

Welcome to the metaverse

In-depth: Music in the metaverse

“Welcome to the metaverse”: déjà vu anyone?

For the media and entertainment industry the dawn of the metaverse and the word soup of acronyms that accompanies it is the latest high profile technology wave that threatens to simultaneously up-end established distribution models and reinvent both the experience and relationship with the audience.

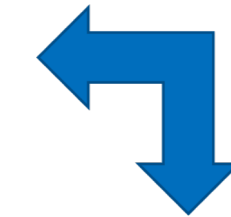
Many companies will feel they have been here before.

The last 25 years have seen digital distribution relegate physical content formats to history. Likewise search and on-demand services have transformed audiences' ability to find the content they want when they want it. Device types have changed from fixed heavy boxes, to always connected mobile-first form factors.

What is forgotten is how many companies never recovered from these changes, never adapted and and never took a positive approach to the advance of new technology until it was too late. Change was forced on them, and new companies rose where others failed. Netflix, Spotify, Amazon.



1994?



2022?



Our definition of the metaverse



- A combination of physical and digital worlds—embodying a unified digital presence into physical and virtual lives
- Fully formed high fidelity 3D worlds that embrace mixed reality via AR/VR
- Always on, persistent, and real time
- Unlimited immersive and social interaction that can occur at any scale
- A seamless digital economy delivering creation and marketplace opportunity
- An advanced workspace with new forms of collaboration, productivity and communications

It is clear that a fully realised *fully optimised* metaverse is many years away. There will also be multiple metaverses which will have varying degrees of interconnectedness. As such, the broad sweep of its capabilities will result in usage and experiences that we cannot foresee.

Our working definition of the metaverse is therefore focused on the broad components *and their utility* that will redefine the global digital experience in the future.

Executive summary: Music in the metaverse

- **The metaverse is a shorthand for combining game-like 3D interactions with social experiences and commerce.** Entertainment will drive engagement first before platforms work out utility; music is uniquely placed to underpin virtual events and experiences, just as it reaches across almost all media today from TV to TikTok
- **As a result, music is the media sector (outside gaming) that has moved fastest to *experiment* with metaverse applications, so far mainly on gaming platforms.** Music's metaverse potential beyond games has yet to be sketched out: the question of formats, design, platforms, and monetisation hangs in the air. This potential, while exciting, is still at an early stage: we anticipate a long trajectory towards mainstream applications
- **Virtual music events are distinct from live music:** top recording artists rely on touring for most of their income, for which they retain the rights, with strong post-pandemic consumer demand. Consumers derive value from live events that virtual events cannot offer or meaningfully replace at present. However, the gruelling pace of tours, coupled with venues' stranglehold on revenues, means some artists are exploring other commercial avenues, including virtual events and merch
- **Multiplayer games have led the biggest virtual concerts:** Fortnite and Players Unknown Battlegrounds (PUBG) offer bespoke one-off deals, providing a large online gaming audience and monetisation, solving the problem of how to move an online audience to your experience, though it can cost \$5-10 million to create. These music events last just 5-10 minutes and focus on a thin slice of gameplay that is uninspiring beyond the novelty factor and fans' desire to collect limited-edition items, with no artist actually present live. These games could end their support for online concerts tomorrow if it no longer fits into their business strategy
- **Music's metaverse potential beyond games is huge:** artists want a dynamic online presence with marketing potential; labels need scalable, responsive solutions; virtual spaces are ideal for reaching fans across the globe; music travels seamlessly across digital media and linguistic and cultural divides
- **The challenges are just as big,** spanning scalability, replicability, financing, monetisation, and above all design beyond the novelty factor
- **Artists, labels and platforms will need to experiment** with different formats, devices and controls, from enhanced VR livestreams, to AR dancing and virtual concerts attended by thousands in one persistent space in the decades ahead
- **An important step is to motion capture artist performances to create a digital asset:** these "digital masters" can be deployed across multiple media
- **The most ambitious goal would be to connect digital spaces with real-life concerts:** ABBA's Voyage proved an appetite for concerts infused with virtual effects; allowing remote fans to interact with concerts in real time, while extremely complicated to pull off, could enhance the value and reach of live music

Virtual events are distinct from live music events

Virtual concerts do not replace the full experience of live for most people, but tap into the same connection to the artist to reach millions of fans who otherwise could not attend a tour in person.

Virtual concerts executed to the highest standards could cost \$5-10 million to develop, not including licencing.

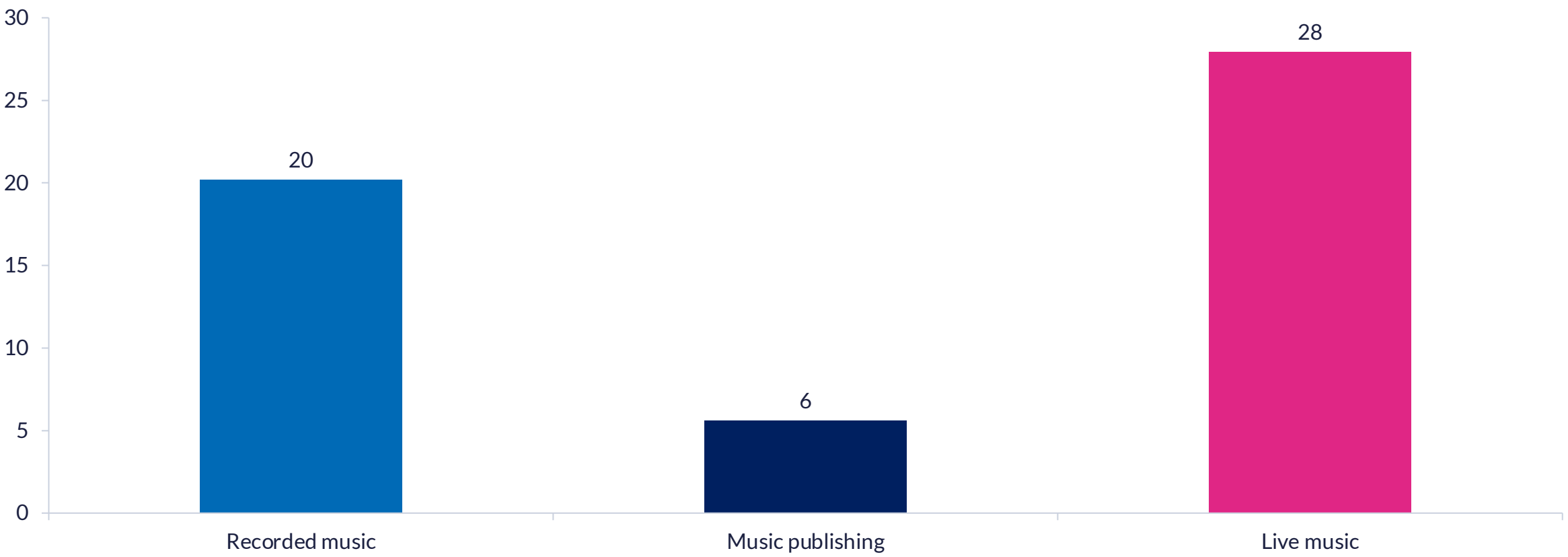
Labels could invest in financing and/or producing virtual music events, just as they invest in music videos, and thus retain a significant share of virtual event revenues—but the capital required for success is a multiple of the music video, and monetisation is not as obvious as YouTube.

