area Computing Unit, a team of human computers who performed aeronautical calculations by hand.

But in the years after the war, Vaughan recognized the oncoming computing

industry and taught herself and her team of other female African-American human computers how to use mainframes and write in the world's first programming language, FORTRAN.

As a result, she became NASA's first-ever African-American supervisor, led the organization to become one of the earliest adopters of electronic computing, and helped put the first human on the moon.

Besides being an inspiring story, it also highlights the power of upskilling yourself by becoming an early adopter of tools. The question is, what are some of those tools and software today, in anticipation of the immersive internet?

So here are 9 tools you could learn to give yourself an edge in the coming computing revolution.

Adobe Aero (Currently iOS or Beta-Version for Windows or macOS)

It goes without saying that all of Adobe's applications will play an important role in spatial computing. But besides the well-known ones, there's also Adobe Substance 3D, Adobe Character Animator, and Adobe Aero.

Adobe Aero is a relatively simple, no-code platform to build augmented-reality experiences. You can import various file types, including those from Adobe Photoshop or Illustrator, and place them in the real world.

This is a nice tool to try out if you're interested in exploring AR without getting too involved, particularly if you're already using the Creative Cloud.

Overall, the company is bullish on the Metaverse. Adobe has been an avid contributor to the space, and they're building the tools to help others do the same.

Canva

Canva is my go-to for simple graphic design. If your work involves the Internet in any way, this should be on your radar.

Unreal Engine 5

The successor of Unreal Engine 4, the beloved graphics engine behind top games like ARK: Survival Evolved and Fortnite, Unreal Engine 5 is a powerful platform for

creating immersive 3D environments. It's also useful for creating realistic digital humans.

While still in early access, there's only upside to learning UE5 development, and some inspiring demos can be found [here](#) and [here](#).

Ready Player Me

Ready Player Me is an extremely simple browser-based tool for creating an avatar. I used this to create my avatar which you see if you click on my name in the author field above.

Honestly, this is just a fun one to try out if you have a spare twenty minutes, or want a quick but aesthetic avatar to add to your other 3D projects or profile pictures.

Blender

Blender is a free and open-source 3D graphics software that can be used for almost everything – animation, visual effects, engineering CAD, motion graphics, VR, and of course 3D modeling. Note: unlike Unity or Unreal Engine, Blender is not real-time.

And because it's free, there are tons of tutorials online to help you get started.

Omniverse

Similar to Unreal Engine, NVIDIA's Omniverse platform is a powerful low to no-code tool for creating and rendering immersive scenes. Whether you choose to use Omniverse or UE5 is a matter of taste, and there's a lot of overlap.

8th Wall

If you want to explore browser-based augmented reality experiences, 8th Wall and related services are a good start. Check out their website for what this might look like – definitely something to consider for product packaging, for example.

