



AUTOMATED OFFSITE CONSTRUCTION
Technology Driven Affordable Housing Solutions for
Economic and Community Development



Chris Younger | Strategic Partnerships & Governments | Land Acquisition & Development

Confidential & Proprietary

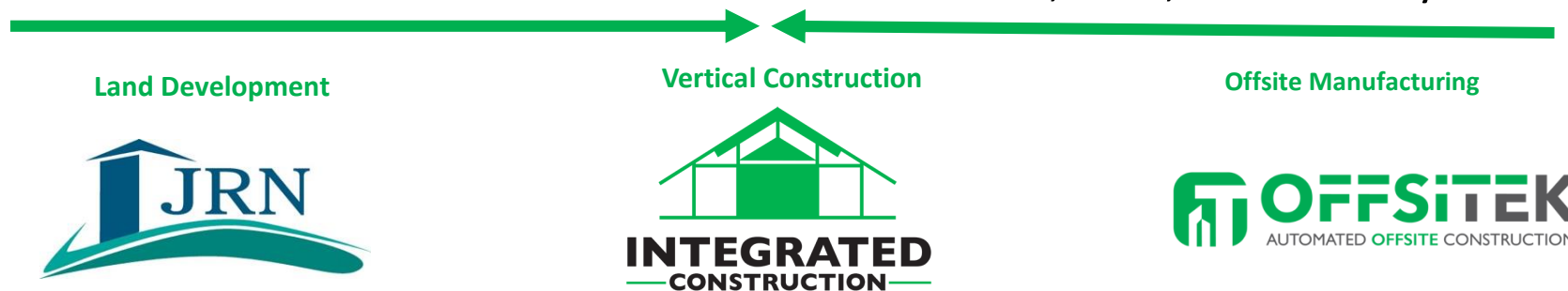


Who We Are

Vertically Integrated Suite of Companies that can undertake complete Community Development projects from Land Development, to Product Manufacturing, to Construction, to Real Estate Sales of homes to buyers.

Complete End-to-End (E2E) solution for construction:

- ✓ Horizontal – Land Development
- ✓ ADU and Tiny Home Manufacturing, Structural Steel and Framing Manufacturing
- ✓ Virtual Design and Construction (VDC) Engineering and Structural Design
- ✓ Vertical Construction (General Contracting)
- ✓ Offsite Construction of Next Generation Panelized Walls, Roof, and Floor Systems



Land Development

Building Assembly at Jobsite

Offsite Construction of Kit of Parts



Our History – How We Started

In **2018**, in collaboration with ABB, Autodesk, MWF, and FrameCad we developed first of its kind **fully integrated digital process for automated prefabrication of light gauge steel wall, roof, and floor assemblies.**

Fall 2020: installation of equipment at Charlotte, NC automated prefab pilot facility & plant launch

2021: delivering turnkey, high quality, affordable housing projects in the Charlotte region.



Our mission

Transformation of the construction industry using an integrated suite of enabling technologies:

