Maximizing Future Processing Opportunities

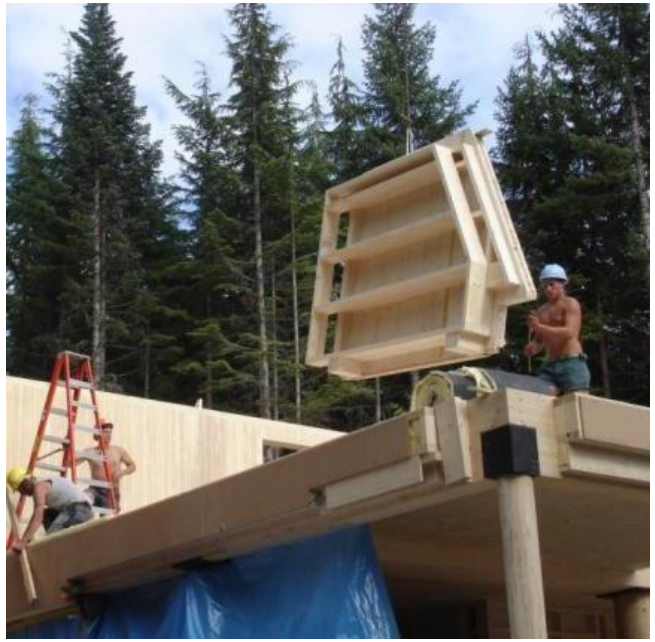
Forestry Think Tank

Dr. Guido Wimmers

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Austria House in Whistler 2010

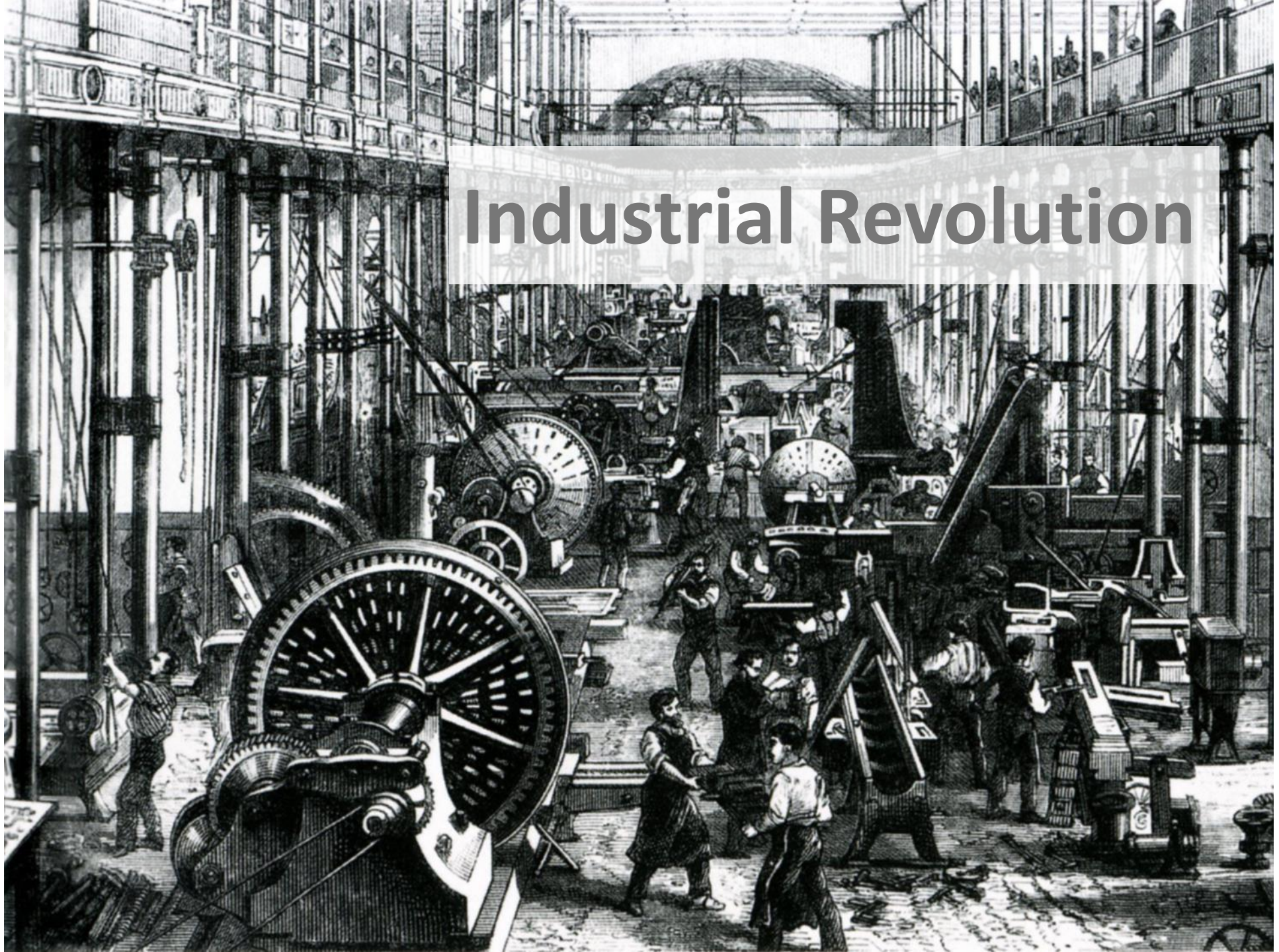
1st Building in Canada using CLT (Cross Laminated Timber)