Solidity

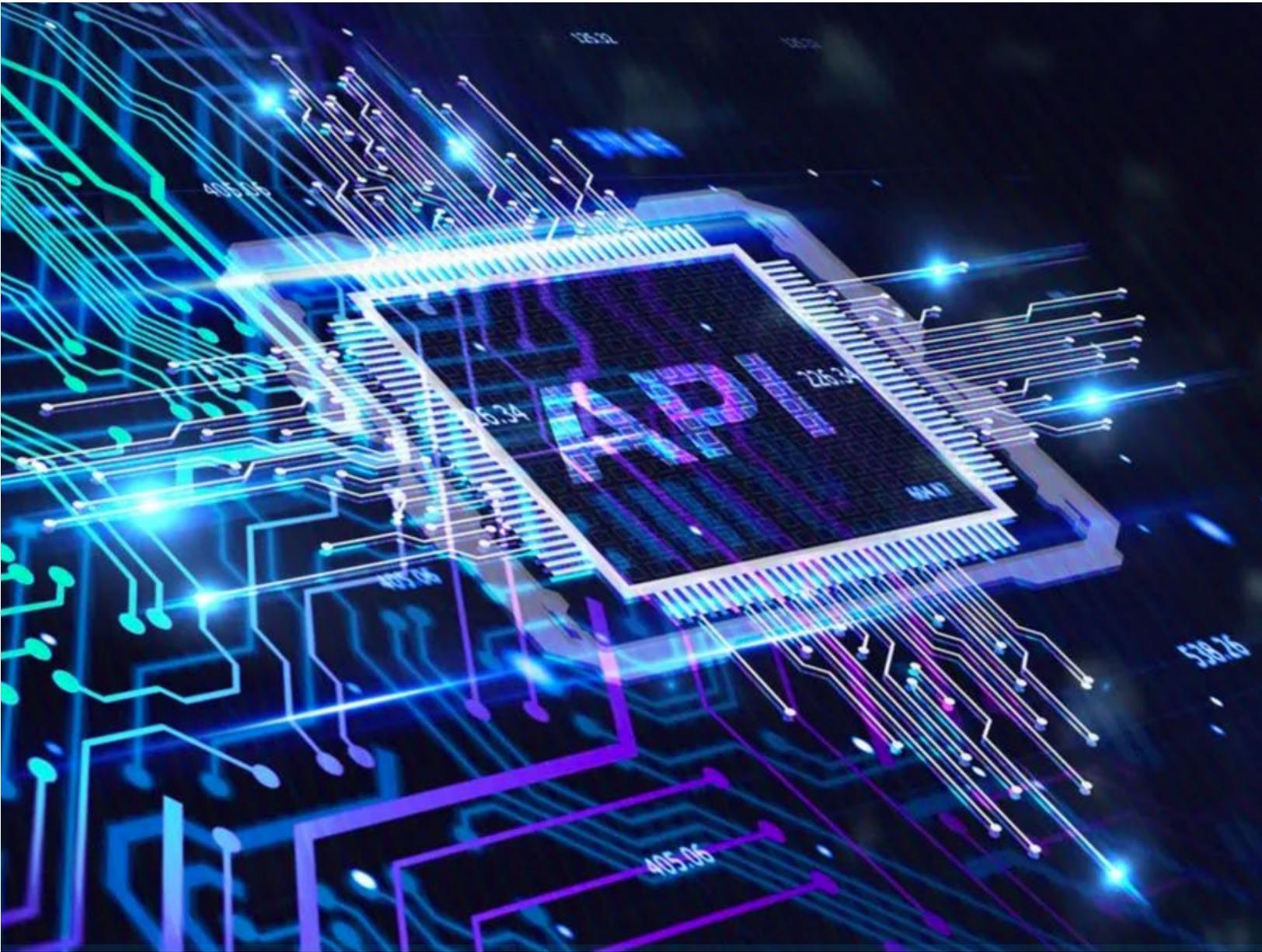
Unlike the other items on this list, this one's actually a programming language used for implementing smart contracts on blockchains like Ethereum. And unlike other languages, Solidity code is not executed by a single computer, but by the Ethereum Virtual Machine.

One of the cornerstones of the blockchain world, learning Solidity is something to consider if you're already a developer looking to expand your toolset to Web3. It's easier if you're already familiar with JavaScript.

Unity

Unity is also a powerful graphics engine that's great for indie or beginner developers. It's been used in a variety of games like Roblox or Pokémon Go and is also extremely prevalent in VR development. It also has a VR preview mode which you can use to see your project directly in a head-mounted device.

Although easy to learn and very flexible, some developers prefer Unreal Engine for its more realistic graphics.



APIs Will Unlock the Power of the Metaverse



By **Bill Doerrfeld**

Our physical and digital worlds are intermeshing. User-facing tech companies continue to bandwagon around the concept of 'metaverse,' the supposed fusing of the virtual and real-world through VR/AR. While it sounds like pure science fiction, the metaverse is well on its way to offering a new frame of existence for humans and their digital avatars, presenting an alternative format for people to connect and perform their daily business.

The growing excitement around metaverse projects shows no signs of abating. In fact, the metaverse market size is projected to reach a staggering \$678.8 billion by the year 2030. And for developers working on metaverse-style applications, the good news is that many of the fundamental techniques required to build these environments already exist, either in the form of open-source packages or Software-as-a-Service.

Reusable infrastructure will likely comprise the backbone of upcoming Web3 and metaverse projects, which could lower the barrier to entry for smaller businesses to compete with larger players already cornering the market. I recently met with Hermes Frangoudis, manager, developer education at Agora, to see what sort of tech will be necessary to power this new paradigm.

According to Frangoudis, in addition to graphical rendering, backend elements like real-time technologies and the API economy will be just as imperative to unlock power for metaverse projects. Real-time frameworks and APIs will be necessary components to craft rapid-fast digital representations and enable a multitude of background integrations, which, when combined, will present a compelling user experience in the metaverse.