Digitalization

Collaboration

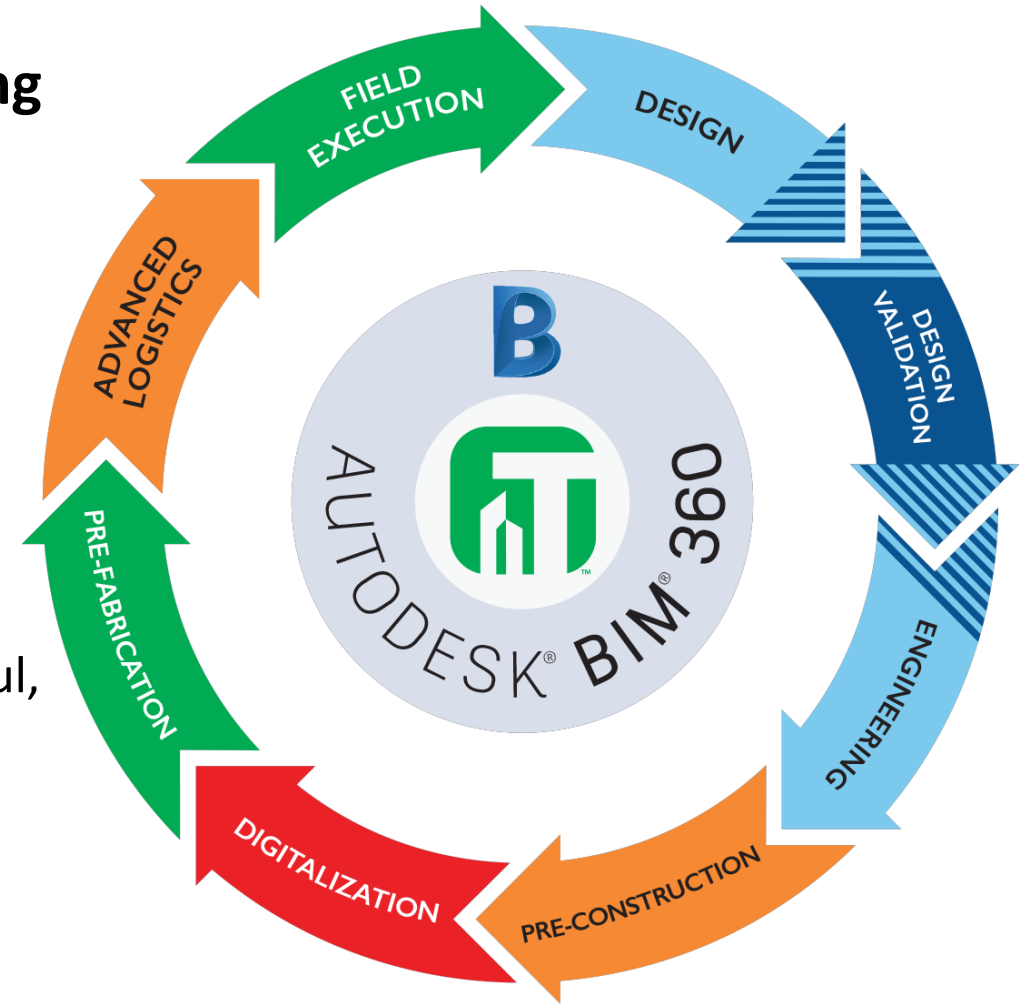
Automation

Kit-of-Parts Design Led Architecture

Advanced Building Science

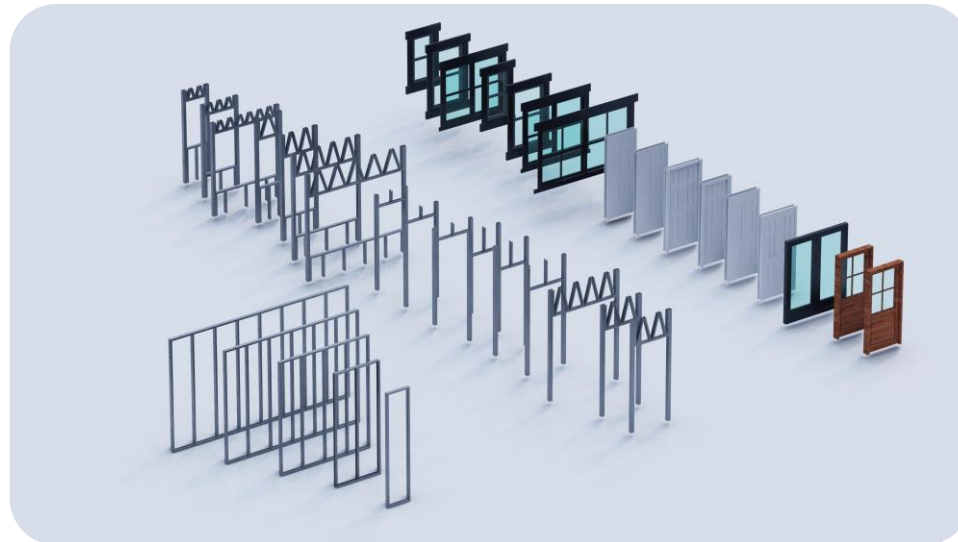
Resulting in.....