Gamified virtual events are one solution, with a built-in audience, but **we believe the real challenge is to place music and the fan-artist connection at the centre of virtual events—this is a problem of creative design.**



Live music was about half the pie before Covid

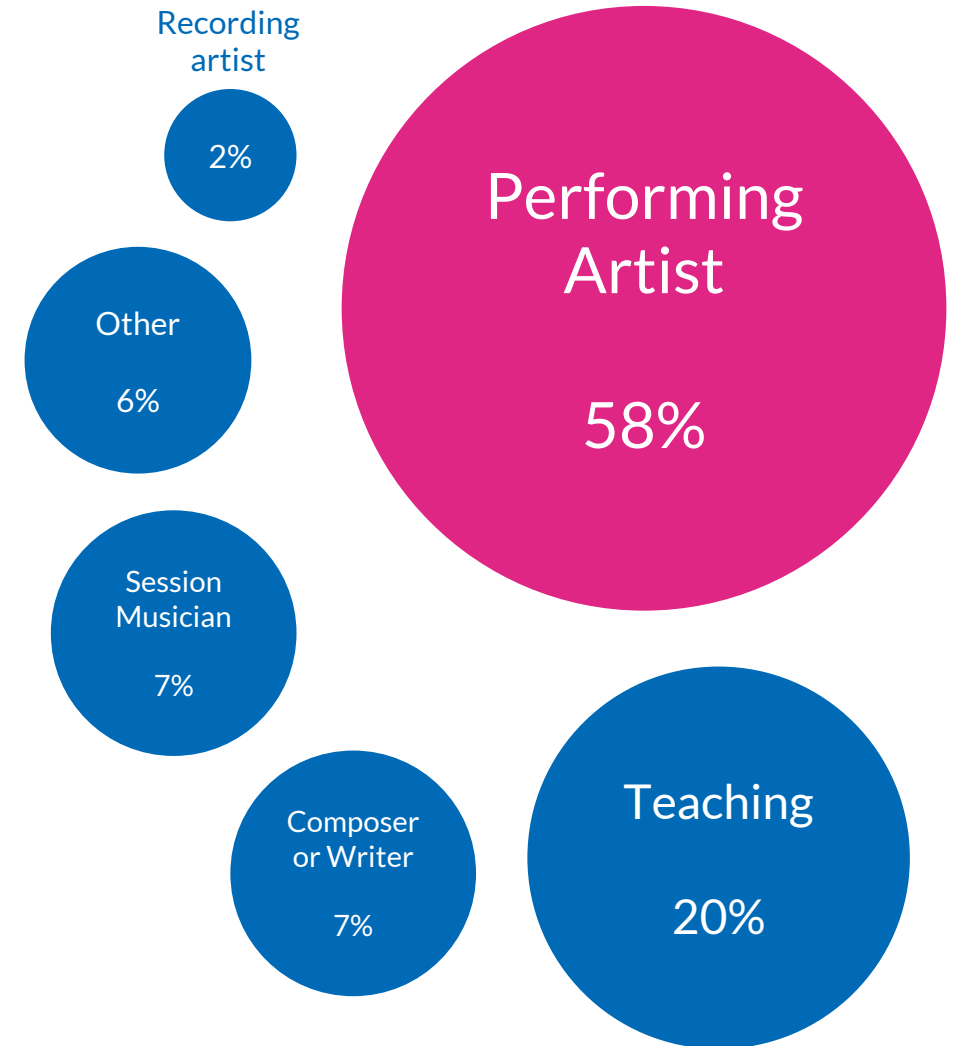
Industry revenues of recorded music, music publishing, and live music, 2019 (\$bn)



Live music includes ticket sales and sponsorship.
[Source: IFPI, Round Hill Music Royalty Partners, PwC]

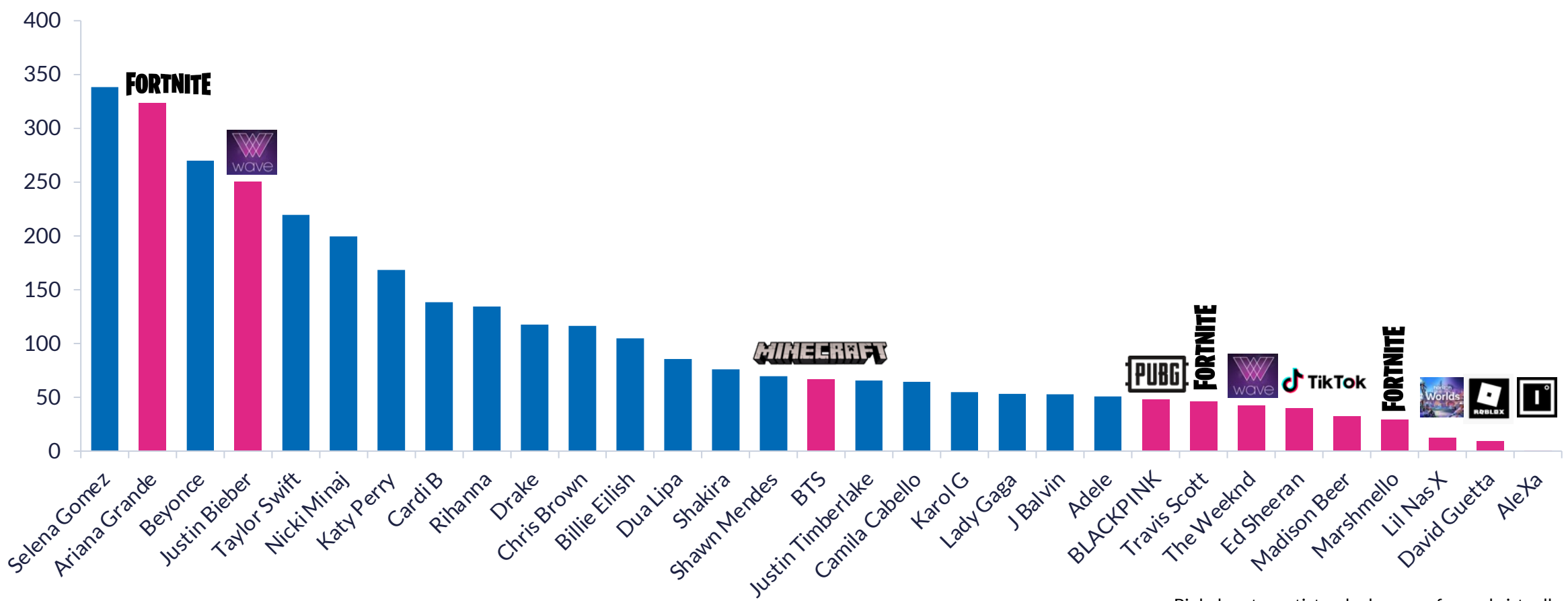
Most musicians identify as live performing artists

The UK Intellectual Property Office (IPO) report into music found that musicians earn money from a range of activities, but **the majority identify as performing artists and earn the majority of their income from live touring**



