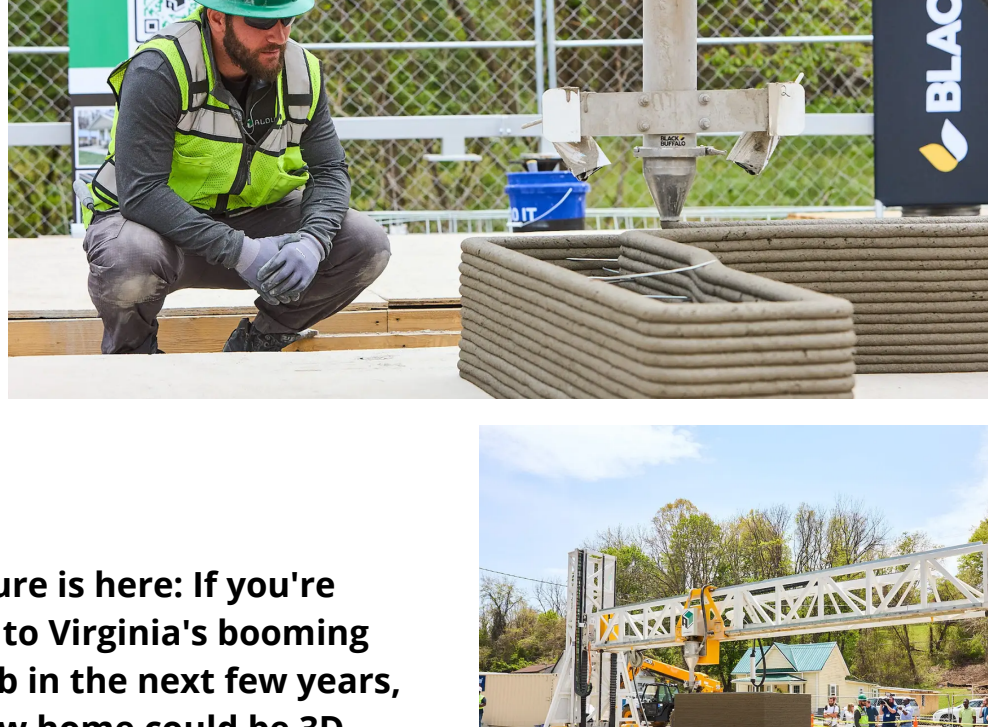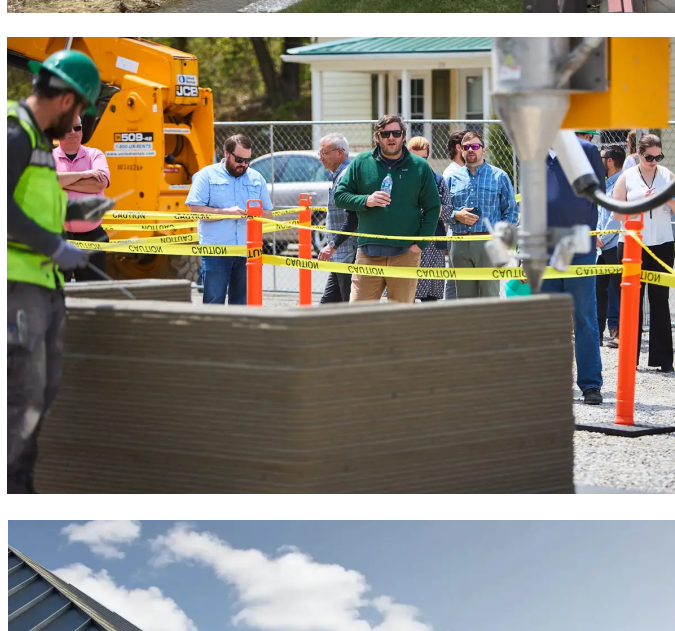## See how a huge 3D printer is going to build 200 concrete homes in Virginia's tech hub within the next 5 years

The future is here: If you're moving to Virginia's booming tech hub in the next few years, your new home could be 3D-printed.
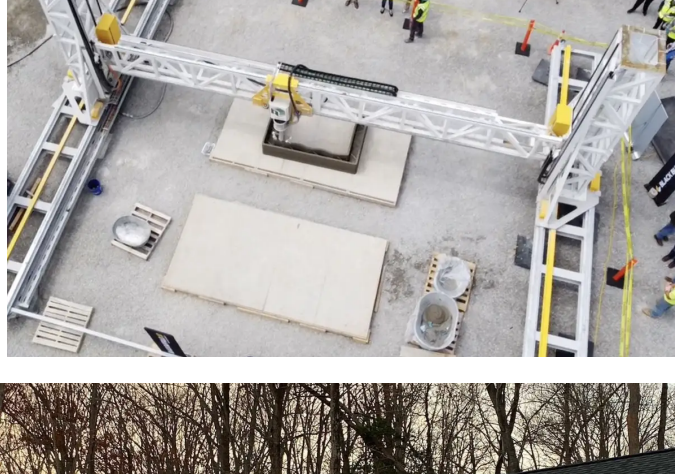

In late April, Alquist announced plans to build 200 3D printed homes over the next four to five years around Pulaski, Virginia, a growing hub of manufacturing and tech jobs.

"Project Virginia" will be the world's largest 3D-printed construction project, according to Alquist...

