# **Bensonwood & Unity Homes**

115 associates, including architects, engineers, designers, timber framers, carpenters, woodworkers, project managers and IT staff

































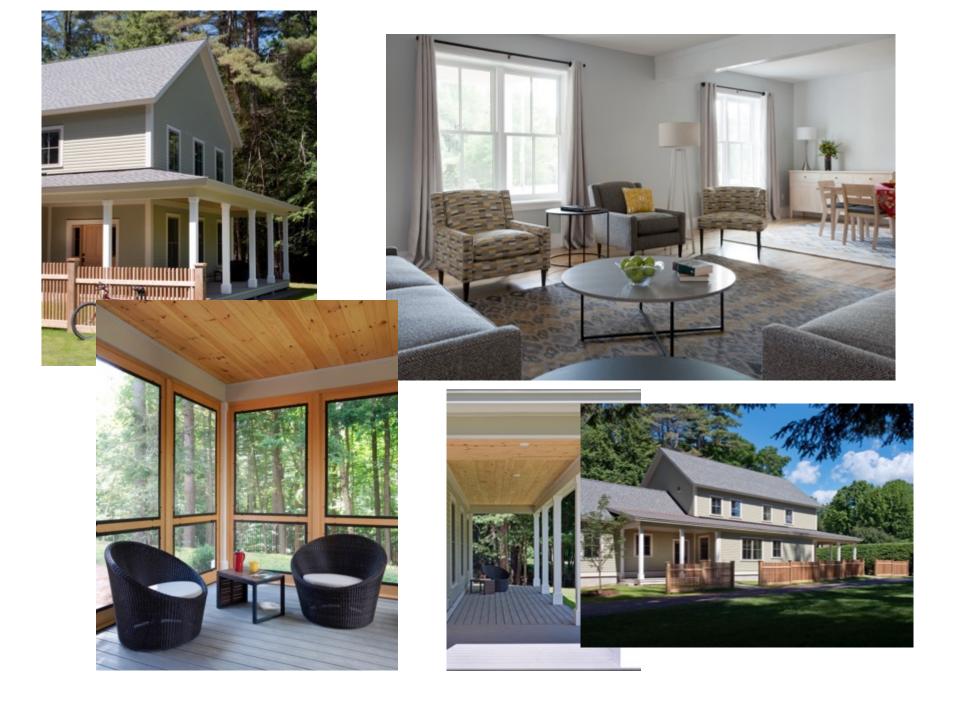










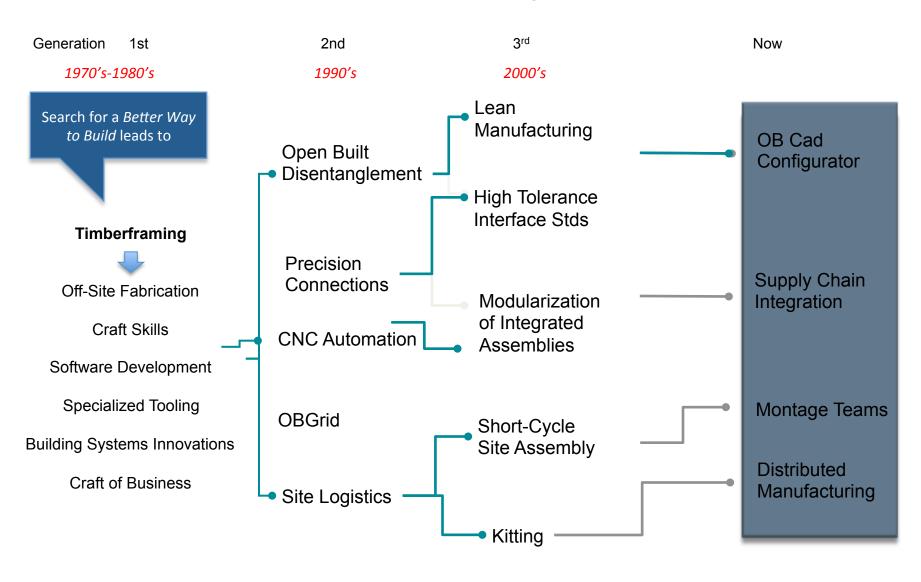








### BW2B Family Tree



**Establishing the Core** 

Elements of the Platform

Iterative Development;
Rapid real time Prototyping

Intermediating the Market w/ Tech Platform

# Learn from Everywhere

#### New England

TF Legacy Building
Off-site benefits and skills
3D modeling value
Discipline of connections
Site efficiency tools & logistics

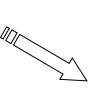
Site efficiency tools & logistics Discipline & Skills



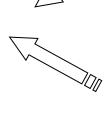


#### **Scandinavia**

Optimization
Most Off-Site Construction
Appropriate Technology
Best Energy Standard
Building Science
Montage Design







#### **Germany/Austria/Switzerland**

**CNC Tools** 

Software Lead
Technology Adaptation
Modern Manufacturing
Advanced Education for trades
Durable Building standard



**Open Building** 

Lives must Prevail
Rational Design & Building
Time based organization
Sustainability through Adaptability
Dimensional Coordination
Affordable Excellence