Understanding the Metaverse

First off, what exactly is the metaverse? Frangoudis defines it as “a digital representation of our physical lives.” Many groups are actively involved in building virtual spaces to connect, socialize, and do business. These virtual worlds often involve a 3D representation of the user with others in real-time.

Arguably, the metaverse is an extension and rebranding of virtual worlds that have been around for some time. Take the popularity of massive multiplayer online role-playing games (MMORPGs) like Second Life, WoW, or Fortnite. But while previous iterations offered escapism for players, the metaverse will be more interwoven into reality and will assert greater influence over the economy at large. As such, integrations will be undoubtedly necessary to enable the increasingly hyperreal nature of these spaces.

What does one do in the metaverse? Well, since the concept is still rather loosely defined, the possibilities are pretty endless. You might watch a virtual show with thousands of attendees, sit in on a career networking event, or play a VR game with family members. We could see metaverse applications slowly phasing out (or

at least augmenting) the standard screen experience with alternative interaction methods, such as holograms, projection mapping, and virtual headsets, predicts Frangoudis.

Understanding APIs

So, what's this about APIs? Well, Application Programming Interfaces (APIs) can be thought of as the glue that holds our interconnected digital economy together. Low-level APIs have been integral since the dawn of computer programming, but when we discuss APIs in a business sense today, we're usually talking about RESTful web-based services that communicate over HTTP.

If a developer needs to add a commonly used function into an app, you can bet your bottom dollar there's an API ready to plug and play. Examples include Stripe for payments, Twilio for SMS messaging, Google Maps for geolocation, AccuWeather for weather data, OpenGeo for geo-lookup, and the list goes on. At the time of writing, ProgrammableWeb lists over 24,000 publicly available web APIs.

If we consider APIs in the metaverse, there are numerous areas where they could be applied. For example, APIs can power financial transactions to support commerce within virtual worlds. APIs can tap into traditional banks, or utilize the countless cryptocurrency wallets and cryptocurrency aggregation APIs to transfer funds. Or, eCommerce APIs can enable metaverse environments to synchronize with established online marketplaces. APIs can also help enable logins and social media integration.

The Importance of Real-Time

Combine metaverse and the API economy, and some major digital explosions might ensue. It's best to see these sparks now, especially as companies like Facebook and Microsoft are already actively taking huge leaps in producing metaverse applications. Yet, "the metaverse is open and not owned by any single company," said Frangoudis. As such, we'll need tools that enable companies who are not tech behemoths to build it out. "APIs can democratize that for smaller developers," said Frangoudis.

For Frangoudis, the most significant hurdle to constructing the metaverse is the real-time aspect. While Web2.0 emphasized a more asynchronous feed, "Web3 and metaverse are the evolution of the Internet into the real-time world," he said.

“It’s all about that real-time connection. If you don’t have to wait for that response, it feels more intimate and real.”

The backbone of the metaverse is the Internet, says Frangoudis. Yet, the Internet wasn’t designed to scale for massive real-time sessions. Humans perceive anything at 100ms or lower as instantaneous, but your typical DNS server routing can introduce latency well beyond that target. It may send requests through ten or more different servers, introducing latency at each step of the way.

According to Frangoudis, intelligent algorithms are needed to determine the most direct, optimized path to get closer to real-time. In addition to smarter server routing, it will be necessary to optimize the package size sent over the wire to cater to low-bandwidth scenarios, says Frangoudis. Multi-party real-time video and voice will also become more stable in the future as we realize the full potential of fiberoptics cables, and 5G becomes more ubiquitous, he predicts.

The Future of Metaverse Design

The metaverse is not owned by one single company—instead, it’s a movement. And with advancements in polygonal graphical rendering, real-time SDKs, and web APIs, we have much of the necessary infrastructure at our fingertips to begin developing more virtual worlds.

“APIs, in general, are about democratizing access to knowledge and data and capabilities,” said Frangoudis. Similar to how a factory specializes in a single screw that’s part of the larger product, the composable enterprise of the future will construct their business using various APIs as lego blocks. And these playing pieces continue to become more and more usable...

Similar to how WYSIWYG editors like Squarespace and Wix have opened up website design to the average user, the coming years will likely see the same usability emerge around designing virtual worlds. Frangoudis thus anticipates an explosion of virtual spaces as users build out 3D environments to showcase their NFT collections, host an immersive music show, or throw a baby shower. “The future is really about freedom and having greater control of the digital representation over data and your connections,” said Frangoudis.



