

Games industry

Epic and Unity rev their engines for the next era of entertainment

Two rival developers of 3D graphics tools step up financing efforts as they look beyond video games



Gamers play 'Fortnite Battle Royale' developed by Epic Games on their smartphones at an event in Paris © Chesnot/Getty

Tim Bradshaw in London and **Miles Kruppa** in San Francisco AUGUST 11 2020

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The two biggest independent makers of the engines that power video games, Unity Technologies and Epic Games, are stepping up their financing efforts to capitalise on the booming market for interactive entertainment.

Unity and Epic both offer “game engines” — software tool kits used by other developers that can provide shortcuts when programming a new game and make graphics look more realistic. These engines are used by millions of designers to create games ranging from puzzle apps to first-person shooters, without having to start coding from scratch every time.

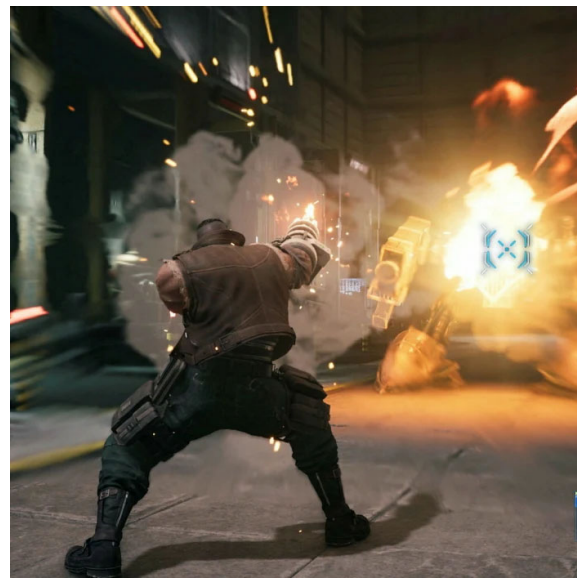
Once seen as niche technologies for high-end games, investors in Unity and Epic are betting that their 3D graphics tools will shape the next generation of entertainment, from video games and new forms of online socialising to Hollywood movies and TV shows.

Last week, Epic Games, better known outside the industry as the creator of *Fortnite: Battle Royale*, closed a \$1.8bn round of funding, valuing the company at \$17bn. The deal includes last month's \$250m investment from Sony, which the PlayStation maker said would "broaden their collaboration" ahead of the PS5's release later this year, as well as an undisclosed amount in share sales by employees.

Games created using Epic's Unreal engine, such as Microsoft's long-running *Gears of War* series, have often pushed the visual capabilities of games consoles with realistic graphics and novel lighting effects.



Nintendo's 'Yoshi Crafted World' uses the Unreal game engine



'Final Fantasy VII' remake also uses Unreal game engine

Its rival Unity, meanwhile, has hired bankers for a public listing expected later this year, said one person briefed on the matter, a move that would capitalise on its huge growth in mobile apps and fuel expansion into a much bigger addressable market beyond video gaming.

While Unity is seen as more limited in its capabilities than Unreal, it can be easier to use for smaller teams or independent developers. Unity also powers some of the world's most lucrative mobile games, including *Pokémon Go* and Activision's recent *Call of Duty Mobile*.

Both companies have made inroads in Hollywood. Unity was used by Disney to recreate the African savannah for last year's *Lion King* remake, while *Star Wars* TV spin-off *The Mandalorian* was shot using Unreal Engine graphics.

“Historically there has been substantial industry convergence in the games developer tools business, but over the past decade the number of developers has increased so much, I believe the market can support two major players,” said Piers Harding-Rolls, games analyst at Ampere Analysis.

A ‘generational leap’

In May, Sony used a demonstration game developed in Unreal Engine 5, the toolkit's latest iteration, to showcase the cutting-edge capabilities and photorealistic graphics of its forthcoming PlayStation 5 console.

Tim Sweeney, Epic's founder and chief executive, has pitched Unreal Engine 5 as a “generational leap”, with *Fortnite* itself set to be among the first games to use it on the PS5 and Microsoft's rival Xbox Series X. (Epic declined to make Mr Sweeney available for interview.)

“Unreal is a foundation piece in a more end-to-end proposition from Epic,” said Mr Harding-Rolls, which includes its own storefront for selling PC games and a platform for building online multiplayer experiences. “This whole suite of tools they built for *Fortnite* are now being offered to third parties.”

Epic wants to use its new funding to play a lead role in developing the so-called “Metaverse” — an expansion of games into platforms for new kinds of social and entertainment experiences, where friends will gather to watch virtual concerts. Analysts said Sony's investment in Epic could signal that the Japanese company wants to push more of its entertainment content into *Fortnite*, whose virtual island has hosted real-life artists including Travis Scott and Marshmello.

“If Epic achieves its vision for the Metaverse, then its addressable market could grow from the entire global video gaming community to the entire global internet-connected population,” said Mina Faltas, chief investment officer of Washington Harbour Partners, which has invested in Epic.