1st Building in Canada using DLT (Dowel Laminated Timber)

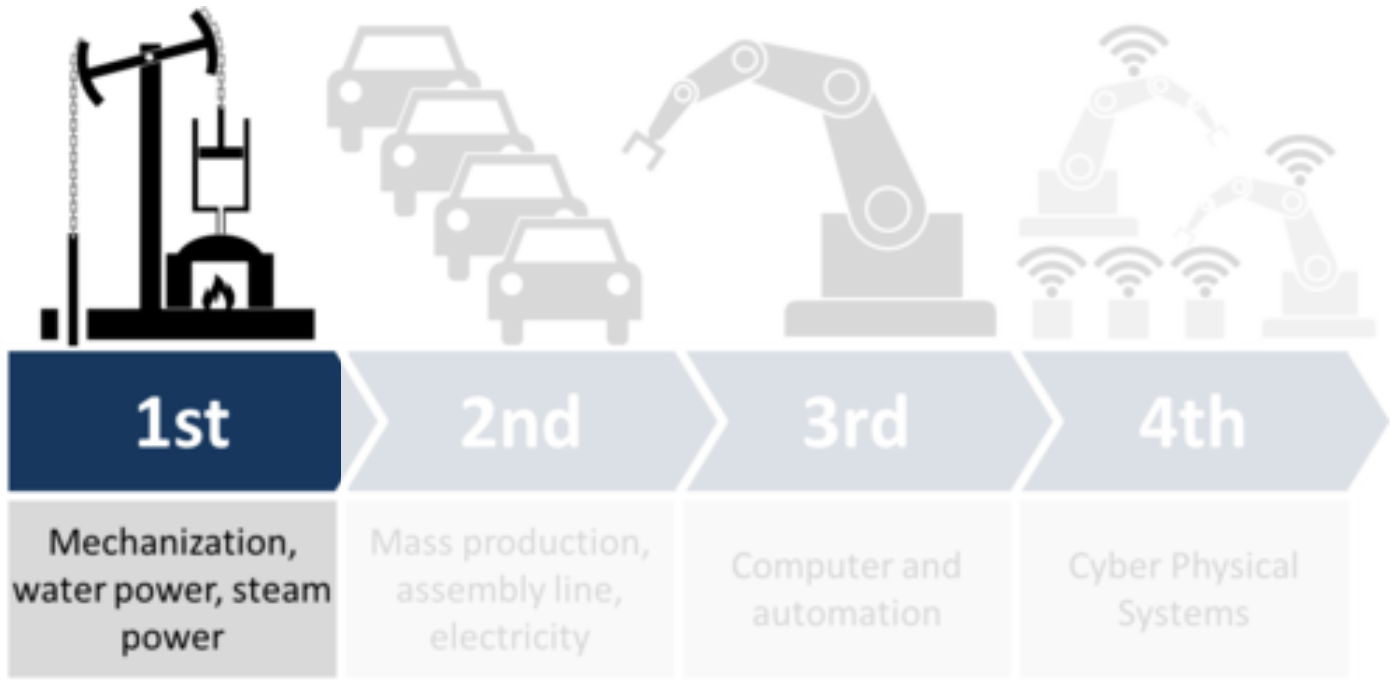
Dowel Laminated Timber [DLT]

