

REAL ESTATE

# Startup Flips Difficult Onsite Housing Construction Process On Its Head

**Jennifer Castenson** Contributor ⓘ

*I focus on innovation in the built environment.*

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Flashpoint Building Systems's co-founder Nick Stoppello demonstrates how the startup's technology ... [+] FLASHPOINT BUILDING SYSTEMS

Picture this. You are on a job site building a new home. One room has three windows. For each window you have to flip through 40 pages of paper designs to get the installation instructions. One part of the critical information to install just one window is on page 3, another on page 8, more on page 11, and yet even more on page 23.

Oh, and you don't speak English.

This is the issue that Nick Stoppello and Pat Churchman were solving for when they founded their Boise-based business [Flashpoint Building Systems](#). The company launched in 2020 at local building supplier [Franklin Building Supply's](#) Hacking for Homebuilding event.

At the most recent innovation event sponsored by Franklin Building Supply's visionary leader Levi Smith, the founders presented the next phase of the startup's progression that now includes a physical presence at Franklin's 16-acre lumberyard.

In an outline of the business case, the founders shared that an estimated 9% of total project cost is rework, which adds up to an annual \$19 billion in the US. With construction material prices going up at a very steep incline, these rework costs will be incrementally escalating.

Layered on top of that, builders are faced with labor challenges. Much of the labor is aging out, which necessitates hiring new, unskilled workers. Many times, as was noted, there also are language barriers.

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So, Flashpoint backed into the issue by first examining the process, where they also found some fundamental issues. In the current process, there are two siloed groups working on any project. One group is composed of the crew that doesn't work onsite for the project. This group is typically highly educated, has a lot of tools at their disposal, communicates well and is motivated by delivering higher quality solutions.

The second group is dynamically different. This group works onsite doing the physical labor. They typically are not well educated, they only have primitive hand tools at their disposal, they don't have strong communication skills, and, again they may speak English as a second language. Counter to their colleagues, they value time over quality.

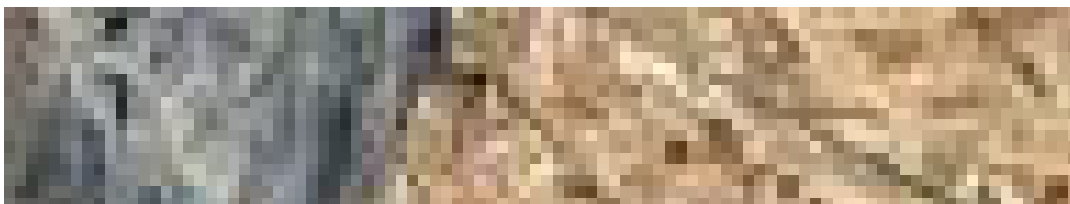


This broken structure also means that instructions are relayed to the onsite crew third hand, which often results in inefficiencies and rework. So, these culture differences combined with the motivational differences, create a number of challenges to the project, which is where the Flashpoint Building System comes in.

The co-founders explained that the company's innovative technology affords the contractor the opportunity to supervise rather than have to be directly involved in the work, which leads to a higher rate of success from the subcontractors the first time. They call the structure an integrated layout system—it starts with permit-ready drawings that are combined with all the drawings from other disciplines into a single document. With this more collaborative approach, Flashpoint's system converts all the critical instructions into one succinct document. Then, those instructions are etched into the subfloor to follow easily without flipping through pages of designs, or as happens on many job sites, the installation instructions just being ignored all together.

The sub floor is packed up in order of installation at Flashpoint after being etched, then delivered to the site and the onsite crew can start work easily. The subfloor has easy-to-follow instructions with a letter and number designation that identifies its location and is cut and finished to fit precisely.

“The first time a crew installs, we are onsite with them to help with the map,” Churchman said, referring to the subfloor layout guide that is delivered with the flooring in bunks to the site. “The last three crews were entirely Spanish speaking.”





Installation instructions are etched into the subfloor for a faster, higher quality installation. FLASHPOINT BUILDING SYSTEMS

So, Churchman explains, as the installers start nailing these subfloor sheets down it starts building an image with an installation that doesn't need guess work or a tape measure. Then, the installer is standing on the home design details.

Flashpoint adds in everything that an installer is concerned with, including wall types, location and layout; door number, location and swing direction; fire alarm and sprinkler locations; door or window opening with structural framing information; electrical and low voltage locations; overhead lighting fixture location and identification; overhead framing and soffit locations and heights; and HVAC distribution return and equipment locations.

The easy access to these types of installation details is paying off for the project owners.

“The approximate cost savings has been adding up to about 3% of project value,” Churchman added. “So you get higher quality and lower cost in less time.”

Flashpoint's growth will be predicated on the ability to license the technology to lumber dealers across the country while providing service remotely. The startup is currently engaged in a multifamily project along with a single family residential development with more than 200 homes.

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