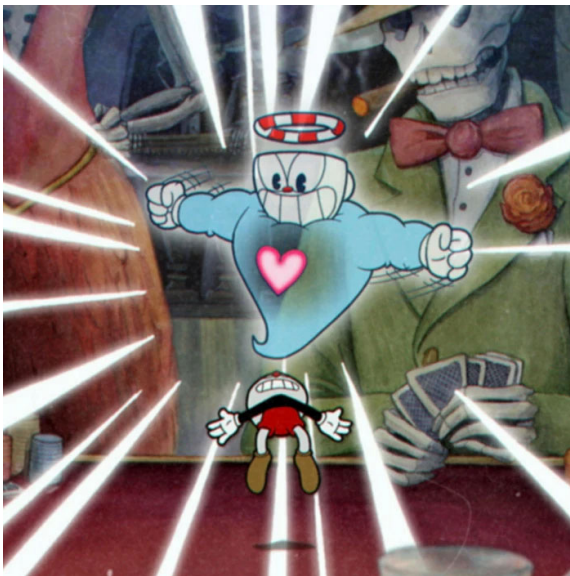
In a sign of the trust that this vision has inspired among investors, Epic's backers have agreed to purchase common stock, rather than preferred shares with greater rights that are typical of venture financings.

‘Your own means of production’

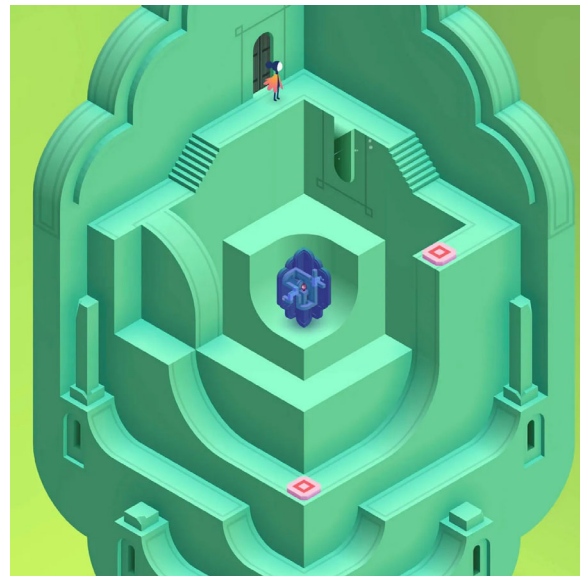
Currently, though, Unity has the upper hand, with many more developer clients thanks to its popularity as a platform for mobile gaming and greater ease of use.

The company has won the backing of the venture firm Sequoia Capital and the private equity group Silver Lake, whose co-chief executive Egon Durban is a board member at the gaming company. Investors most recently valued Unity, which declined to comment for this article, at \$6bn in a round of funding last year.

Traditionally, most of the value in the games industry has accrued to owners of intellectual property — hit franchises such as *Call of Duty* or *Super Mario* — rather than the underlying tools. In *Fortnite*, which was released in 2017, Epic has created a cultural phenomenon and a huge new source of cash flow. But like Unity, its longer-term fortunes depend on providing tools behind the scenes to swaths of other developers.



‘Cuphead’ game by StudioMDHR



‘Monument Valley 2’ using a Unity game engine

A major hurdle for both companies is that some of the biggest games makers opt to use their own engines rather than licensing independent products. The two largest US-based games companies, Activision Blizzard and Electronic Arts, use their own proprietary software, which allows for greater differentiation and control.

“If you want an original custom look to your game, there are disadvantages to using an engine and assets from a marketplace that everyone uses,” said Mr Harding-Rolls.

One executive at a games company with its own engine, who asked not to be named discussing commercially sensitive matters, said it is important to “own your own means of production”.

“We have optimised it to do certain things incredibly well,” he said. “Having your own engine gives you a first-mover advantage.”

Cost is also a concern: Epic charges a 5 per cent royalty on the sale of every game that is developed using Unreal, once gross lifetime revenues of the title exceed \$1m, whereas Unity charges no royalty and instead charges developers a licence fee to use its software.

But as both smartphones and consoles get ever more powerful, more developers are looking to Epic’s sophisticated tools to create more distinctive games, bringing new momentum to the two-decade-old Unreal Engine.

“Unity started out as the amateurs’ platform, making it incredibly easy to make stuff . . . The speed with which you can get something functioning is phenomenal,” said Nicholas Lovell, a games industry consultant. “Unreal can only be used by professionals. That’s its strength and its weakness.”

The biggest games using Unreal and Unity game engines

Unreal Engine	Unity
Fortnite: Battle Royale (Epic Games)	Pokémon Go (Niantic)
PlayerUnknown’s Battlegrounds/PUBG (Bluehole)	Monument Valley (ustwo Games)
Gears of War series (Microsoft)	Call of Duty Mobile (Activision)
Final Fantasy VII Remake (Square Enix)	Beat Saber (Beat Games/Oculus VR)
Valorant (Riot Games)	Cuphead (StudioMDHR)
Yoshi’s Crafted World (Nintendo)	Super Mario Run (Nintendo)

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