Top artists have their own fanbases and buzz

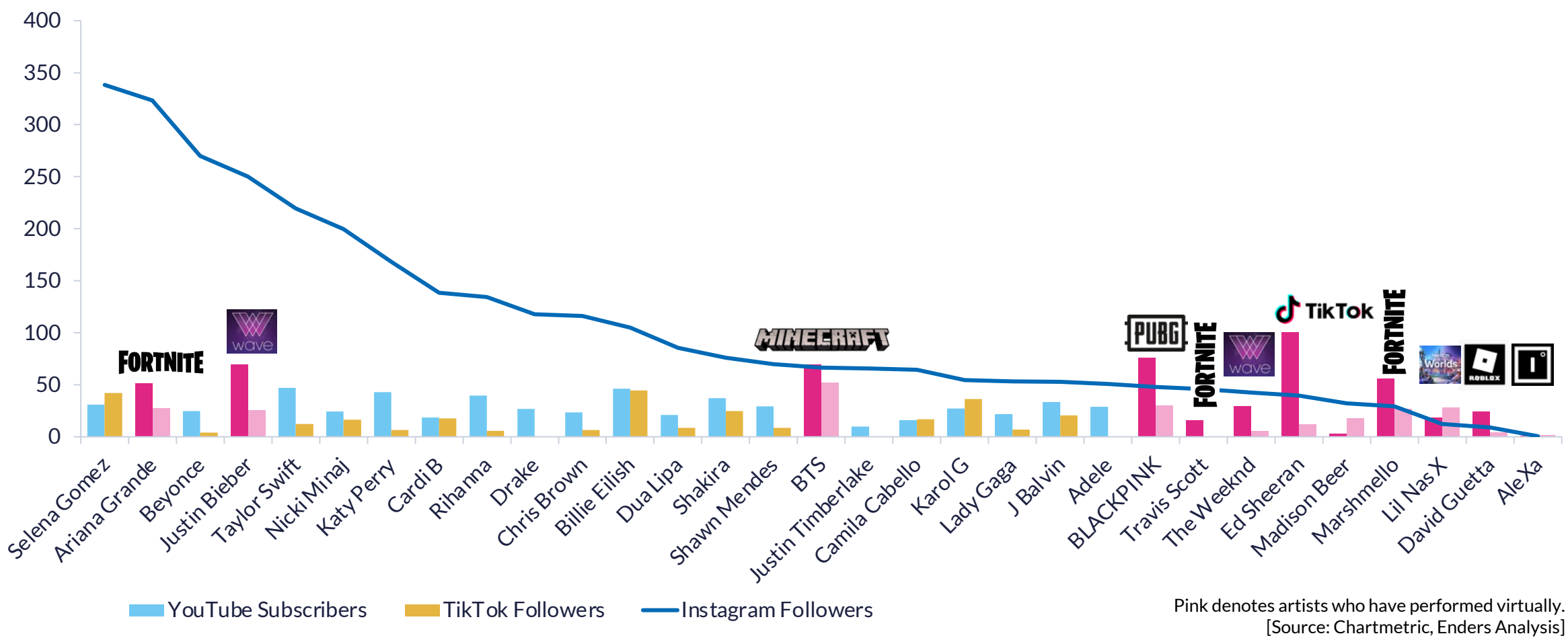
Artists with over 50 million Instagram followers, plus selected acts who have performed virtually (m)



Pink denotes artists who have performed virtually.
[Source: Chartmetric, Enders Analysis]

BTS, BLACKPINK, Marshmello, Lil Nas X outperform off-Instagram

Social media followers of artists with over 50 million Instagram followers (m)



Virtual music events reach huge audiences at lower monetisation

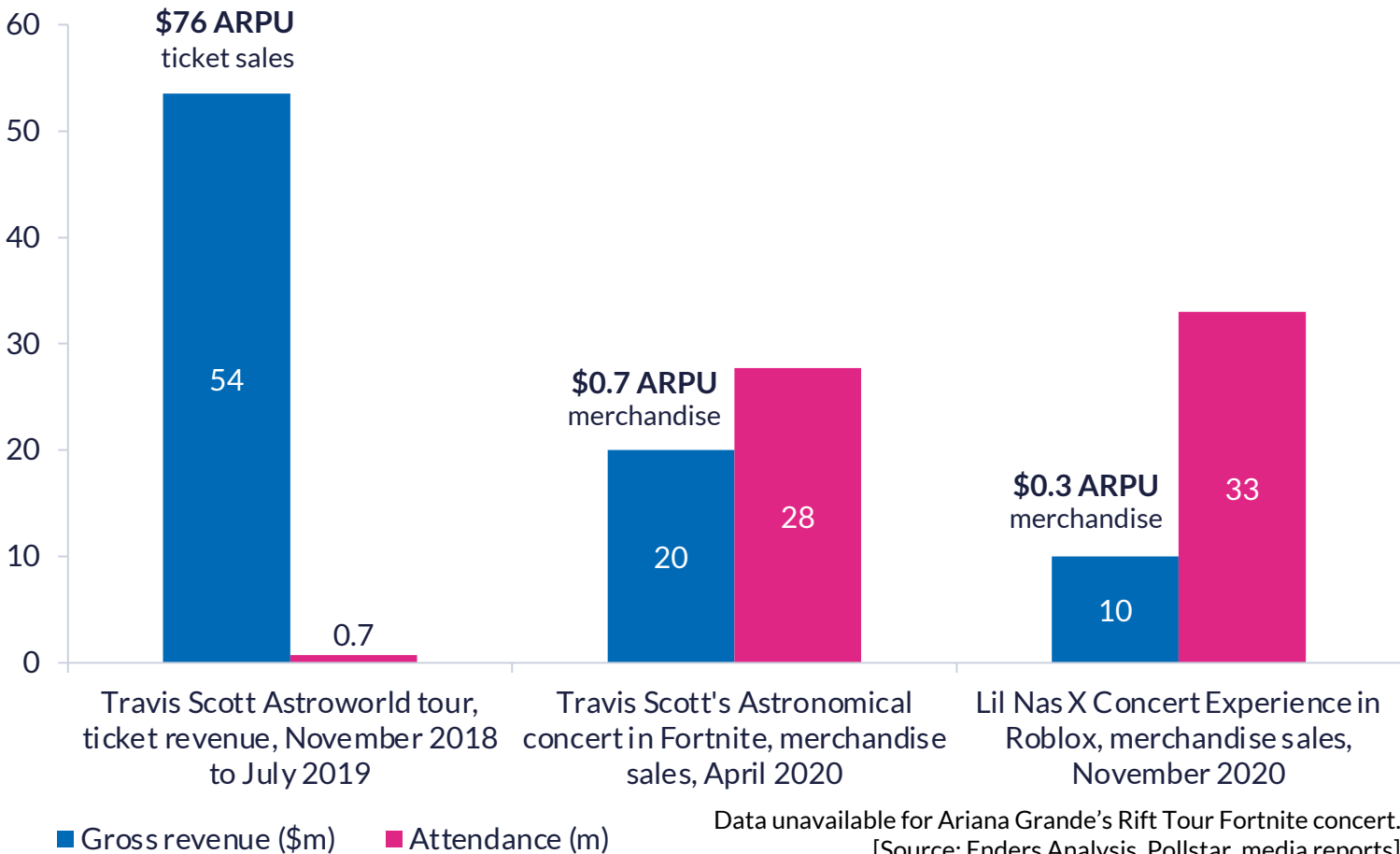
Virtual music events can reach far greater audiences than tours: Ed Sheeran sold 2.5 million tickets in 2019, more than any other act, but just a tenth of a major Fortnite concert.

At this early stage, propensity to pay is a lot lower given the lesser intensity of experience compared with live: on Fortnite there are no tickets, though virtual item sales can add up to tens of millions of dollars over a few nights. New experiences will seek to foster deeper fan-artist connections and build more sophisticated monetisation mechanics.