1st Passive House in Canada



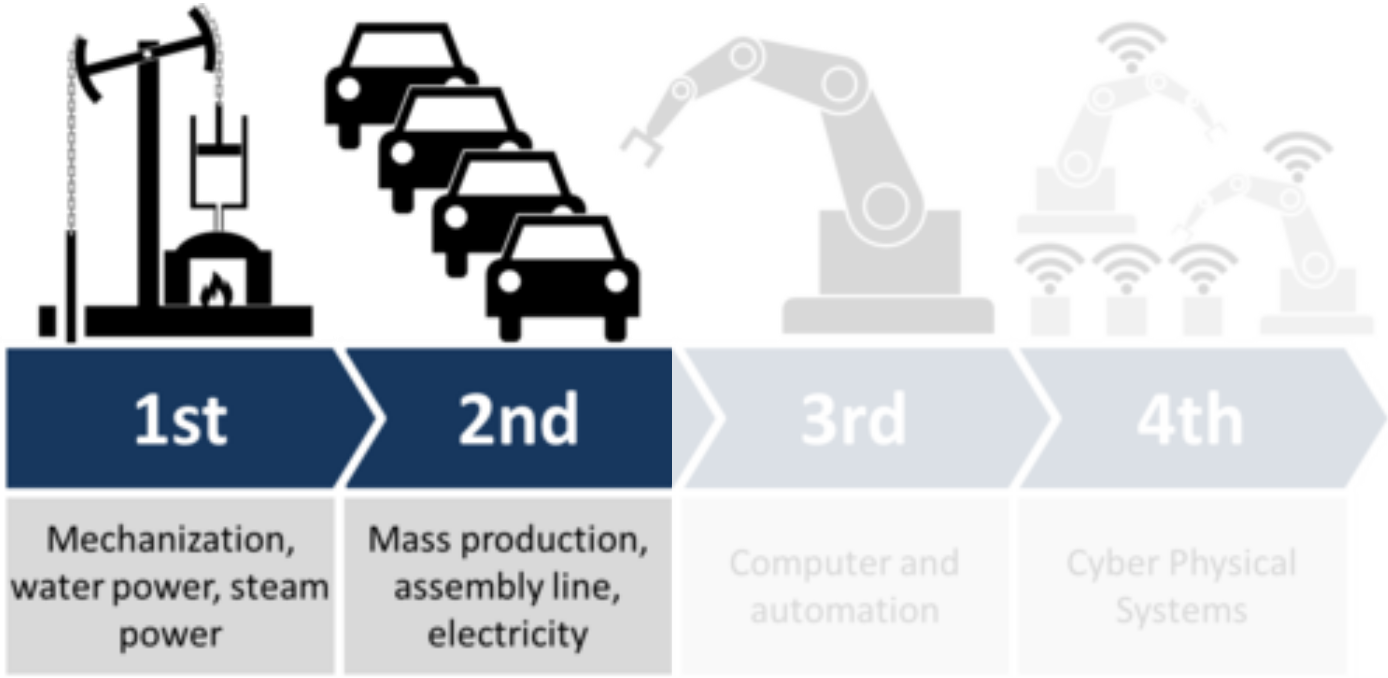
Industrial Revolution