Disaster Durable, Affordable Housing that is Beautiful, High Quality, Energy Efficient, and lasts several Generational Lifetimes.



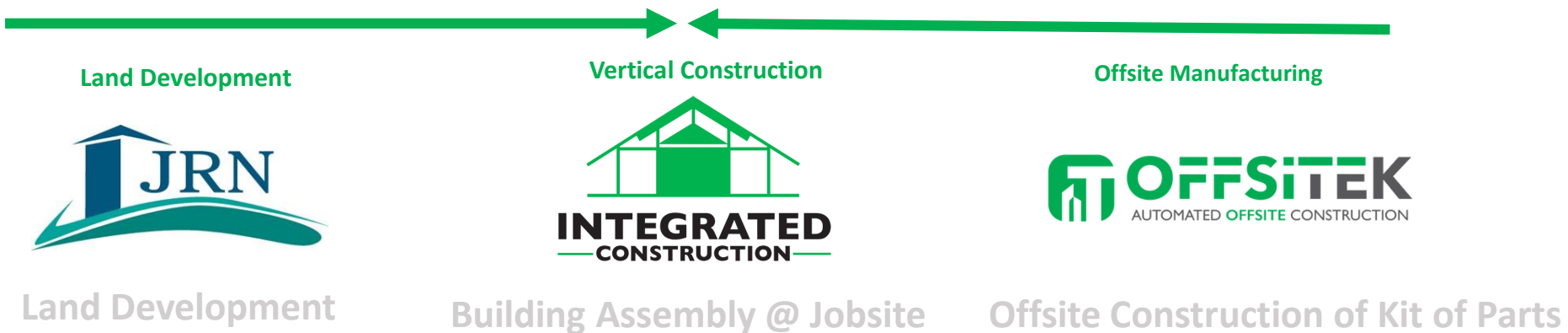
What We Do

Offer improved quality, speed of construction, environmental performance, and design flexibility through our innovative **kit-of-parts, design led, prefabrication ecosystem**; these advanced methods are financially attractive alternatives to slower, resource-heavy traditional construction methods, such as onsite stick-built projects.



Our Focused Markets

- Affordable Housing via Municipality PPP | Single Family & Multi Family
- Multi Family | Apartments & Townhomes
- Light Commercial | Mixed Use of Retail & Residential, Hotel & Hospitality
- Special Purpose | Veteran & Student Housing
- Accessory Dwelling Units (ADU) & Tiny Homes, Cottage Clusters
- Transitional & Emergency Housing



THE CONSTRUCTION INDUSTRY WAS LEFT BEHIND

Closing the Innovation Gap – Other Industries Have Evolved Their Processes

Over the last 135 years, little has changed in the AEC industry – the way houses were built in the mid 19th century is somewhat the same as today.

Manufacturing has nearly **doubled**, whereas construction has **remained flat**. As the fourth industrial revolution comes, the industry is finally transitioning from **conventional building processes** to an **industrialized construction model**. The industry could see a 5-10X productivity boost by moving to a manufacturing-style production system such as OFFSITEK's.



1919



2019



1833

2022



THE FUTURE OF RESIDENTIAL CONSTRUCTION - TODAY

Closing the Innovation Gap – Transforming the Construction Industry

Advanced Framing Technology

- Light Gauge Steel vs Timber
- Advanced framing refers to a variety of framing techniques designed to reduce the amount of framing material (wood or steel) used and waste generated in the construction of a stick-framed house.
- “Kit-of-Parts” Based Architecture
- Automated Offsite Prefab of Critical Systems (Walls, Roof, Floors)



Why Steel?



Stronger than Wood: Steel is 7X stronger; allowing for taller structures and reduced framing members.



Flood Resistant: Steel resists water damage; will not rot over time.



Longevity: Steel has a life expectancy of over 100 years. Some say it can last 350 years!