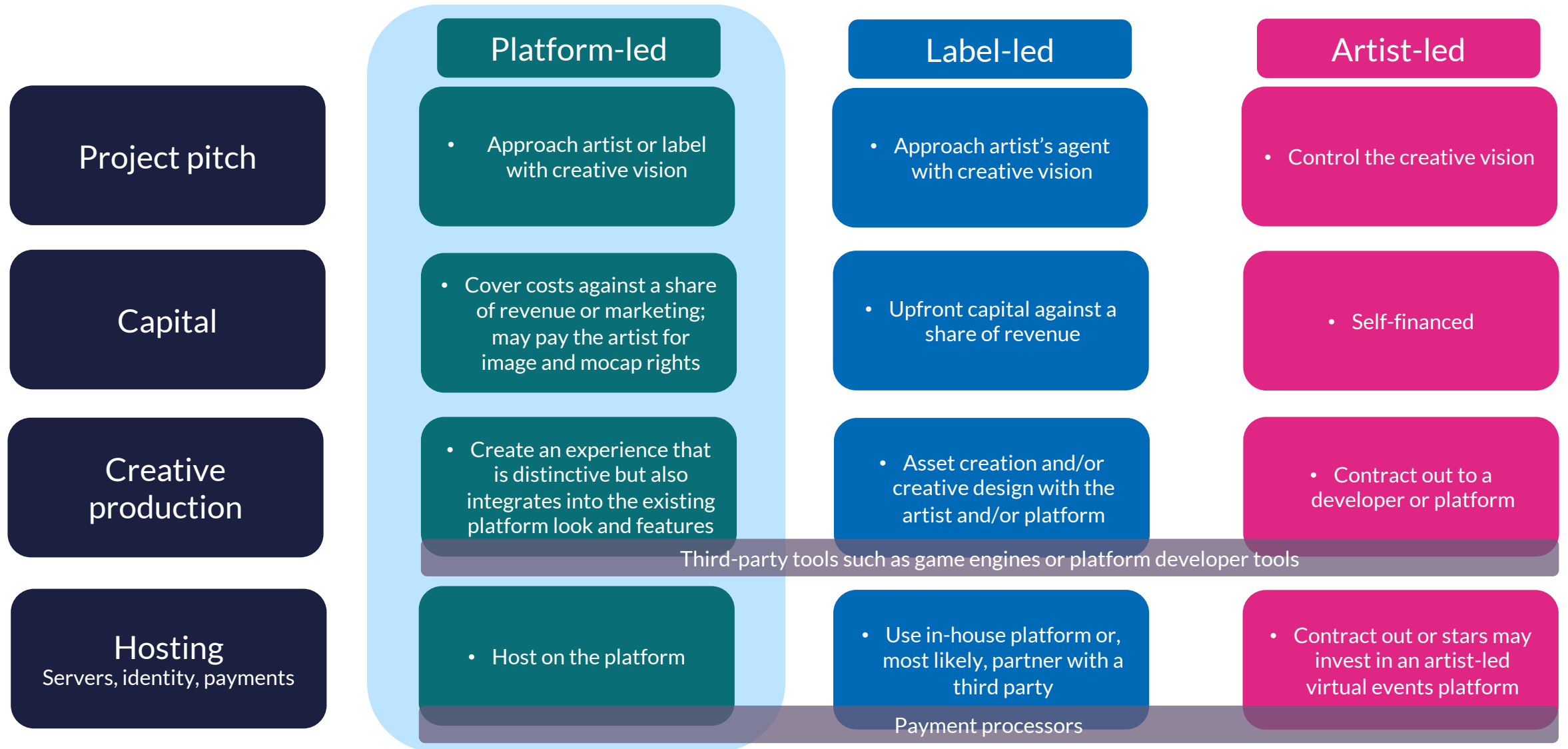
Games platforms like Fortnite have so far paid upfront fees to artists and undertaken the development work: we don't expect such largesse to continue indefinitely.

Virtual concerts have marketing value: Travis Scott Spotify plays jumped 25% around his Fortnite concert, while Lil Nas X performed in Roblox to promote his new song HOLIDAY.

Revenue and attendance of virtual concerts compared to live



A complex value chain; so far games platforms have led the way



Multiple parties take a cut across different layers



The first virtual concert: did Bowie get there first?

In September 2007 the Royal Liverpool Philharmonic Orchestra broadcast the opening concert from its 2007/08 season in a replica concert hall built in Second Life.

The event illustrated design hazards still relevant to virtual events today.

- Only a few dozen attendees
- Glitches, clipping, and lag
- Compromised audio experience
- Assets not reused

The press, while bemused, gave the orchestra decent coverage.

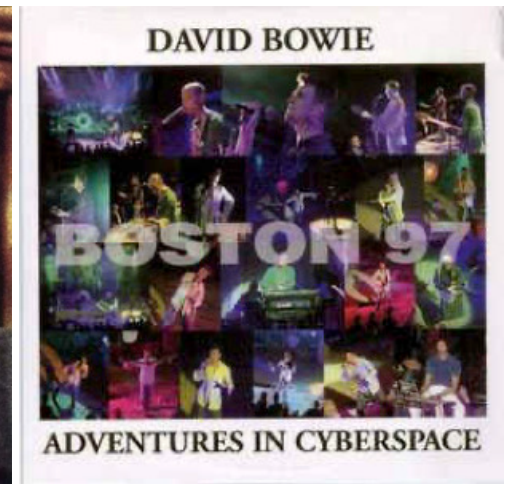
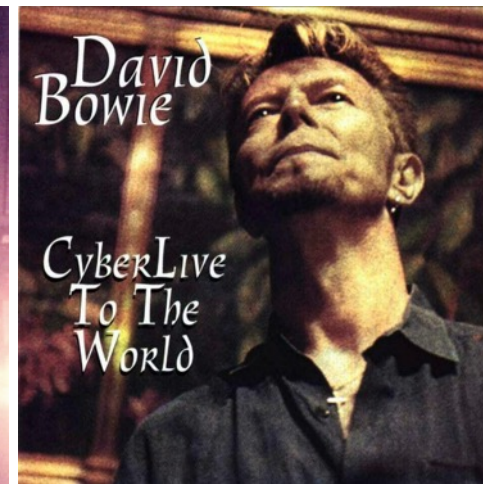
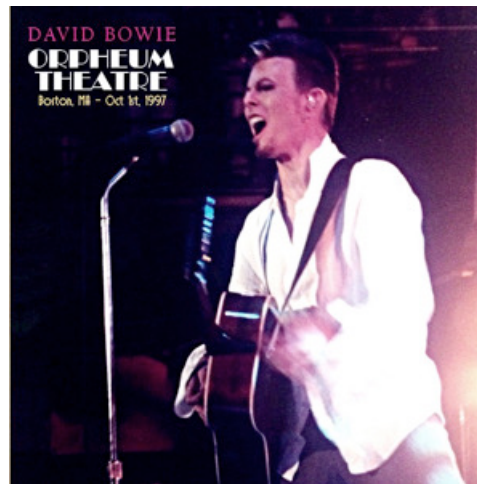
Credit: [Guardian](#)



A full decade earlier in 1997, David Bowie was perhaps the first star to livestream a concert.

The event kicked off with a live fans-only chat followed by a live concert from Boston's Orpheum Theatre during which online fans could continue to chat with each other.

The concert was rebroadcast twice the following day for international fans.



Gamified virtual events appeal to a subset of fans

Ariana Grande's August 2021 Fortnite concert was the most sophisticated virtual music event yet, showing how far the format has come in the technical stakes.

Users attended with their personalised Fortnite avatar, and could interact with the world across attractive set-pieces that tied into the playlist.

While very polished, approaching virtual music events as a licensed game mode is limiting:

- Ariana Grande was not there live
- It lasted barely 10 minutes with no lasting digital asset for the artist
- Just a few dozen people allowed per server
- On-rails with shallow interactions dictated by Fortnite's game design logic
- Users had to download and install the client, rather than being able to join by clicking in a browser
- Audience boosted by shutting down Fortnite's game mode during the show

Fortnite and others could decide to stop doing virtual music altogether given it's not core to their businesses.