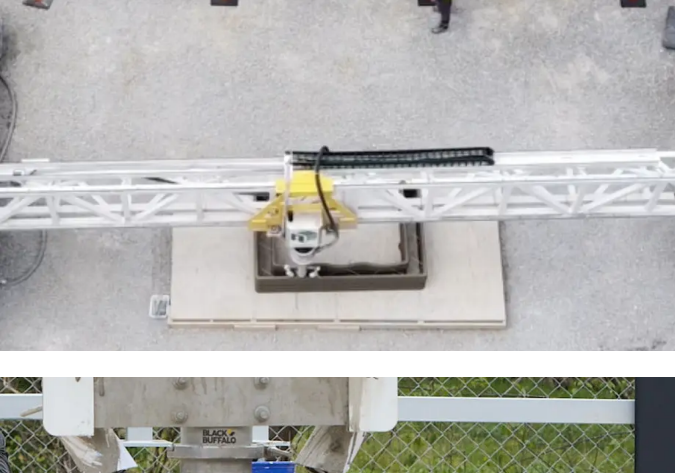... toppling the previous record held by Icon's upcoming 100-home community in Austin, Texas.

This isn't the 3D printing home construction company's first project in Virginia.

In 2021, Alquist partnered with Habitat for Humanity to create a 3D printed concrete home for a family in eastern Virginia.

And now, it's bringing its tech across the state to southwest Virginia, the home of manufacturing facilities like Volvo's and a booming tech community.

According to Alquist, over 3,000 jobs will flood the area within the next five years and the need for additional housing will inevitably follow.

"A couple hundred homes isn't enough to satisfy the state's housing demands, but "the need is so great, Alquist wants to make an impact as quickly as possible," Zack Mannheimer, the company's CEO, told Insider.

The company will begin work on Project Virginia this summer starting with 1,280-square-foot three-bedroom, two-bathroom homes.

When the project is complete, the printed units will span across six or seven communities, Mannheimer said.

Despite the futuristic building process, these upcoming homes will look similar to a traditional single-family unit. The most noticeable difference will be the layered walls.

If you're having a hard time picturing this, Project Virginia's units will look similar to the three-bedroom, two-bathroom Habitat for Humanity home shown below, a spokesperson told Insider.

Alquist will deploy six of Black Buffalo 3D's Nexcon printers to build the walls of these homes.

Once placed on a track, the printers will print several homes at the same time by excreting reinforced concrete in a layered and uniform pattern.

After the walls have been printed, the remainder of the home will be completed "traditionally."

AThe exterior walls of a 1,500-square-foot home can be printed within 20 to 30 hours, cutting the time it takes to build a home by several weeks, according to Mannheimer.

"We are replacing human jobs with robots and there's no way around that," Mannheimer said, noting that the company is rolling out vocational programs at local schools to grow its workforce.

Proponents of 3D printing homes like Mannheimer believe the tech can cut building time, costs, waste, and physical labor.

These words are enough to make any developer overjoyed amid our housing crisis, but the nascent tech has yet to reach its full potential.
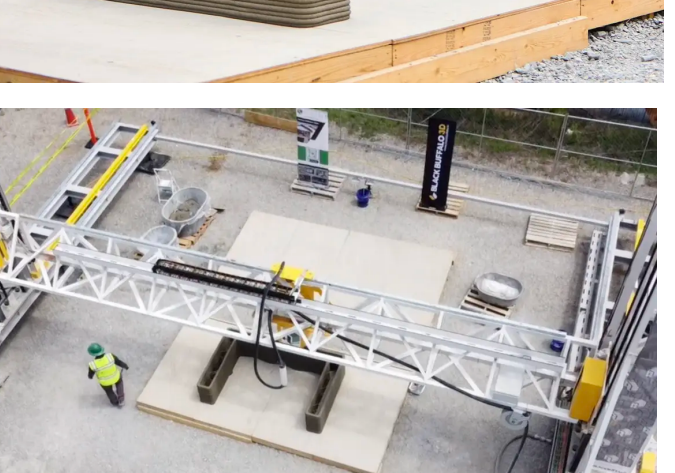

A home that takes six to seven months to build "traditionally" can instead be printed and completed within five to six months.

The goal is four months, but Mannheimer says Alquist isn't there yet.

The units will still be less expensive compared to traditionally constructed homes but the price cut isn't dramatic yet.

And as of now, the tech isn't immune to the same supply chain and staffing issues construction companies have been experiencing.
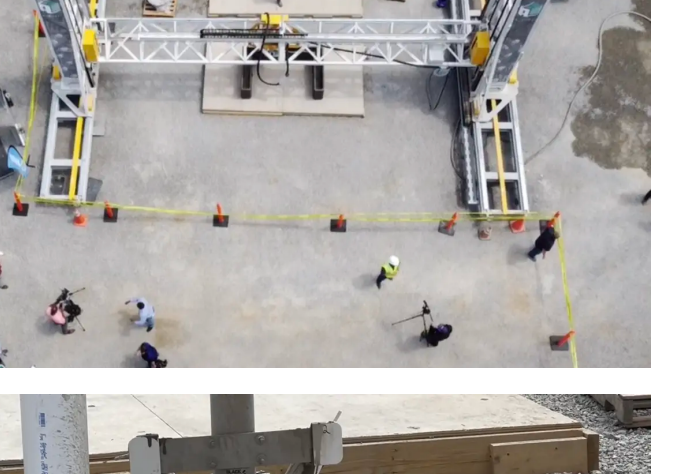

But the more companies continue to scale its use of 3D printers, the more affordable these homes will continue to become, according to Mannheimer.

Creating a home out of printed concrete may seem too futuristic to comprehend, but by 2025, Mannheimer predicts we'll be seeing a printer at every commercial and residential construction site.

By 2027, he says more homes will be 3D printed than built traditionally.

If you're in Virginia, you could still see a printed concrete abode very soon.

Icon will begin construction on its 100-home community in Austin, Texas this year, and Alquist is now considering similarly sized projects in six other states. These projects will be announced in the coming months.