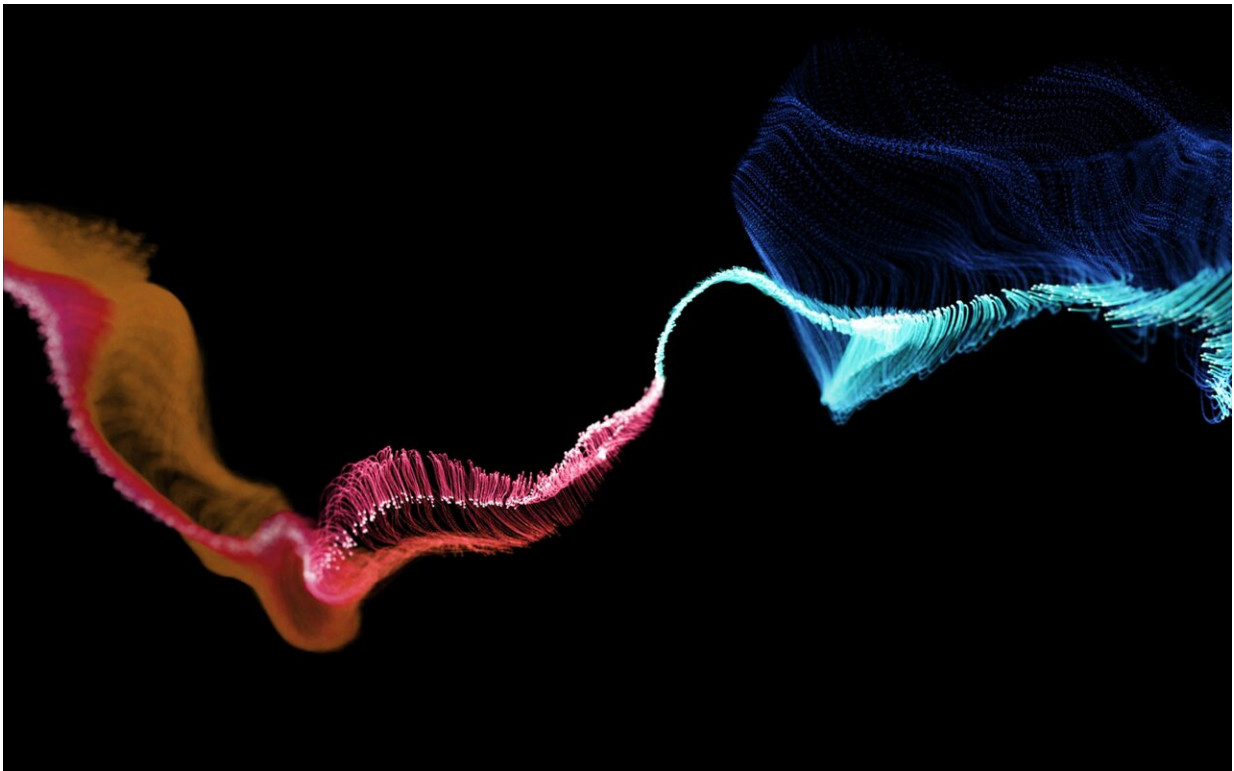


What is the metaverse? A tech CEO who is helping build it explains

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Meta, the company formerly known as Facebook, got a lot of attention when it renamed itself to reflect its focus on the "metaverse." But Meta is hardly the only firm building the immersive digital world that could be the next big thing on the internet. One is based in Philadelphia.

Cesium, a [software company](#), provides a platform to create applications using three-dimensional location data. For example, the construction equipment giant Komatsu uses Cesium's platform to build digital twins of construction sites to track safety and progress. Clients can use drones and rovers to gather location data to build up-to-date models using Cesium's platform.

CEO Patrick Cozzi said his company is deeply involved in building the metaverse and one of the strongest advocates for making sure it is open and interoperable, so users can own their data and bring it from one metaverse to another. The company was spun out of Analytical Graphics, based in Exton, Pennsylvania, in 2019. It now has about 40 employees and clients in the energy, defense and real estate industries.

Cozzi spoke with The Inquirer to explain what the metaverse is and why it's important. The conversation was lightly edited for length and clarity.

What is the metaverse?

I think if you ask 10 different people, you're gonna get 10 different answers and you're gonna get 80% overlap. Just like if 30 years ago you asked someone what the internet was, right? Because we are at a very exciting time in the metaverse where it's starting to unfold. A very simple way to think about the metaverse is a [future internet](#) that is 3D immersive. So today, we see the internet with text, images, audio, video. Well, the next media type is full, immersive 3D—just like [video] games today with Fortnite and Roblox—where instead of being on this video chat, we may be immersed as if we're in the same location and able to interact.

How will we access the metaverse?

Today you can access the internet from your phone, from a tablet, from a laptop. With the metaverse, you'll be able to access it from full virtual reality (VR), right? So [a headset] fully over your eyes and you look around and you're fully inside of it. You'll also be able to access it from future augmented reality (AR) wearables. So like the glasses you and I are wearing right now will be able to overlay virtual information on the physical world. And you'll be able to access it from a game console or a computer like we do today.

What can people do in the metaverse?

So folks look at something like Fortnite and think, "That's a game." Well, it's a future platform for a lot more than a game, such as these [virtual community] concerts. A big challenge right now is, how do you scale up the number of concurrent people that can engage in that concert in essentially one virtual venue? But anything from really immersive virtual meetings, to concerts, to games, to enterprise use cases, like virtually inspecting a construction site to [military] defense use cases such as planning.

What are the business opportunities?

Just like the early days of the internet, where so many companies ran and became "dot-coms" and became internet companies, I do think you're gonna see a lot of companies become metaverse companies or have a metaverse strategy. And right now you're starting to see that a lot with companies like Nike that want to have their products shown in the metaverse, or we've seen the Ferrari car in Fortnite. So I think there's gonna be a lot of business opportunities, especially around enabling a creator economy.

If you look at kind of internet business models over time, certainly

advertising became very popular. When we kind of project forward with the metaverse, I think advertising may be a part of it but I don't think it's going to be the dominant model. We want to empower creators, whether that's software developers building experiences, whether it's people building levels in a game, or people are building digital assets, such as an avatar, such as a virtual car. And those folks having a marketplace or to sell that content, and you personally owning that content.

When will the metaverse be widely adopted?

In some ways, the metaverse is here today with things like Minecraft, Fortnite, and Roblox. And in some ways, that AR wearable on a contact lens may be many years off. A lot of the experts today say that the vision that we talked about is maybe 10 years out.

How is Cesium contributing to the metaverse?

One way is through our technology platform for enabling these massive models of the real world. An entire city modeled down to every brick and every blade of grass, and to be able to efficiently bring that to all the different metaverses with a technique called streaming. Just like you stream video for Netflix or YouTube, we enable streaming of these massive digitized worlds. And then the other thing that we're trying to contribute to the metaverse is just awareness and support to ensure that it's open and interoperable so that you own your content and you can bring your content to different metaverse experiences.

Why is interoperability important?

Just like the internet wasn't built by one company or one organization, the metaverse—which is an even bigger vision than what the internet is today—no one [company](#) is going to build that. And we need large

organizations to work together in order to achieve this mission. And therefore, we need interoperability among their different offerings. So that's you, as a user and a participant, you don't want to be locked into a walled garden. You want to own your identity, you want to own your digital goods, and you want to be able to spend your time with your content in the experiences that you'd like.

Imagine if you bought a digital car asset. Then you could bring the car into two different video games where the car could interact with the world, or you could even bring the car into a virtual house. That sort of thing.

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