BLACKPINK x PUBG shows digital music tie-ins becoming established

Two of South Korea's biggest media brands, PUBG developer Krafton and K-Pop band BLACKPINK, collaborated on a series of promotional tie-ins that feature digital band assets that are re-used across several events, supporting the launch of a single and live music tour.

The full BLACKPINK x PUBG collaboration launched in **August 2021**: over a three-week period, players could earn points by taking part in “special in-game event missions” and buy BLACKPINK-themed in-game skins and items personalised to each band member. BLACKPINK branding appeared for over a month on PUBG's maps.

The collaboration continued in late **July 2022** with the band's first virtual events, lasting under nine minutes without live artist participation. The concerts featured rhythm game elements that, while crude, allowed audience participation in time with the music (similar to the music game Sayonara Wild Hearts, or the rhythm game for mobile featuring BLACKPINK, SuperStar YG, launched by the band's agency and label YG Entertainment). The band launched the single ‘Ready for Love’ within PUBG during the virtual concert, and the track's music video takes place in a modified version of PUBG Mobile using some imagery from the game, with the band members appearing in stylized avatar form.



Ready for Love (left); BLACKPINK x PUBG (above top); Sayonara Wild Hearts (above bottom)

Spotify Island: Pitched as a destination, plays like a game

Where Fortnite music events are ephemeral, experiments with creating permanent digital assets and destinations are underway.

In May, Spotify launched Spotify Island, pitched as a “paradise of sound” on Roblox, the online user-generated games platform with a median age of 13.

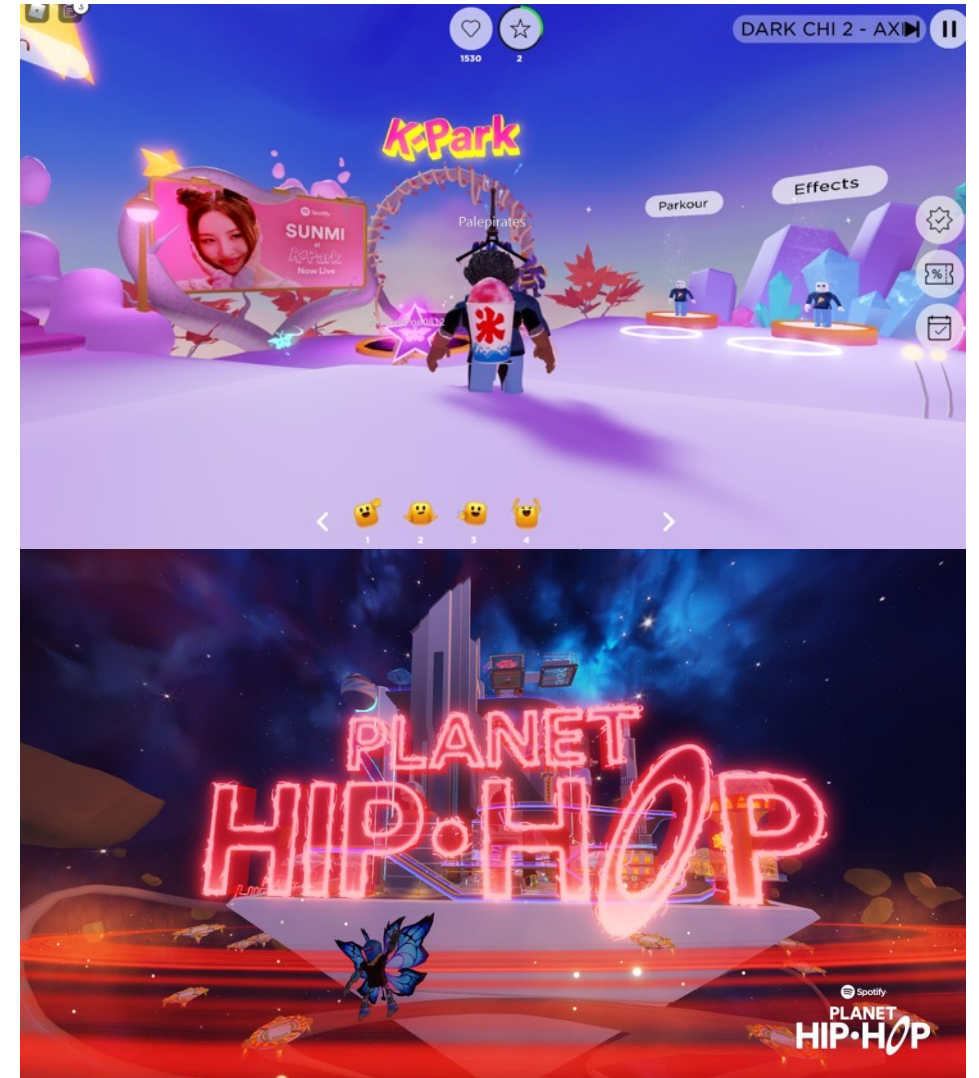
The main zone is much like a videogame: the user slides around the terrain to collect hearts like those found on Spotify, inspired by classic collectathon platformers like Banjo Kazooie—where players collected musical notes. Music plays in the background and changes in each area but is fairly incidental; the social element is also quite weak at present, with low player counts.

More promising are the themed “islands” that house exclusive content, artist interactions, and themed mini-quests: the first to come online was the K-Park with Stray Kids and SUNMI.

Planet Hip-Hop was next to launch in September, starting with a Florida-themed swamp stage for Doechii and also featuring a futuristic low-gravity world with a customisable car, exclusive clothing, emotes and Doechii merch, and a hip-hop sounds creation station.

Spotify remits its share of revenue on merch and branded items to the artist. Spotify must still do some heavy lifting to prove the financial and promotional value of appearing on its Island to increase the density of artists and experiences, and stop user interest from fizzling out.

There is no path to the audio platform, the main revenue earner for Spotify, so for now this looks like marketing spend and a way for Spotify to offer a spotlight to artists.



NFT hype: Snoop Dog x The Sandbox

Snoop Dogg is at the head of a vanguard of artists who have cashed in on the NFT craze, which can appeal to a niche category of fans of certain artists.

The artist bought virtual land in The Sandbox, which bills itself as a metaverse, and sold NFT passes to a private virtual party, along with limited edition cars and avatar skins; some users of The Sandbox reportedly spent millions to buy up land next to Snoop Dogg's mansion, though such information is difficult to verify.

The Sandbox's "unreal estate" economy has barely 1,000 daily transacting users, while most of the perks and items on sale in The Sandbox could be created and sold on a platform like Roblox without any need for crypto technology.

The Snoopverse is an interesting test case for reusing digital assets and elaborating on the social aspects of virtual music.

