

# Construction Disruptors

New Construction Technologies and Innovations Shaping the Housing Industry

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Austin, Texas



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## Moderator



**Mr. Richard Gollis**  
Principal  
The Concord Group

## Panelists



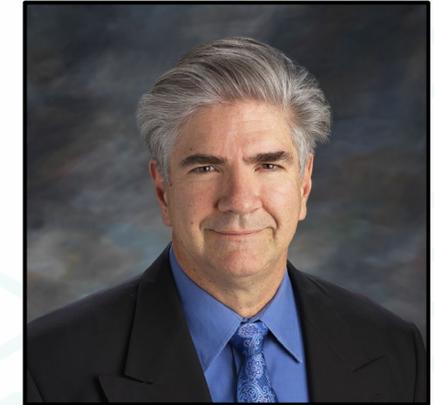
**Mr. Alex Ohrn**  
Managing Director  
Hines



**Mr. Michael Harper**  
Director of Business  
Development  
ICON



**Miss Alison Satt**  
Vice President and  
Division Manager  
Swinerton



**Mr. Steve PonTell**  
Partner  
Parity Development  
Silver Creek Modular



# dis·rupt·or

/dis' rəptər/

*noun*

- a person or thing that interrupts an event, activity, or process by causing a disturbance or problem.
- a company or form of technology that causes radical change in an existing industry or market by means of innovation.

## *Synonyms*

troublemaker   sparkplug   wave maker   revolutionary  
instigator   provocateur   rebel   firebrand   fighter  
incendiary   inciter

Source: Oxford Languages, Thesaurus.com



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# Construction methods are general unchanged.....



# ....and highly labor-intensive



Image Source: Rolando Ponce de León, Medium; Ian Adams Photography



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# Emerging innovations are solving for cost and scale

business intelligence  
robotics 3d scanning  
machine learning drones  
predictive analytics sensor data  
**mass timber** lidar  
building information modeling  
construction management tools  
**3d printing** digital twins  
augmented reality self-driving  
mechanization internet of things  
virtual reality prefabrication  
**modular**  
sustainable materials



Image Source: WordCloud, Google Images



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 **Silver Creek**

# MODULARIZATION – A CONSTRUCTION DISRUPTER

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# Understanding Modular Construction

Modular Construction Exploring the Spectrum

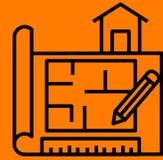
- Simple to Complex – Tough Shed to Medical Buildings
  - Product - From quick-setup temporary units to complex, permanent structures.
  - Design - Flexibility in matching traditional construction in design and functionality.

# Comparative Dynamics: Modular Building vs. Traditional Construction



## Cost Dynamics

Fixed versus variable costs.  
Site built off loads fixed expenses to Subs.  
Factory built needs consistent through put.



## Design and Architecture

Architects resist modular.  
Difficulty in translating architectural designs to shop drawings.



## Speed of Execution

We can start before site work is done working in parallel vs. sequential.



## Inspection Process

Modular construction can simplify approval and inspection processes, as many inspections are done in-factory.

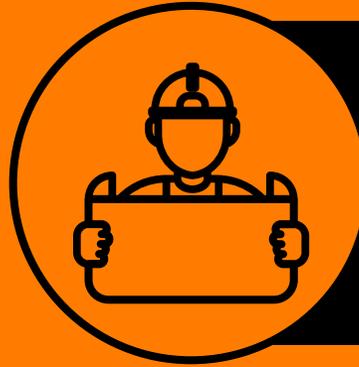


## Supply Chain

You can get economies of scale and increased purchasing power if you have a well-managed supply chain.



# The Strategic Pillars of Modular Construction Success



## Architectural Integration:

- Ensuring that architects are incorporating modular construction into their design ethos.
- Embracing modular methods for innovative, sustainable, and flexible design across all building spectrums.