Termite : Steel is inorganic, so it does not act as a food source for termites.



Non-Combustible: Unlike wood, steel is non-combustible. Steel can withstand fires with reduced damage.



Why Steel?



Sustainable Resource: Steel the most recycled material on the planet, besides water. Our steel is 70% recycled content.



Mold Resistant : Steel resists water damage and does not sustain mold growth.



Cost: High strength of steel reduces the volume of material needed to frame the building (40% less).



Seismic : Steel has a superior response to building movement during seismic events, so we can build taller.



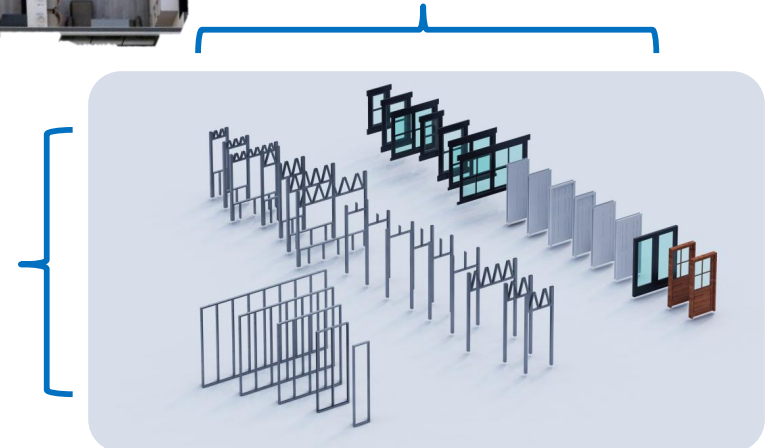
Wind Resistance: Steel can withstand 190 mph wind speeds.

Insurance
Resilient
Cost Longevity
Sustainable
Straighter
Stronger
Quality ^{Taller}
Non-Combustible
Disaster-Durable



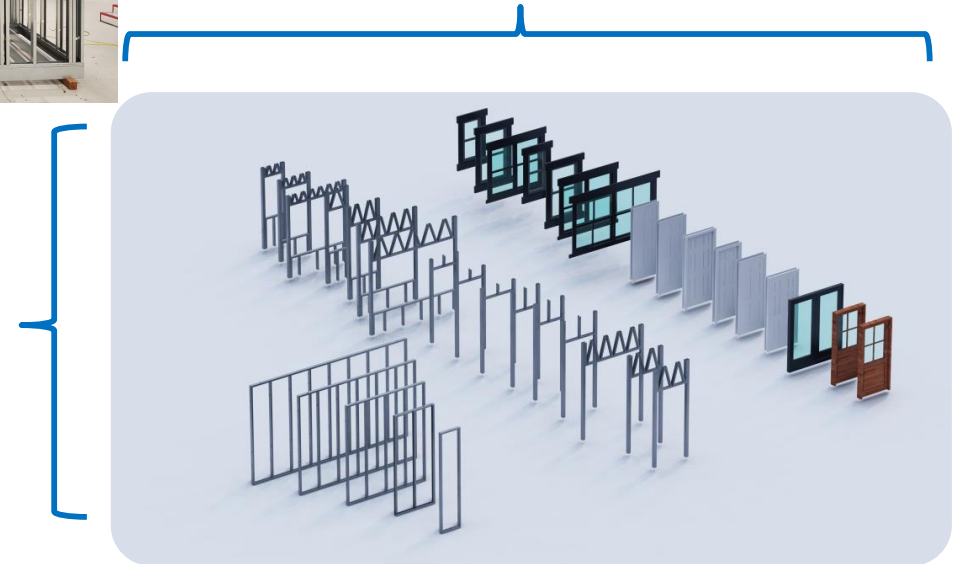
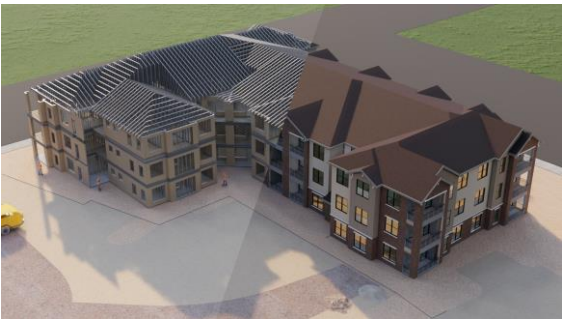
— Design Customization Through Kit-Of-Parts (KOP)

Any Building Design Can Be Realized Using Standard Windows, Doors, Panels, Etc.