How SMBs Can Get Started with Metaverse Technologies Today



By Kenny Mullican

As CIO of a mid-sized manufacturing company, I try to see new technologies through the lens of how they will impact my organization or industry, or how we could use that technology to be more productive, efficient, or profitable. Most of the news about the Metaverse seems to be focused on a very futuristic vision of the world where everyone lives in a digital space 24 hours a day, owning property, going to work, buying things, attending concerts and sports events, and social interactions.

While this may indeed be what the future looks like, I'm more interested in what the emerging technology that the Metaverse is built on will provide soon, maybe the next two to five years.

From what I've seen demonstrated so far, the human interface into the Metaverse will take one of three forms:

- **Virtual Reality:** This is the fully immersive experience where you wear a headset and see the Metaverse all around you in 3D.
- **Augmented Reality:** Here you just wear special glasses that allow you to see the real world, but it is overlaid with information or visuals.
- **Device Screens:** Like a video game where you use a computer or phone or tablet and see a 2D representation of a view into the Metaverse.

I bring this up because if you only think about the fully immersive virtual reality interface, it's harder to imagine living your life that way. I have a VR headset that I've played around with and I can really only wear it for a little while before it gets heavy and tiring. It's also depressing to think about the social ramifications: it's bad enough to see a crowd of people all staring at their phones, but a sea of people wearing VR headsets all day just doesn't seem practical. I am considering the VR version to be an occasional use case when it is most helpful to be completely inside the Metaverse. I expect that AR and phones/computers will be more commonly used.

With that in mind, here are a few ways that companies are starting to use the Metaverse technologies:

Immersive Shopping Experience

For companies that sell products ranging from eyeglasses, makeup, and clothing to furniture and real estate, it can make a big difference to their customers to experience that product in an immersive way before they buy it. Perfect Corp offers AI-Powered Virtual Makeup, for a "true-to-life virtual makeover experience in real time." Several eyeglass sellers, such as EyeBuy Direct provide a virtual try-on, so you can see what you will look like in their glasses. Macy's offers the ability to see how a piece of furniture will look in your space in their 3D room designer. And Matterport makes a solution for creating digital twins for immersive real estate 3D

virtual tours.

Gamification of Learning Tools

Learning, including job training, can benefit from an immersive experience as well. Google Expedition is a learning tool that uses VR and AR. You can either use full VR glasses, or just hold your phone in front of you and move around. And Google's Tour Creator makes it easy to build virtual tours that can be experienced from any device.

Collaboration

Over the past few years, we have all grown accustomed to working on virtual teams that are separated by distance. That usually takes the form of Zoom or Teams video calls or shared whiteboards. Meta has released a platform that allows you to use Oculus Quest for work collaboration. Avatour, MeetinVR, and GartherInVR all let you conduct live 360 degree virtual meetings.

Conclusion

These are just a few of the new Metaverse-related technologies that are available to help small and medium businesses dip their toes in the water right now. I'm excited to see which types of interaction take hold—VR, AR, or regular device screens, and how all these various unconnected technologies will come together in a more cohesive network of experiences.



How Marketing Can Build Opportunities in the Metaverse



By Scott Vaughan

Significant technology shifts use to happen once in a generation. Now, powered by platforms and universal access to connectivity and powerful devices, it seems to happen every 5 – 7 years. A powerful new platform is emerging that business, brand, and marketing leaders are watching largely driven by digital natives – the metaverse.

Businesses and brand leaders stumbled their way through the emergence of radio, TV, the Internet, and social platforms. With all these, one truth about paradigm-shifting platforms has been consistent. Change-minded leaders who move first, invest in user delight and engagement, and can build large communities fast are poised to win bigger. The metaverse's accelerated rate and levels of engagement are intriguing marketers. While it is still early days, marketers are starting to pay attention.

Why are Brands Flocking to the Metaverse?

Early brand interest in the metaverse is being driven by the increasing levels of consumer engagement. Brands are particularly interested in the metaverse because Gen-Xers and millennials are active, drawn to, and spending meaningful time in this virtual environment. Furthermore, this coveted, growing group of consumers is fragmented, and therefore, difficult for brands to reach through other channels and venues. For brands that value large, engaged audiences, the metaverse is becoming hard to ignore.