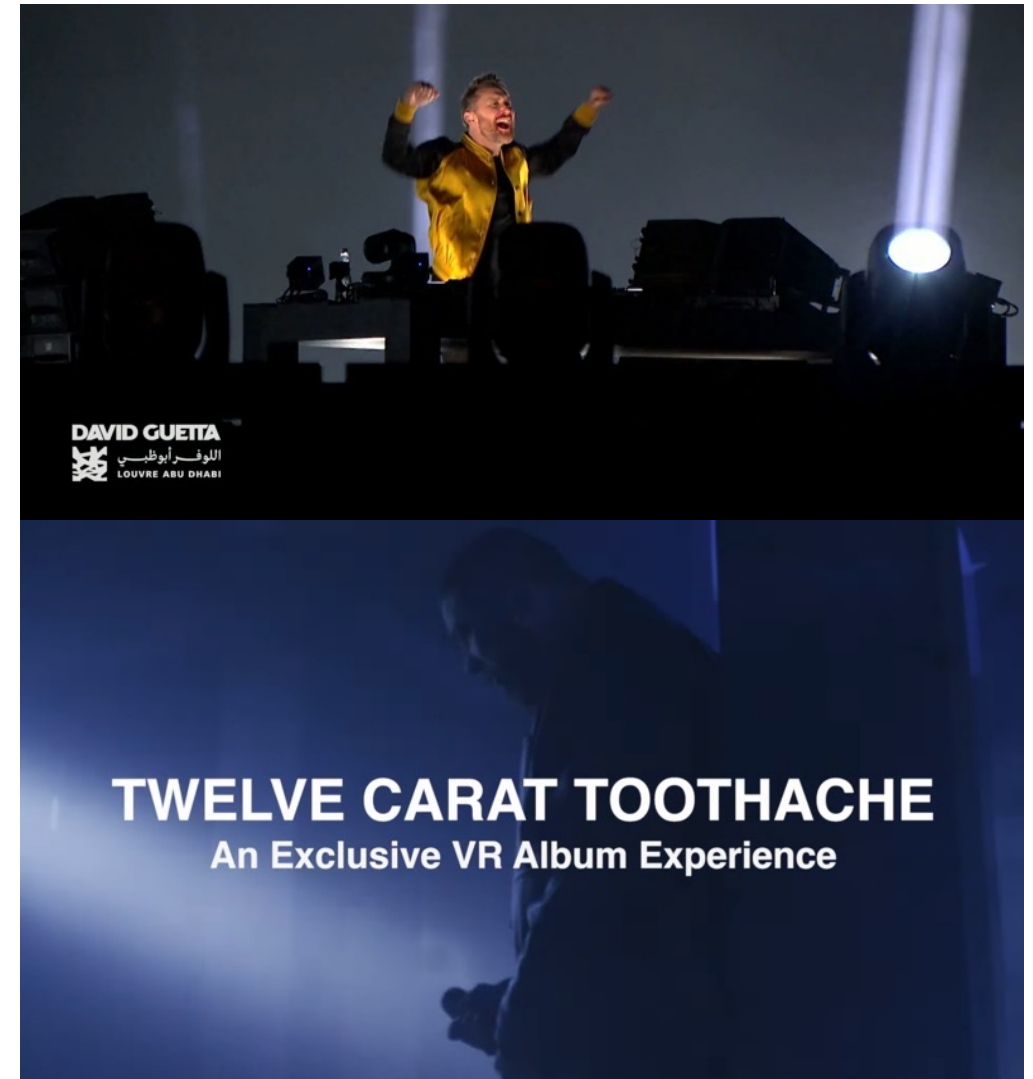


Meta's VR livestreams have limited interactivity

Meta began its live music experiment last December, with concerts taking place within Horizon Venues to underwhelming audiences. David Guetta's performance was a simple pre-recorded livestream, while other acts integrated a 180° view on Oculus headsets.

On 15 July, Post Malone's Twelve Carat Toothache experience went a step further. Produced for Venues within Horizon Worlds by Westbrook Media and Media.Monks, the stream premiered the star's latest album of the same name. Most of the 43 minutes was made up of a live performance, with a brief pre-recorded intermission. Audiences on Horizon Venues and Facebook Watch may have reached 10-15 million. The livestream was well-targeted since Post Malone often streams online games like Apex Legends and Valorant, and his core gamer fans were more likely to have purchased a VR headset.

While production values were high, immersion depended on watching on VR. Even counting Post Malone's gamer fans, most of the audience viewed the stream on Facebook Watch like a regular music livestream. Even on VR, interactivity was limited beyond the 180° view, which is missing from regular screen playback. Audience members could not see or interact with one another or Post Malone himself.

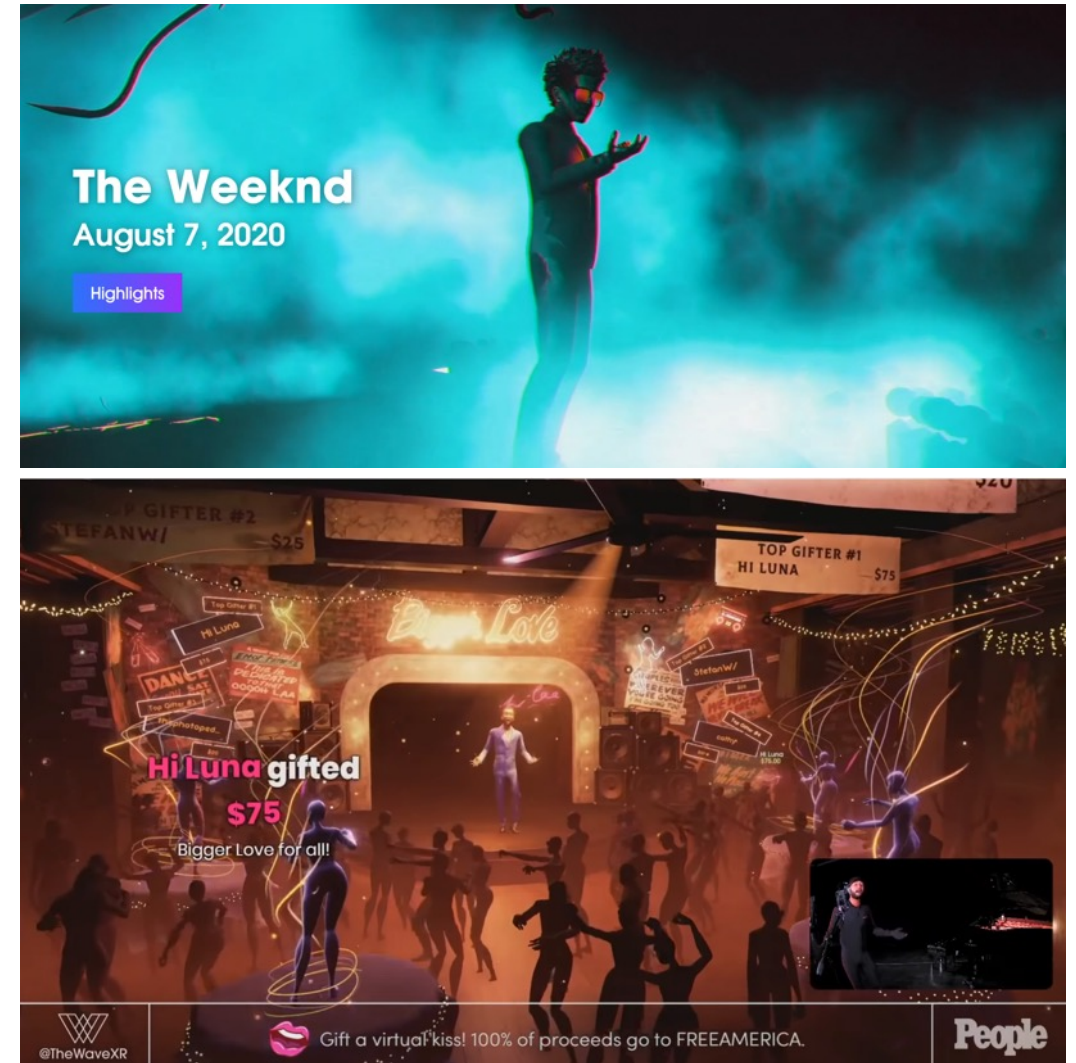


Wave is artist-led but interactivity falls short

Unlike the gaming platforms that have hosted most virtual events, Wave is a specialist platform that allows for more authentically *live* events, featuring digital avatars animated by the artist in real-time via motion-capture bodysuit technology.