— Design Customization Through Kit-Of-Parts (KOP)

Any Building Design Can Be Realized Using Standard Windows, Doors, Panels, Etc.



G2M Strategy

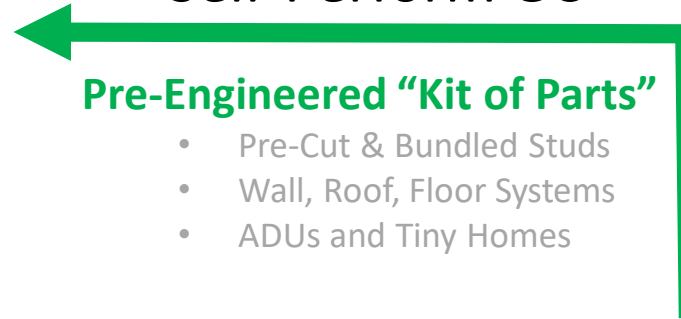
- Provide Turnkey Framing Solutions to Owners / General Contractors
- Sale of Prefabricated ADUs and Components to Owners / General Contractors
- Partnering with Municipalities for Affordable, Emergency, and Transitional Housing



Owner / GC
Turnkey Framing Projects



Self-Perform GC



Skilled Steel Jobsite Teams



Prefabricated Assemblies



NATIONAL HOUSING CRISIS

Investing in America's future through affordable housing.



> 7 MILLION

SHORTAGE OF AFFORDABLE HOUSING UNITS
for low-income families.



< 4 HOMES

LESS THAN FOUR HOMES AVAILABLE for
every ten renting households.