## Factory Selection:

- Right factory for the right job.
- Matching project specifications with factory capabilities to optimize outcomes is a key success metric.



## Production and Innovation:

- Steady stable production flow.
- Continuous innovation by adopting technologies such as robotics and AI in design and production.

# T3 ATX Eastside: Expanding into residential

Sited in the heart of dynamic, highly walkable East Austin, adjacent to the metro station and bikeway, T3 ATX Eastside is our first T3 project with a living component. Fifteen loft-style units will complement the Class A office space, creating an unparalleled live/work environment just steps from the lively dining and shopping scene.

**Location** Austin

**Year Completed** 2023

**Residential** 9,200 SF

**Office** 93,000 SF

**Attributes** Social and collaboration spaces, a rooftop patio, private outdoor balconies, a premium fitness center and yoga studio, secure bike storage and end-of-trip facilities, and superior air filtration systems.

## ESG Highlights

# 900

Tons of carbon emissions will be avoided during the building process due to timber construction

# 2,327

Tons of carbon will be stored in the structure of T3 Eastside

### Targeting



WiredScore  
PLATINUM



# Hines



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# Matterport Links

[T3 One Bedroom Unit](#)

[T3 Studio Unit](#)



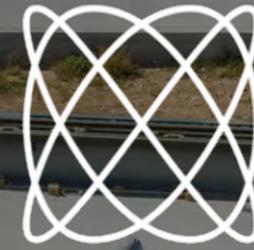
# ICON is a technology enabled construction company