Justin Bieber, an investor in the platform along with the Weeknd, held a virtual concert in November 2021. When attended on the Wave platform, audience interactivity included sending virtual hearts and messages—but audience members did not have their own avatars, meaning the sense of presence and shared experience was lacking. The event was also livestreamed on YouTube.

Events so far have been limited in terms of monetisation: without the games platforms' inbuilt audiences and economics, more is needed to ensure smooth transactions (and there were relatively few Bieber merchandise tie-ins). Still, Wave shows an opportunity in terms of the technological possibilities for virtual live events that put music first.



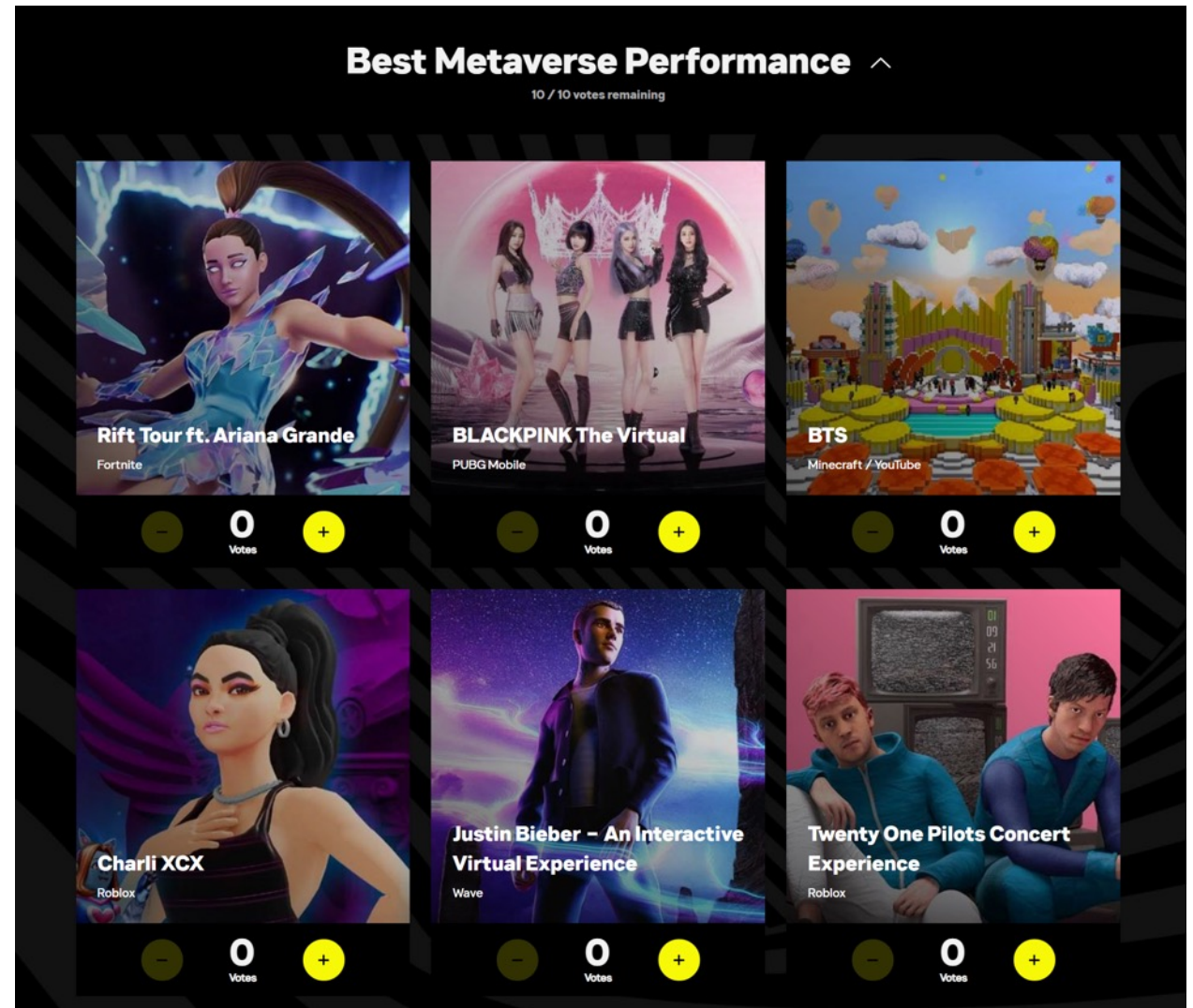
MTV VMAs add category for Best Metaverse Performance

This year, MTV added a new category for “Best Metaverse Performance”, with the nominees Ariana Grande, Blackpink, BTS, Charli XCX, Justin Bieber and Twenty One Pilots.

Falling into the category are virtual concerts, whether live or not—most are on gaming platforms, with BLACKPINK The Virtual (PUBG Mobile) taking home the prize on the night.

This offers another piece of promotion for platforms, artists and labels—the outcome is audience-decided, so while it will not mean the beginning of a critical or industry standard for such events, their prevalence is being recognised and profile increased in an audience beyond users of those games.

This category also demonstrates how musicians’ self-definition as performers first and foremost may be expanding to include more online interactive events.



Artists and labels are tentatively exploring options beyond games



UNIVERSAL MUSIC GROUP



Fortnite

Marshmello,
Feb. 2019



VENEU
LIVE

Investment,
Feb. 2021



WAVE

The Weeknd,
Apr. 2021



Fortnite

Easy Life, June 2021
Ariana Grande, Aug. 2021



WAVE

Justin Bieber,
Nov. 2021



MINECRAFT

BTS,
Dec. 2021



PUBG

BLACKPINK,
July 2022





Fortnite

Travis Scott,
Apr. 2020



WAVE

John Legend,
June 2020



ROBLOX

Lil Nas X, Nov. 2020



TikTok

Madison Beer,
March 2021



ROBLOX

Strategic
partnership,
June 2021



ROBLOX


Tai Verdes,
Nov. 21



horizon
Worlds


The Chainsmokers,
Dec. 2021






ROBLOX

Investment,
Jan. 2021




TikTok

Ed Sheeran,
June 2021




ROBLOX

Twenty One
Pilots, Sep. 21




ROBLOX

AleXa, Dec. 2021




horizon
Worlds

David Guetta,
Dec. 2021



THE
SANDBOX

'Musical theme
park', Jan. 2022



ROBLOX

David Guetta,
Feb. 2022

AleXa in the metaverse

Last December, US-Korean K-Pop star AleXa performed in what was billed as the “first metaverse concert”. Unlike Fortnite events, a crowd of thousands was simultaneously present in the same venue, hosted by London-based Improbable in their virtual environment. Users could jump and slide, wave glowsticks, and collect items.

