

Manufacturing

3D-printing construction company sets up shop in Greeley



Alquist 3D built this home using its 3D concrete printing technology.

COURTESY ALQUIST 3D



By [Kate Tracy](#) – Reporter , Denver Business Journal
Oct 6, 2023 **Updated** Oct 6, 2023 5:14pm MDT

Greeley is the new home of a 3D-printing construction company aiming to build more affordable housing.

Alquist 3D, a three-dimensional concrete printing company, celebrated its move to Greeley Oct. 6 with city leaders and other dignitaries, including Gov. Polis, in Aims Community College's auditorium.

"Colorado faces a housing supply shortage and we need action," said Polis. "Solving our housing crisis is all hands on deck and innovative solutions like Alquist 3D and communities like Greeley are crucial to our success in lowering construction costs for housing and infrastructure."

Alquist is moving its headquarters from Iowa City, Iowa to Greeley with the relocation projected to be complete this fall. The company expects to create 79 net new jobs at an average annual wage of \$73,987, which is 124.3% of the average annual wage in Weld County, according to a news release. The positions will include project managers, executives, manufacturing workers, and business services, the release said.

Alquist founder Zachary Mannheimer, who started the company in 2020, told the Denver Business Journal he was looking for three things when selecting a new headquarters for his company: city leadership willing to “try something bold,” an entrepreneurial state welcoming to new companies and a school. Aims Community College and Alquist are developing a new 3D printing certificate program for students to learn how to operate the robot and software.

“We needed a school to partner with that was going to go all in on this technology, and Aims stepped up to the plate,” Mannheimer said.

Plus, Mannheimer was attracted to the city’s size and growth.

“Greeley was the perfect size. The expansion here is dramatic. It made total sense for us to be here,” he said.

Alquist is negotiating a lease in downtown Greeley for a showroom that’s 2,000 to 3,000 square feet in size, with robots and other systems on display. Alquist 3D also received an incentive package valued at \$2.85 million from the city of Greeley.

“It’ll be a place where people can really come in and understand what a 3D home is,” Mannheimer said.

In addition, the goal is for Alquist to have a facility on the Aims campus for training, materials and manufacturing.

Mannheimer’s background is perhaps atypical for a home builder. He grew up in Philadelphia and pursued a theater career in New York and London after college. Mannheimer decided he wanted to live in a smaller city than New York where he could own his own theater and have a “bigger impact,” so he chose Des Moines, Iowa.

“I quickly got married and had three kids; that’s what happens when you move to the midwest,” Mannheimer said.

In downtown Des Moines, Mannheimer renovated a former firehouse and transformed it into a theater, and restaurant and created other uses. Pretty soon, he was hearing from people in rural communities around the Midwest who wanted help with converting their downtown buildings into something interesting as well. Mannheimer started a business called Atlas Community Studios that does creative placemaking. He also worked at an engineering firm, where he met Greeley's public works director.

"Everywhere we went, the number one issue was housing," Mannheimer said.

In 2016, Mannheimer attended an event that featured a segment on 3D printed homes, which sparked his interest. He started meeting with all the major manufacturers and ended up receiving a grant with the U.S. Department of Housing and Urban Development from the state of Virginia in 2020 to 3D print his first home.

Right now, Mannheimer said Alquist's expenses for building a new home are equal to traditional methods, but over the next two years, the goal is to lower that cost by 20% to 30%. It takes 20 hours to print a 1,200-square-foot home, according to Mannheimer.

"We've been living in concrete structures for hundreds of years. I wouldn't say there's a drawback but there are a lot of benefits," Mannheimer said.

Alquist is working with the city of Greeley and Greeley-Weld Habitat for Humanity on a new housing community as well as new curb systems.

Mannheimer plans to franchise the business so that other home builders can train in Greeley and then go and print the homes in other parts of the state.

"We want to commercialize the industry. And the only way to do that is to get more people involved," Mannheimer said.