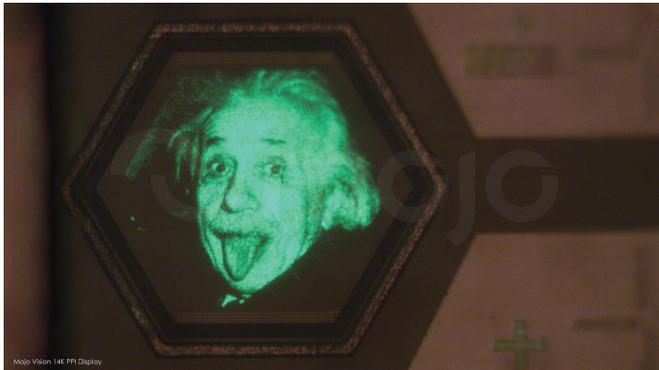


Mojo Vision shows off display technology for augmented reality

5 June 2019, by Nancy Cohen



Credit: Mojo Vision

What meets the eye is important—but in the case of entering the realm of augmented reality, *how* it meets the eye is an issue. A California company is on that case. They have technology to let AR users keep in the flow eyes-up. Hands-free.

They have been working on a tiny [display](#) for augmented reality.

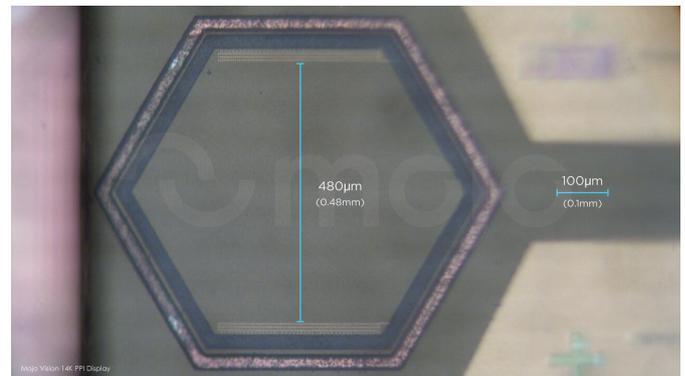
The company, Mojo Vision, has had successful funding. Gradient Ventures, for one, pointed to a current interest in "using AI to look beyond today's mobile form factors and develop new ways to [connect](#) the world to [important information](#)."

We can see where a venture capitalist might be drawn to a claim that this is the world's smallest and densest micro display. *VentureBeat* said it was a 14K pixel-per-inch display coming out of this Saratoga, California-based company.

In fact, *VentureBeat's* Dean Takahashi said a prototype was shown at the Augmented World Expo event in Santa Clara and he saw a demo. Verdict: "It looks like they're putting their \$108 million in funding to good use." Takahashi

witnessed looking at moving images on a dot via a microscope. He said the prototype powers tiny pixels.

Lexy Savvides, CNET, also viewed a demo and she wrote that, instead of being shown a screen, "Mojo Vision has just showed me the complete opposite: a tiny monochrome display measuring half a millimeter across that I can only see under a [microscope](#)."



Credit: Mojo Vision

The Business Wire news release said the technology delivered "a [pixel density](#) 300 times greater than current smartphone displays." The release called it "World's [Densest](#) Dynamic Display."

The company is talking up a storm about what it brings too the table of something called "invisible computing."

[Takahashi](#) described the concept of "invisible" but that makes one more curious than ever as to how users will access the words and images they want to see.

"Mojo envisions the future of computing—invisible computing—which imagines a world where information is there when you need it, technology fades away, and you can freely connect with others in a more meaningful and confident way." *IEEE Spectrum's* note is especially interesting. Samuel Moore wrote, "basically information that's there when you need it and gone when you don't."

OK, so the AR-related premise is that one ought to be able to receive and share information that is immediate and relevant but not in a way that may distract attention from the world in front of that person.

Think "high-density microLEDs," as does the vice president of displays at Mojo Vision.



Credit: Mojo Vision

Screens with smaller pixels will deliver a nearly invisible low-power display— *without* the distraction of today's [mobile devices](#). "This prototype," said Paul Martin, "demonstrates the capability MicroLEDs have to create more seamless AR experiences."

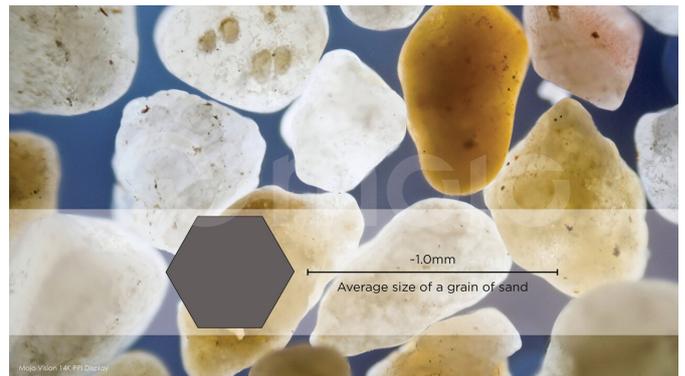
Entering into Mojo's world means hanging loose on the concept of screen as you know it, in preparation for encounters with augmented reality.

MicroLEDs require approximately 10 percent of the power of current LCD displays, and at 5 to 10 times higher brightness than OLED, said the news release.

Samuel Moore in *IEEE Spectrum* wrote that "Like other microLED companies looking to power augmented reality devices, Mojo Vision builds its gallium-nitride microLEDs as an array and then bonds the array to a silicon CMOS [backplane](#) that switches them on and off."

The "less intrusive" advantage of their technology appeared to dominate in their promotional messages. Mike Wiemer, CTO at Mojo Vision, said, "Today's devices are tethered to us and often create a barrier to personal interactions. Now is the time for us to rethink the delivery of that information so that it is less intrusive. Our team has designed and built ground-breaking display technologies with this intent in mind."

So, with all that in mind, the technology itself is clear but what will a product look like? What is the intent?



Credit: Mojo Vision

CNET's Savvides said, "Mojo Vision wouldn't give me an indication of when we're likely to see their final product come to [market](#) or how much it would potentially cost."

Martin was quoted in *IEEE Spectrum*: "MicroLED displays targeted at AR are typically measured in centimeters, not fractions of a millimeter like Mojo Vision's. "The dimensions of it are purpose built for the application we're going to use it for."

You cannot blame *IEEE Spectrum* for not trying to

learn what the final application will be?

"Company executives were cagey about exactly what the final application will be. Mojo Vision, they say, was founded with a particular application in mind. The microLED display 'is one piece of several building blocks that we have to have in place to build the product that we're making,' says Steve Sinclair, senior vice president of product and marketing at Mojo Vision."

More information: mojo.vision/

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APA citation: Mojo Vision shows off display technology for augmented reality (2019, June 5) retrieved 1 July 2022 from <https://techxplore.com/news/2019-06-mojo-vision-technology-augmented-reality.html>

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