ROBOTICS



SOFTWARE



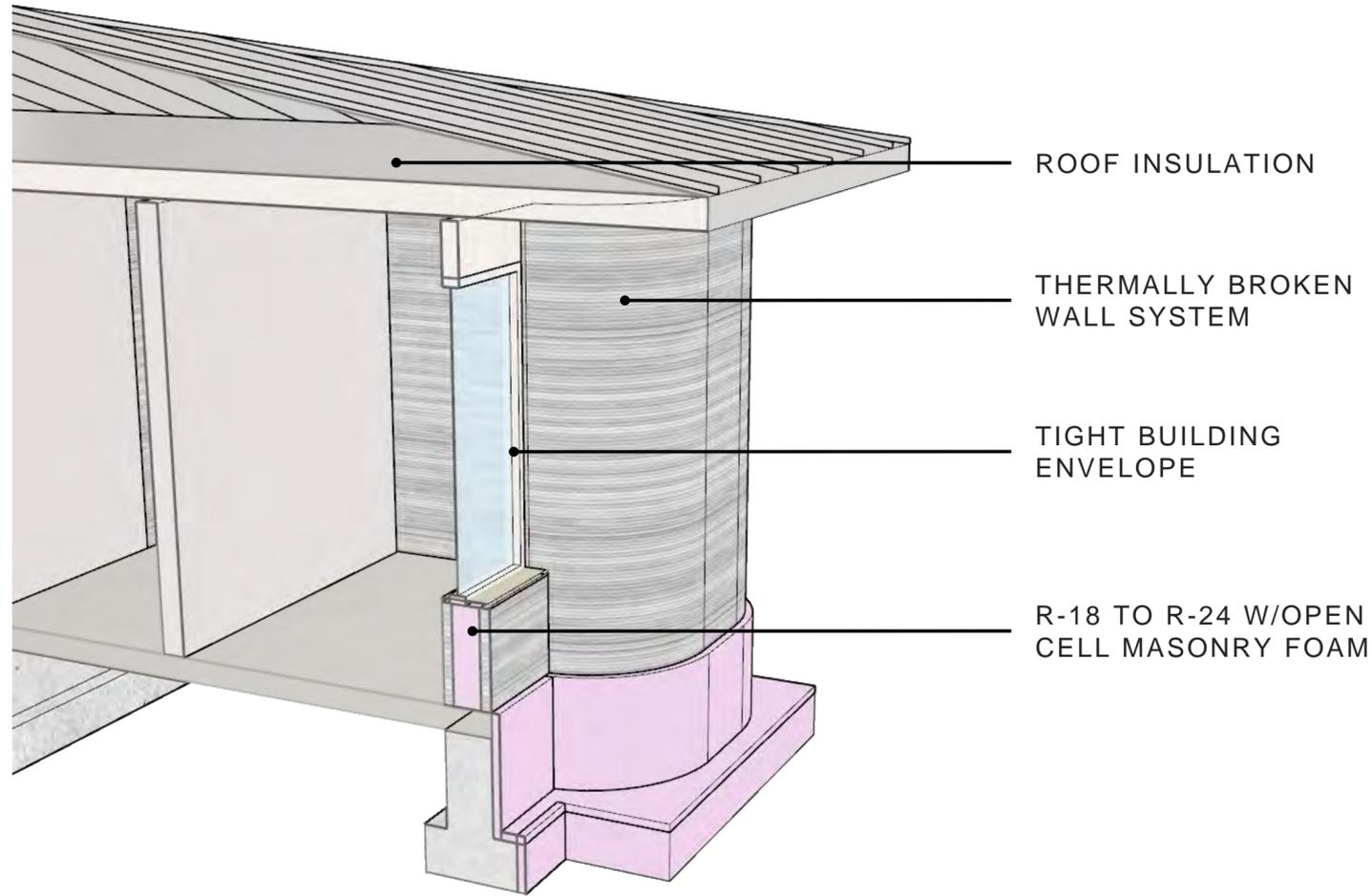
ADVANCED MATERIALS



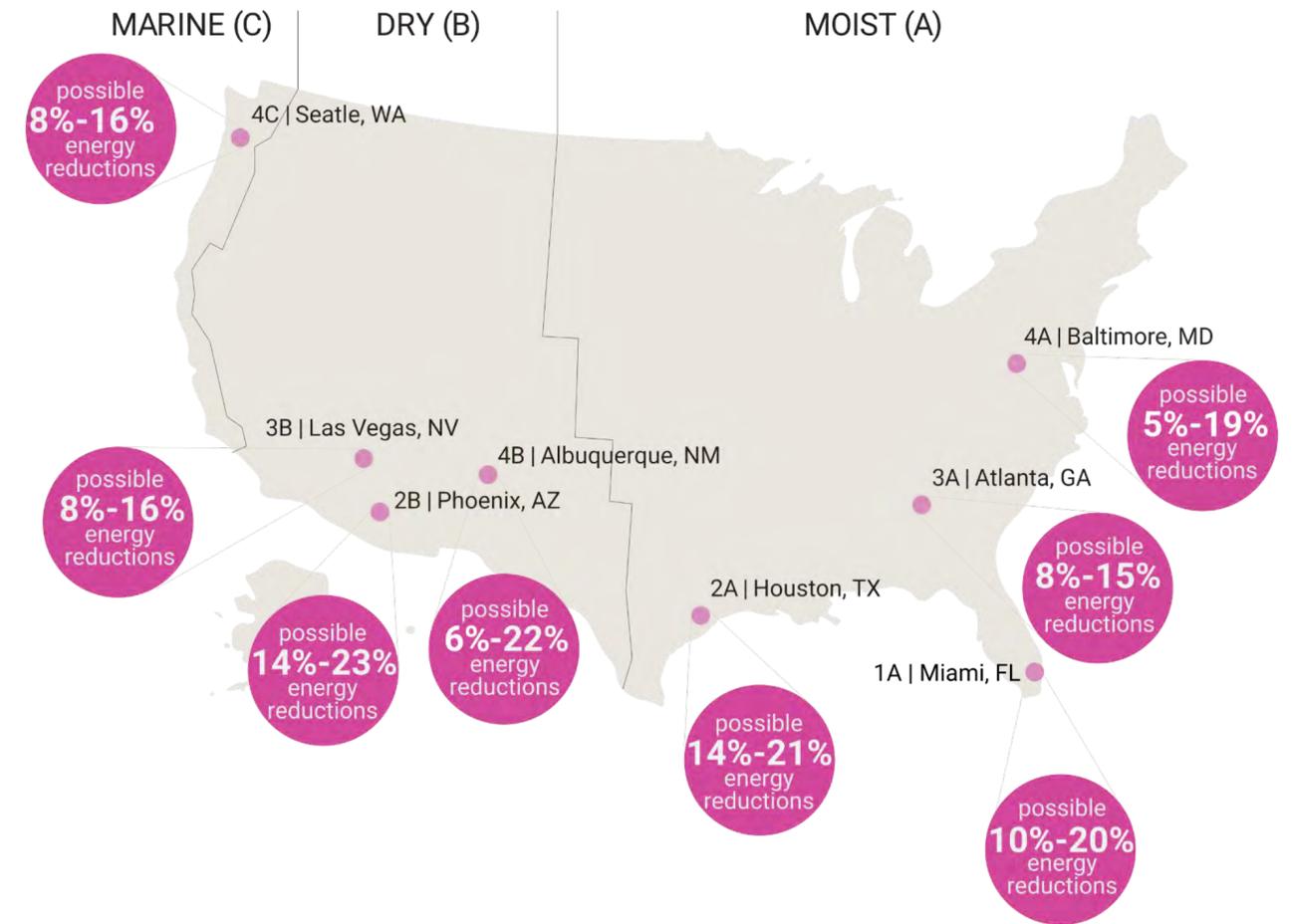
ARCHITECTURE

# Energy Performance

ICON's construction system provides improved thermal performance compared to conventional code minimums and studied real world conditions. Depending on R value and climate zone, ICON's base system can yield up to 23% efficiency compared to traditional construction.