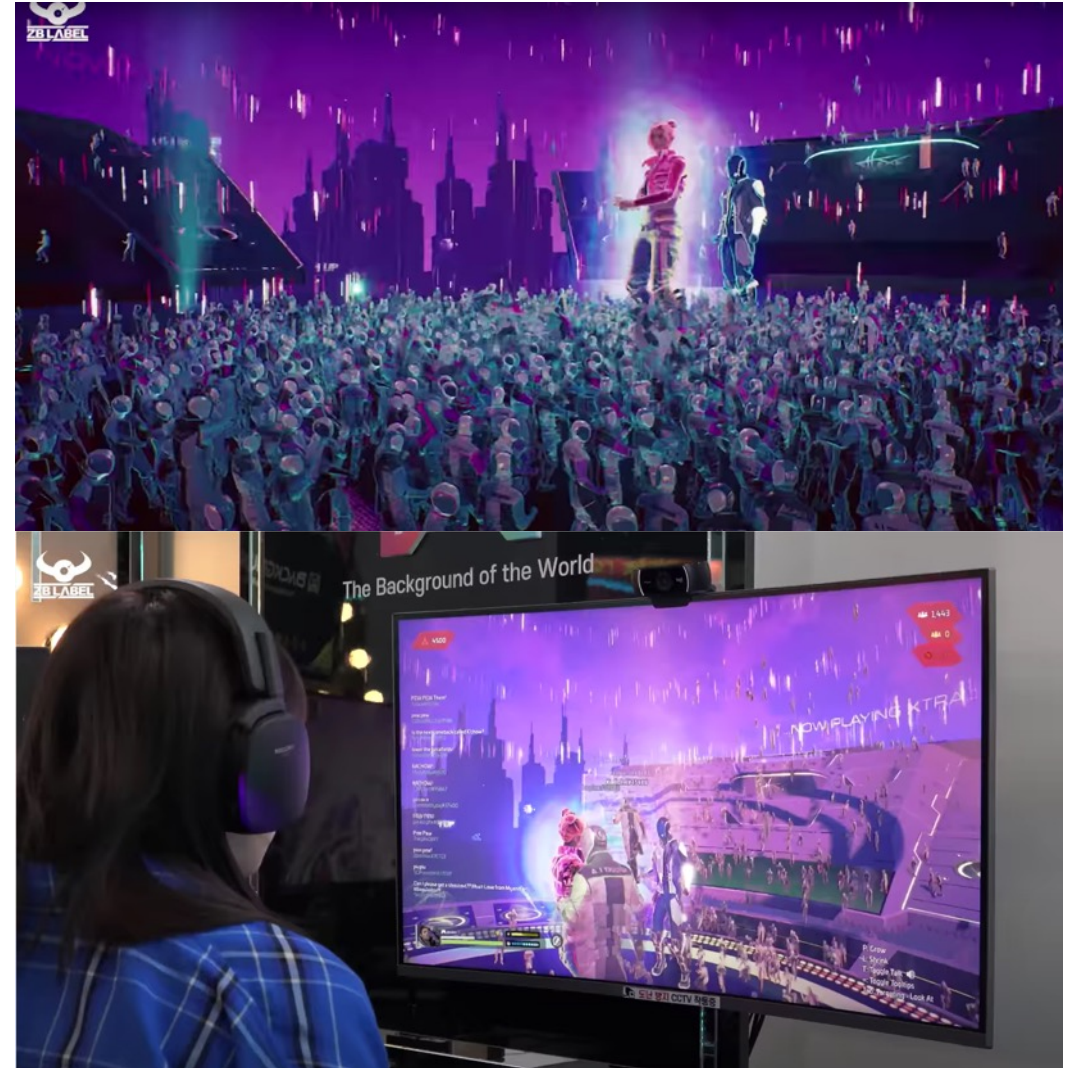
A benefit to the mass audience is the ability to join by clicking in a browser, rather than having to download and install a client.

AleXa manipulated her avatar from a control station in real time, at one point shrinking it down to the same size as other users. Rather than a traditional performer, her role was more in line with a Twitch streamer.

The storyline of the event was to charge up a weapon to attack the ZB Corp building located in the distance behind the stage; AleXa had to use the weapon on the building to keep the plot going forward. This approach enabled a much longer runtime than the Fortnite concerts. While the music occasionally fell by the wayside, for a game-centric audience “going on an adventure” with their star was a compelling feature.

Keeping users on one server shrinks total audience to thousands but in the long term ARPU should substantially exceed Fortnite-style events, because fans value the live presence of the artist like at a concert, and the ability to interact with each other.

There are some hard design problems to iterate on before getting there in order to keep such live mass virtual events interesting and accessible and do proper justice to the potential for intimacy at scale, whether that be in fan-to-fan or performer-to-audience interactions. While it is still at an early stage, the potential for innovation is real.



Capturing the living room to hit the mass market

Expanding the reach of the metaverse has up to now largely been about growing VR adoption while adding browser support, or going browser-first. However, the mass market spends hours a day on the couch, especially for family and social time.

Unlike VR, which increases immersion in a virtual environment but takes users out of their immediate surroundings, the TV brings people together. Motion sensor technology popularised by the Nintendo Wii and Xbox Kinect has been around and improving for decades, while cloud streaming of interactive experiences on smart TVs is a growing market.

The third-person view of an avatar replicating someone's movement is inherently attractive and gets around VR's disembodied first-person view.

Using cameras to track movement in the room could solve the issue of thousands of avatars jumping out of sync with the music and enhance the intensity of virtual concerts that put the music and audience interactions first. Keeping time with the music could unlock rewards or prompt on-screen effects, like a rhythm game, rather than penalising those who are out of time.

However, technical challenges remain; any streaming lags could disrupt the experience and there is no guarantee the remote-dispersed live crowd will create a pleasing overall effect; realistic movement could also be a moderation headache depending on the responsiveness of the avatars.



Creating an enduring digital asset

Motion capture could be used to create a sophisticated “digital master” of data points that could be used across a range of media and applications, and even beyond the death of the artist or group with the estate’s permission.

The 3D digital asset is a tougher technical challenge for music than sport, where matches are well-covered already by sophisticated camera technology.

However, motion capture is widely used in AV production today, from films and TV to gaming, and there is no shortage of capability, though it isn’t cheap.

Mocap can be used to create a lifelike 3D digital artist asset that can be used and repurposed across digital media, so long as rights are properly addressed. It may also take significant upfront investment to process the data and adjust the 3D models, if needed.

Sony Immersive Music Studios launched January 2021 with Unreal Engine. Sony used motion capture on Madison Beer’s performance, who rose to fame on YouTube and TikTok, and recreated the Sony Music Hall New York. These assets were used to create a dazzling yet realistic livestream that debuted on TikTok on 19 March before migrating to YouTube and VR.

In September 2022, Walmart announced Walmart Land and Universe of Play on Roblox. Walmart plan a series of live concerts at “Electric Fest”, with the first concert on 7 October featuring motion capture of Madison Beer, along with Kane Brown and YUNGBLUD. It is not clear if data from Madison Beer’s 2021 VR performance will be used in the Walmart production.

BLACKPINK’s reuse of mocap in PUBG and the music video for Ready for Love gives some idea of the potential; for now mocap may be redone for subsequent events to take advantage of new technology, but in future tech standards will be high enough to have a longer shelf-life.



Fusing physical and digital events

The most striking real-world deployment of 3D virtual assets is the ABBA Voyage experience, which used 500 cameras to capture musical performances by the Swedish pop group after which 1,000 visual effects artists meticulously created avatars of the singers' younger selves to "perform" as holograms.

ABBA Voyage put the virtual into a real life concert, with a specialist arena built to complete the effect: the upfront investment to create a compelling experience where the artist is not present is a lesson about the work needed to inject real-world interest into virtual events.

A new, even more technically demanding, category of live music show could draw remote audiences into a physical space, providing satisfying immersion and interactions that feed into the present audience's experience of the show, reaching a mass global audience without compromising on quality, and generating real excitement for music fans basking in the glow of a premium live experience that reverberates as a global event.

The upfront investment and design challenge of such an endeavour should not be underestimated. A simple first step and compromise could be to use camera coverage and disguised body suits to make concerts available to stream in VR.



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