What started as the metaverse for gaming apps like Fortnite and Roblox has been accelerated by brands like Vans, Wendy's, Hyundai, and Disney. These leading brands are creating unique experiences, providing virtual collectible apparel, and delivering avatar interaction with people that share the same passions. Using these brand examples, the areas of passion are skateboarding, food fights, cars, and entertainment.

To get a real sense of what's happening, let's take a quick look at the metaverse trends and a few of the first-movers' learnings. Vans built a virtual skatepark via Roblox, generating up to 48 million users per day. Nike recently purchased RTFKT agency to accelerate their ability to create non-fungible tokens (NFTs) for digital collectibles. Another example of metaverse acceleration is Gucci's creation of Gucci Garden. This metaverse-powered virtual world allows your avatar to move from room to room, exhibit to exhibit changing and experiencing apparel in different colors and styles.

What are the Metaverse Marketing "Must-Haves"?

Like every new platform, there are must-haves for marketers as they develop their strategy and experiment with what's possible in the metaverse. Here are a few essentials the metaverse marketers and first-movers have identified:

- **It is all about the user:** The metaverse is the ultimate example of user generated content and participation. For marketers, metaverse enables marketers to inject their brands natively into that platform and experience in a way that makes each user the star of the show.
- **Immersive experiences are the value:** The metaverse is a virtual universe that merges reality and the virtual world. These virtual worlds continue to evolve and grow based on user decisions and interactions within the space. Marketers talk about “experiences” all the time. This is the ultimate canvas to create authentic, immersive user experiences developed for the virtual world.
- **Don’t try to create the physical world in the metaverse:** This is non-negotiable. Think big and creatively. Enlist groups of your target audience to help your brand build impactful, must-see experiences. Help consumers stretch their mind to understand what’s possible.
- **Boring display ads won’t work in the metaverse:** Social platforms like Facebook, Google and Instagram use advertising and paid sponsorships as a primary economic model. This will not work for the metaverse. Rather, marketers can offer metaverse users value via experiences, virtual goods, or digital collectibles for their digital avatars.
- **Traditional marketing campaigns goes away in the metaverse:** Today, marketers and their agencies deliver so much to their target audiences through weekly/monthly/quarterly “campaigns.” Turning engagement on and off on brands’ timeline versus consumers timeline won’t cut it. The metaverse is always-on and marketers must think this way, too.

How Can a Business Get Started in This Virtual World?

A popular entry point for non-gaming brands is via virtual conventions in the metaverse. Consumers and business customers alike can experience so much without leaving their office or house (something we have all become used to courtesy of the pandemic and resulting lockdown). Experiencing new cars at an auto show, previewing new technology via a demo at a tech conference, or trying on the latest line of shoes or fashion are all immersive experiences to experiment with.

The key, like for all marketing strategies and programs, is to understand where

your target audience is spending their time and study their preferences. Because it's literally a whole new world, marketers can be creative and experiment. Even better at this stage, marketing costs are still quite low compared to many digital programs. And, right now, thousands of brands are not competing for attention in the metaverse. With all the first mover advantages, it is important to point out that the ability to measure and get granular performance data will be limited. Marketers are confident that the metaverse metrics and ROI will catch up as adoption accelerates.

With new tech like the metaverse, it is best to organize a small, agile innovation team. Dedicating a few pros to explore and experiment and who aren't bound by traditional marketing development processes is a smart approach to get started. If you are not ready to commit to an in-house team or don't have the in-house talent, hire an agency. This allows brands to trial and learn while not slowing down other critical marketing work you need to hit your goals today.

What's Holding Your Brand Back From Experimenting in the Metaverse?

While many marketers are jumping into the metaverse, it's not too late for your brand to get started. With a curious mindset and rigorous process, marketers can determine if the metaverse is a platform and environment right for their brand.

Practitioners who have been there & done that, delivering the three things no other analyst firm can



- ✓ All access to 5,000+ articles, podcasts, videos & reports
- ✓ 40-hours of on demand education video playlists from business technology experts
- ✓ Exclusive weekly Analyst Newsletter
- ✓ 1 Exclusive Analyst Article per day
- ✓ Monthly Business Technology Guidebooks

Annual Subscriptions for less than a cup of coffee a day

\$499 Annual Subscription

[Learn More](#)