## Energy Savings by Region

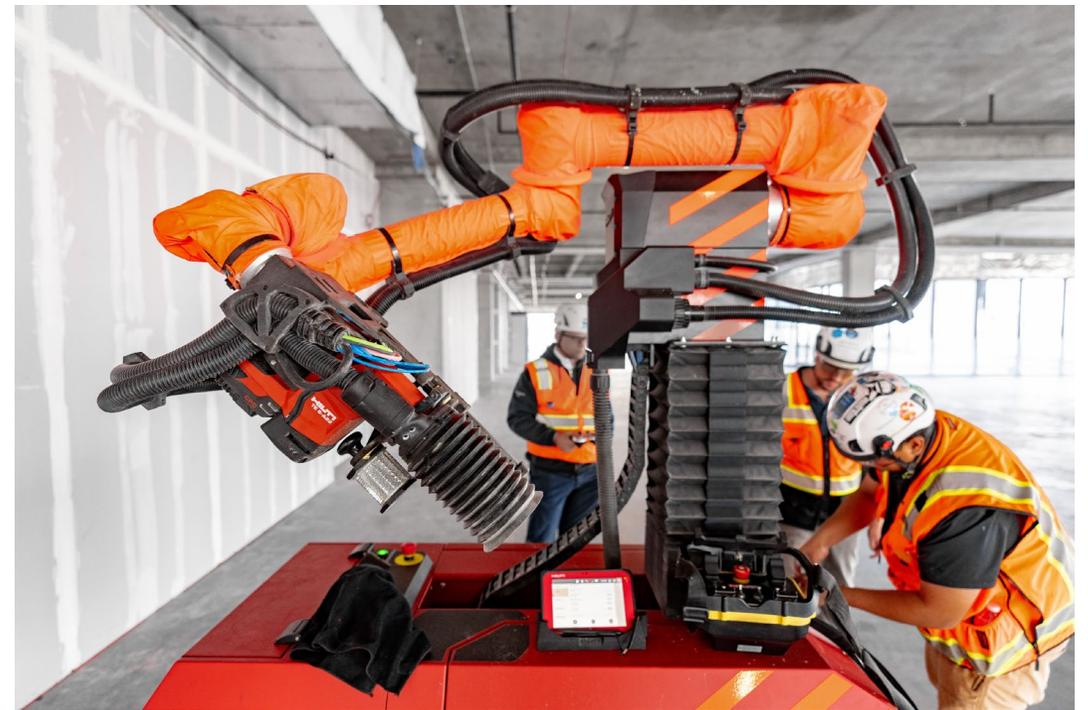


# Switch to ICON Video

# Hilti Jaibot

## BENEFITS:

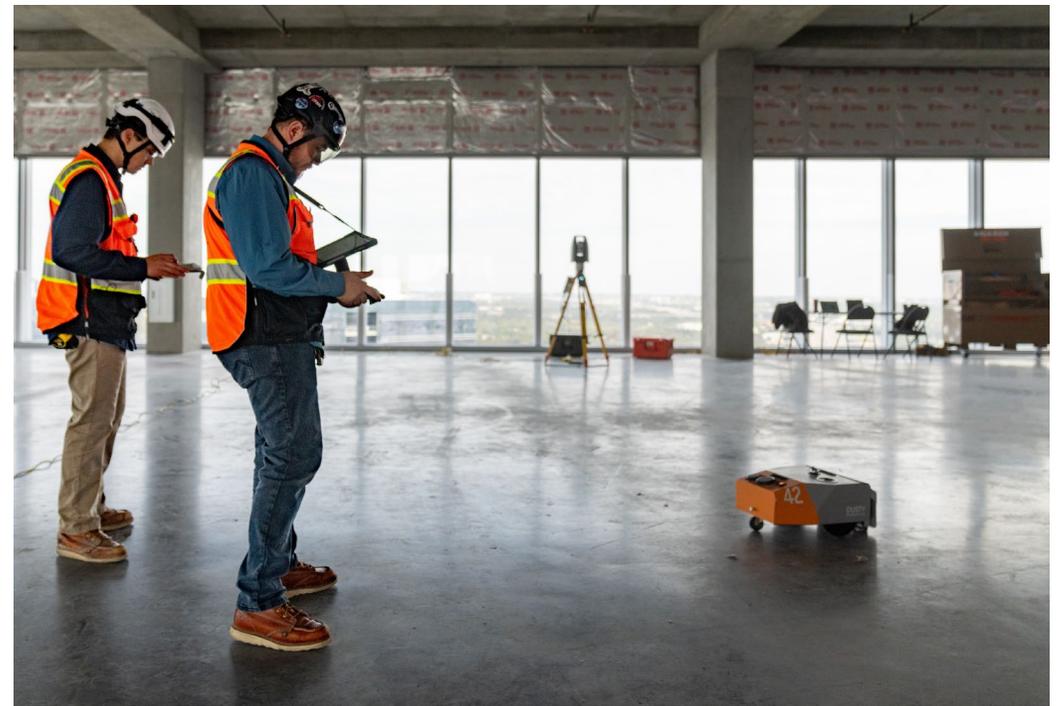
- Increased speed and accuracy
- Relieves construction workers' strain of overhead drilling
- Reduces risk of injury
- Progress and data tracking for improved scheduling



# Dusty the Robot

## BENEFITS:

- Accurate wall layout for teams
- Progress and data tracking for improved scheduling
- Real-time monitoring



# Other robots/ideas being explored

- Different attachments that can be used on Hilti Jaibot
- CANVAS- Robotic taping/mud/sanding for drywall
- Spot- Detects temperature, humidity, and gases.
- Robots for warehouse management- material stocking and organization.
- Roving assistants- toolboxes that follow workers with their tools.
- Rethinking the materials that we use- right now we install material that is easy for a human to carry and to install.

# Q&A



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