Challenges and opportunities for wood construction industry in North America

Dr. Guido Wimmers
Murray Grove, 29.8m
(8+1) 2008
London
Forte, 32.2m (9+1)
Melbourne 2012
Bergen, 14 floors, 56m, Norway 2015
SPEED!

Efficiency
Viability
Quality
Sustainability
Industrial Revolution
1st Industrial Revolution

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
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<tr>
<td>Mechanization, water power, steam power</td>
<td>Mass production, assembly line, electricity</td>
<td>Computer and automation</td>
<td>Cyber Physical Systems</td>
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2nd Industrial Revolution

1st: Mechanization, water power, steam power
2nd: Mass production, assembly line, electricity
3rd: Computer and automation
4th: Cyber Physical Systems

An Assembly Line of the Ford Motor Company
3rd Industrial Revolution

1st: Mechanization, water power, steam power
2nd: Mass production, assembly line, electricity
3rd: Computer and automation
4th: Cyber Physical Systems

Industry 4.0

1st: Mechanization, water power, steam power
2nd: Mass production, assembly line, electricity
3rd: Computer and automation
4th: Cyber Physical Systems
Shaping the Future of Construction
A Breakthrough in Mindset and Technology
Why is the construction industry performing so poorly? (in US)

Index of US labour productivity

- Non-farm business labour productivity: CAGR +1.9%
- Construction labour productivity: CAGR -0.4%

Relative improvement:
- Non-farm business: +153%
- Construction: -19%

Note: Data set based on US companies with Engineering, Construction and Services-related Standard Industrial Classification codes. Financials are inflation-adjusted and indexed to 1964; output per working hours. CAGR = compound average growth rate. Source: Global Vantage; Compustat; Bloomberg; www.aecbytes.com/viewpoint/2013/issue_67.html; www.nber.org/papers/w1555.pdf; S&P Capital IQ; BCG ValueScience Center; World Economic Forum.
Why is the construction industry performing so poorly?

- Lack of innovation and delayed adoption
- Informal processes or insufficient rigor and consistency in process execution
- Insufficient knowledge transfer from project to project
- Weak project monitoring
- Little cross functional cooperation
- Little collaboration with suppliers
- Conservative company culture
- Shortage of young talent and people development
Energy Efficient = Thicker Walls

- Energy efficient does not equal sustainable but without energy efficiency no sustainability!
Dramatic shift in 5-10 years!
THANK YOU