



KAIHAN'S

REAL ESTATE & CONSTRUCTION

INSIGHTS AND PERSPECTIVE

CONTEXT

- The construction industry was valued at \$900B in Q1 2020.
- There were 7.64 million employees in construction at the beginning of 2020—a record high since 2008.
- COVID-19 exposure set the construction industry back two years in terms of GDP and employment gains ([Deloitte](#)).
- COVID-19 has accelerated growth in the suburbs, most notably in Sunbelt markets ([PwC](#)).
- Fifty percent of buyers use the internet to search for a home; 93 percent of people under 36 years old use the internet to search before making a home purchase ([NAR](#)).



TRENDS

1. Virtualizing Construction

- Companies are seeking options for remote collaboration that allow teams to work on projects from a distance. By bringing design, planning, and preparation to the digital space, companies can reduce costs while enhancing productivity and collaboration, and can move from project design to construction more quickly. In addition to traditional collaboration tools, there are opportunities to apply AR/VR applications to this process.
- The Wild, a company providing AR/VR collaborative tools, released software which integrates with Autodesk BIM 360, enabling architecture, engineering, and construction teams to coordinate together in a remote, immersive workspace ([Source](#)).
- The opportunities for AI in construction are growing; Smartvid.io produced an AI named “Vinnie” to analyze videos from worksites to provide insights on safety hazards and risks, such as slipping or electric shock, in order to increase jobsite safety ([Smartvid.io](#)).

2. Automation and Robotization

- With COVID-19 accelerating issues in home ownership due to rising prices and tightening constraints on low-income individuals ([PwC](#)), automation and robotization in construction create opportunities for companies to reach new customer segments.
- Australian robotics company FBR created its Hadrian X robot, a bricklaying robot, which in 2020 constructed a two-story building with concrete blocks and steel-reinforced slabs at a pace 300 percent faster than its prior mode ([Global Construction Review](#)).

- 3D printing introduces opportunities for automated home construction. ICON is a construction technology company which “printed” a small village of homes in Tabasco, Mexico, and a community of homes for the homeless in Austin, Texas ([Singularity Hub](#)).
- Utilizing drone automation for repetitive tasks is an opportunity SkyMul, a drone company, has capitalized on. The drones apply machine learning to identify rebar intersections and operate autonomously to tie them, reducing one of the most taxing projects on jobsites by 84 percent ([SkyMul](#)).

3. Inflation, Affordability, and Corporate Relocation

- As of this writing, changes in Federal Reserve policy indicate that inflation rates will be rising above the acceptable limit for the foreseeable future. Interest rates will continue to rise above the 2-3 percent average and constrain buyers’ ability to secure financing ([Forbes](#)).
- Affordability of real estate is more important than ever as a result of the economic trouble caused by COVID-19; sales in low-cost housing are growing while those in high-cost housing are diminishing ([Linchpin](#)).
- Corporations are beginning to seek relocation options due to the opportunity for more affordable real estate in other markets; Toyota relocated its offices from California and Kentucky to Plano, Texas because of the affordability that the Dallas-Fort Worth market offered ([Linchpin](#)). The growth of these “secondary cities” show great promise for corporate expansions and relocations and the employees involved ([Forbes](#)) Apple is close to completing its \$1B campus in Austin, Texas, and Amazon is completing construction of their second headquarters in Arlington, Virginia.

4. Redefining Workspace

- Due to the social changes brought on by the pandemic, the circumstances of work spaces are changing.
- The National Association of Realtors reports noticeable trends towards smaller spaces, shorter leases, and movement towards suburbs (NAR). 70 percent of NAR members reported their client companies were moving into smaller spaces due to the growth of remote work. Major metropolises, such as Los Angeles, New York City, and Dallas, saw a decline in office vacancy up to 16.4 percent in Q1 2021 (NAR).
- With the booming growth of e-commerce, the real estate market is seeing both a decline in and a redesign of conventional physical retail spaces; the shift is expected to bring a growth in warehousing as online retailers seek ways to bring their products closer to customers (Forbes).

8PS

Leverage Point	"8Ps" of Strategy	Opportunity for Disruption	Recommended Leverage Points
<u>Position</u>	The core client you serve, what need you meet with what brand attributes	4	<ul style="list-style-type: none"> • What clients are you currently serving? How can you position your organization to pursue a new client base?
<u>Product</u>	The products and services you deliver, where you outperform and where you underperform	8	<ul style="list-style-type: none"> • How can you bring AR/VR applications to your sales process? • What products do you offer that can be enhanced using AI/ML technology? • Do you have opportunities to deliver SaaS to construction clients?
<u>Promotion</u>	How you communicate with clients (including your marketing, sales, and PR teams)	8	<ul style="list-style-type: none"> • How can you promote your product or service to new demographics? • How do you creatively connect with potential clients? • How can you appeal to a majority of homebuyers who search online before making a decision?

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<u>Price</u>	How much you charge for services, how you communicate value to clients	6	<ul style="list-style-type: none"> How do you communicate value to your clients? How do you display pricing information in a way that attracts potential buyers?
<u>Placement</u>	How you deliver on your value proposition, through what channels	5	<ul style="list-style-type: none"> How accessible is relevant information on your service or product to your target client? How accessible is it to a wider audience?
<u>Physical Experience</u>	The client experience, what they see, smell, feel, taste, or hear	7	<ul style="list-style-type: none"> How do you personalize homebuyers' experiences? How does your service affect the overall wellbeing of your clients?
<u>Processes</u>	Your operations and processes	3	<ul style="list-style-type: none"> Does your current business model lead to affordable products and services for clients? Have you considered robotics and/or automation as a component of your production?
<u>People</u>	The choices you make regarding hiring, organizing, and incentivizing your people. Your values.	3	<ul style="list-style-type: none"> Could you consider contract employees as a valuable asset to your current business model?



- ICON developed a 3D printer—the Vulcan—which, using specialized concrete, can print a house structure in 24 hours.
- The printing process is faster and more affordable than conventional labor, and cuts labor costs by 10-30 percent.
- ICON partnered with Community First! Village to 3D-print various buildings and homes in an Austin, Texas homeless community.
- They also partnered with New Story to construct 3D printed homes for homeless families in rural Mexico.
- ICON is now in discussions with NASA to develop a 3D printing construction system that would function in outer space—specifically on the moon—using space-borne materials ([Fast Company](#)).
- Zillow expanded out of its conventional model of connecting homebuyers to homesellers by purchasing homes from sellers and flipping them to buyers; this program was in 23 markets at the end of 2019.
- During the pandemic, Zillow also began to offer home loans and financing.
- Their innovative strategies doubled their 2018 revenue to \$2.7B.