#### France

Pride in Craft/training

Craft knowledge Personal discipline

Humility

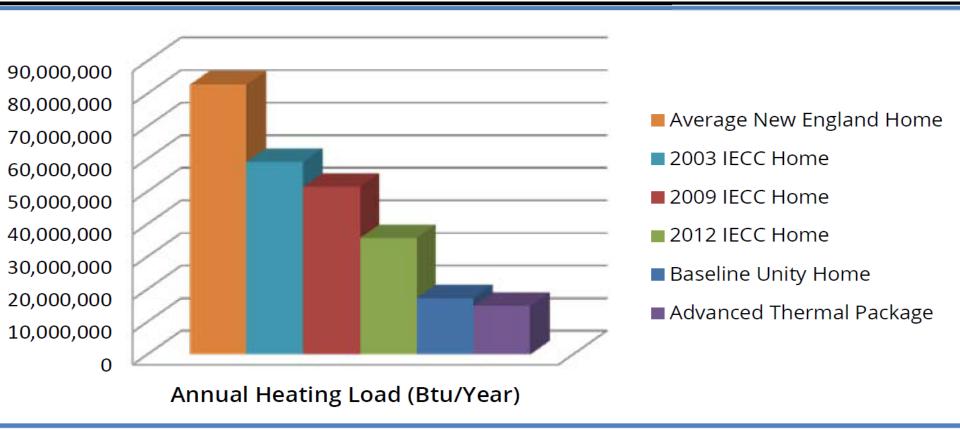
**Historical Perspective** 











### **Lean Manufacturing Practices**

Raising quality

Eliminating waste

Applying kanbans, kaizens and Value Stream Mapping to get rid of muda, mura and muri\*





#### **BPM to CNC**

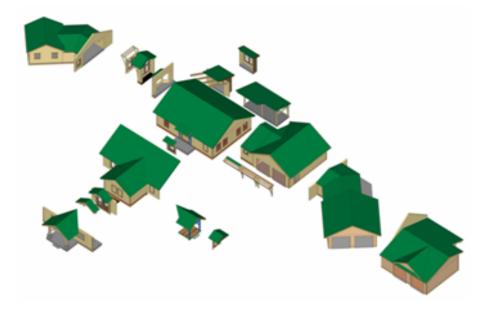












# **Gantry System**

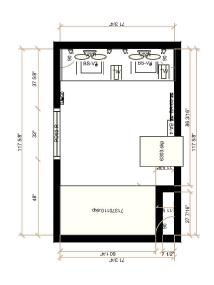
### **Wall Production**



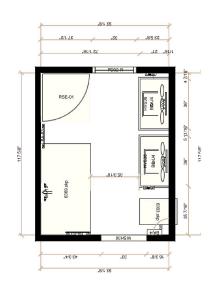
# Site Montage



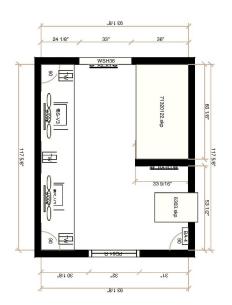




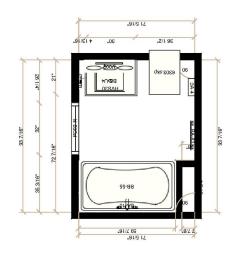














### **Bath and Mechanical Room Pods**









# **Bathroom Pods Montage**

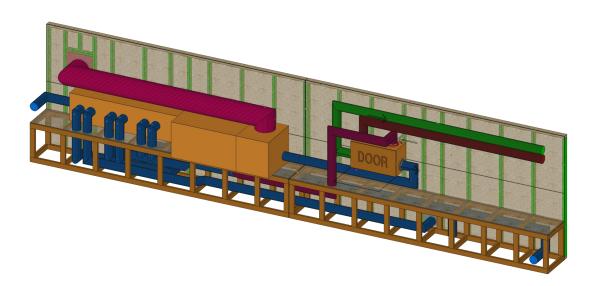








# Mechanical Cartridge





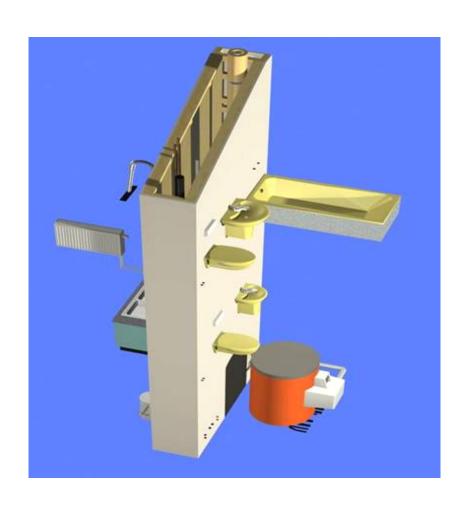


# **Cartridge Installation**



### Core-Wall

#### Integrated Mechanical System Element

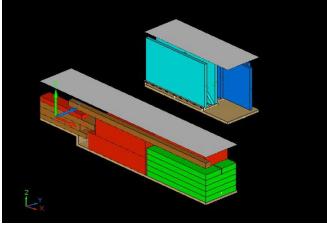




# Flat Pack Virtual and Actual Shipping Recycled wrapping







### **Montage Building**

Site for assembly only; avoid cutting and shaping

- Site is the worst place to attempt to control
  - Quality
  - Efficiency
  - Cost
  - Time
  - Job satisfaction











## Precisely and Consistently Deployed...



- Solutions embedded in products, elements and systems
  - Leads to endless innovation
  - Advanced materials, products, systems toward sustainable living w/ cognition & learning

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