44 MILLION AMERICANS were burdened
by the cost of housing, a figure which has
been on the rise since 2003.

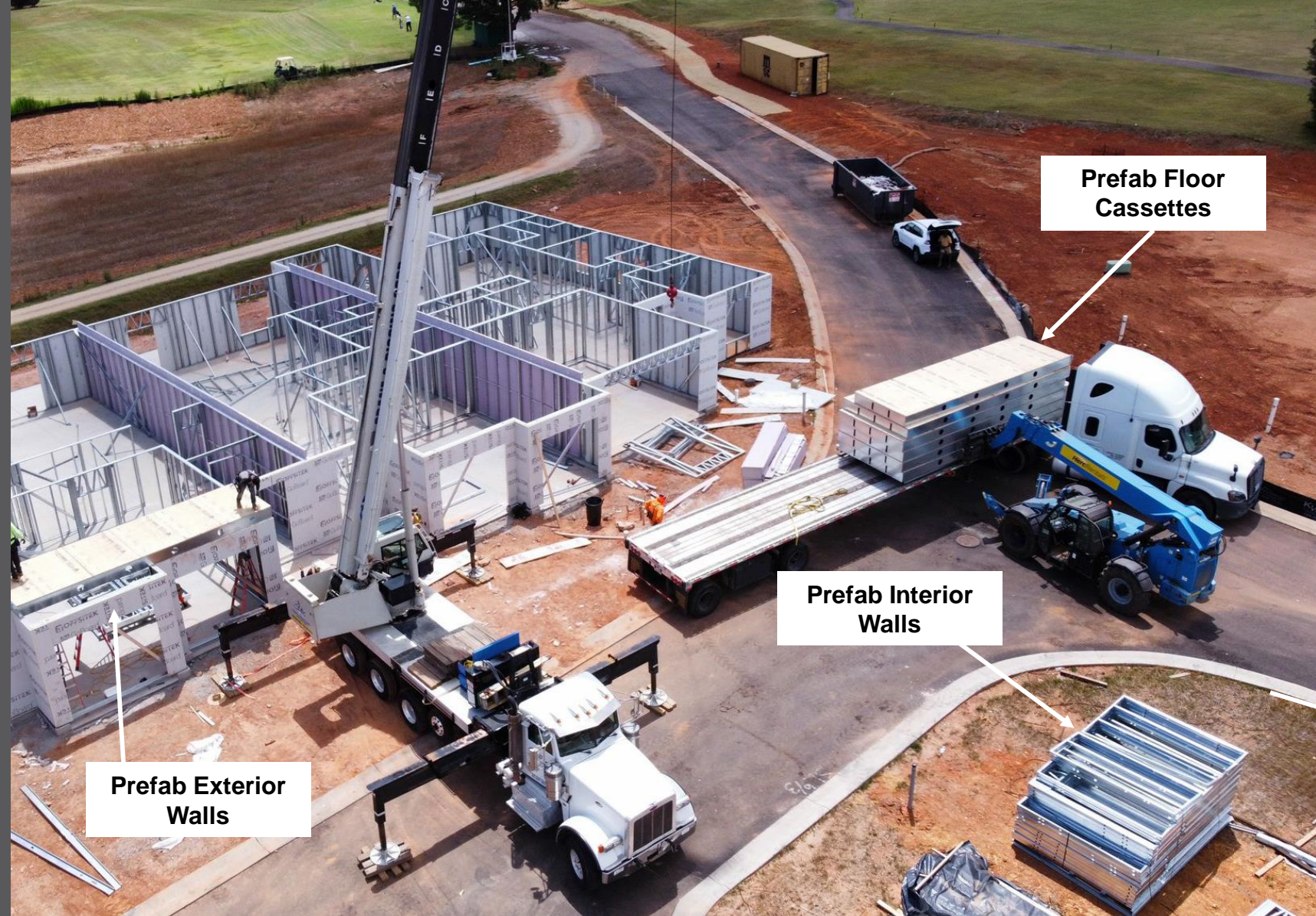


MILLENNIALS SPEND NEARLY HALF their income
on rent. When Baby Boomers were between
the ages of 22 and 30 years, they only spent
about 36 percent of their income on rent.

Research shows the shortage of affordable housing costs the American economy about \$2 trillion a year in lower wages and productivity.

What Makes Us Different

We reimagine construction with increased productivity and reduced lead times, creating cost and energy savings for builders and homeowners.



Why Offsite ADU Construction?

Traditional Construction
@ Jobsite




AUTOMATED OFFSITE CONSTRUCTION



2 Weeks (KOP)

1 Week

<1 Week
(framing / installation)

Overall Time Savings
of 35% - 50%



The Building Science Behind our Affordable Housing Systems

- Steel vs Wood Framing.
- Next Generation Continuous Insulated Structural Sheathing.
- Spray Foam, Blown and Batt Insulation for Better Controlled Air Environment.
- All Electric Mechanical Systems (HVAC).
- Pre-Engineered Wall, Roof, and Floor Systems (LEGO).
- Energy Efficient Window Systems.
- Built Offsite in Automated Environment, Assembled at the Job Site for Scalable Rapid Construction.
- Automation Creates Factor Level Precision and Highest Possible Quality Levels for Construction by Elimination Inconsistencies of Human Based Construction Processes.
- All Materials are Procured Directly from Our Manufacturing Partners, Yielding Savings through Avoidance of Distribution Channel Mark-Ups.
- Low-Maintenance Designs Using Fiber Cement Exterior Claddings and Steel Framing to Create a Forever Home.





FOR MORE INFORMATION, PLEASE CONTACT:

Chris Younger

Strategic Partnerships & Governments | Land Acquisition & Development

704.614.0006

chrisy@jrndevt.com | chrisy@offsitek.com | chris.younger@younger.consulting

<http://jrndevt.com/> | <https://offsitek.com/>



JRN Development, LLC

Confidential & Proprietary

