Bensonwood & Unity Homes

115 associates, including architects, engineers, designers, timber framers, carpenters, woodworkers, project managers and IT staff
Search for a Better Way to Build leads to

**Timberframing**

- Off-Site Fabrication
- Craft Skills
- Software Development
- Specialized Tooling
- Building Systems Innovations
- Craft of Business

**Open Built**

- Disentanglement
- High Tolerance Interface Stds
- Modularization of Integrated Assemblies
- Lean Manufacturing

**Precision Connections**

**CNC Automation**

**OBGrid**

**Site Logistics**

**Short-Cycle Site Assembly**

**Kitting**

**OB Cad Configurator**

**Supply Chain Integration**

**Montage Teams**

**Distributed Manufacturing**

**Generation**

- 1st
  - 1970’s-1980’s

- 2nd
  - 1990’s

- 3rd
  - 2000’s

**Now**

**Establishing the Core**

**Elements of the Platform**

**Iterative Development; Rapid real time Prototyping**

**Intermediateing the Market w/ Tech Platform**
Learn from Everywhere

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

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

**Germany/Austria/Switzerland**
- CNC Tools
- Software Lead
- Technology Adaptation
- Modern Manufacturing
- Advanced Education for trades
- Durable Building standard

**Japan**
- Lean Manufacturing
- Kaizen
- Precision
- Power of Modularity
- Tradition of Perfection

**France**
- Pride in Craft/training
- Craft knowledge
- Personal discipline
- Humility
- Historical Perspective

**Holland**
- Open Building
- Lives must Prevail
- Rational Design & Building
- Time based organization
- Sustainability through Adaptability
- Dimensional Coordination
- Affordable Excellence
Lean Manufacturing Practices

Raising quality
Eliminating waste
Applying kanbans, kaizens and Value Stream Mapping
to get rid of muda, mura and muri*

*muda, waste mura, overworking 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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