1st Industrial Revolution

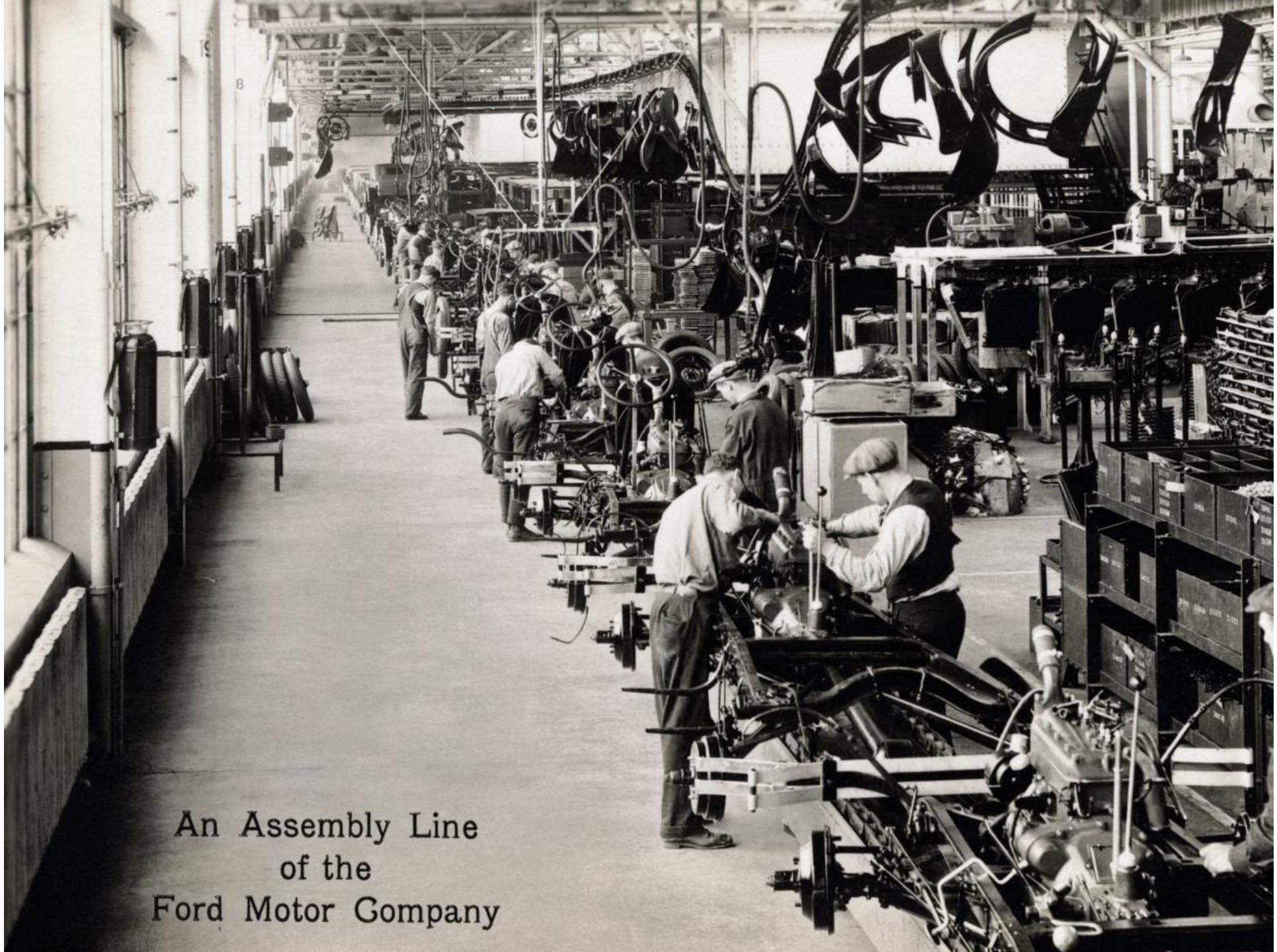


Graphic: Wikipedia

2nd Industrial Revolution

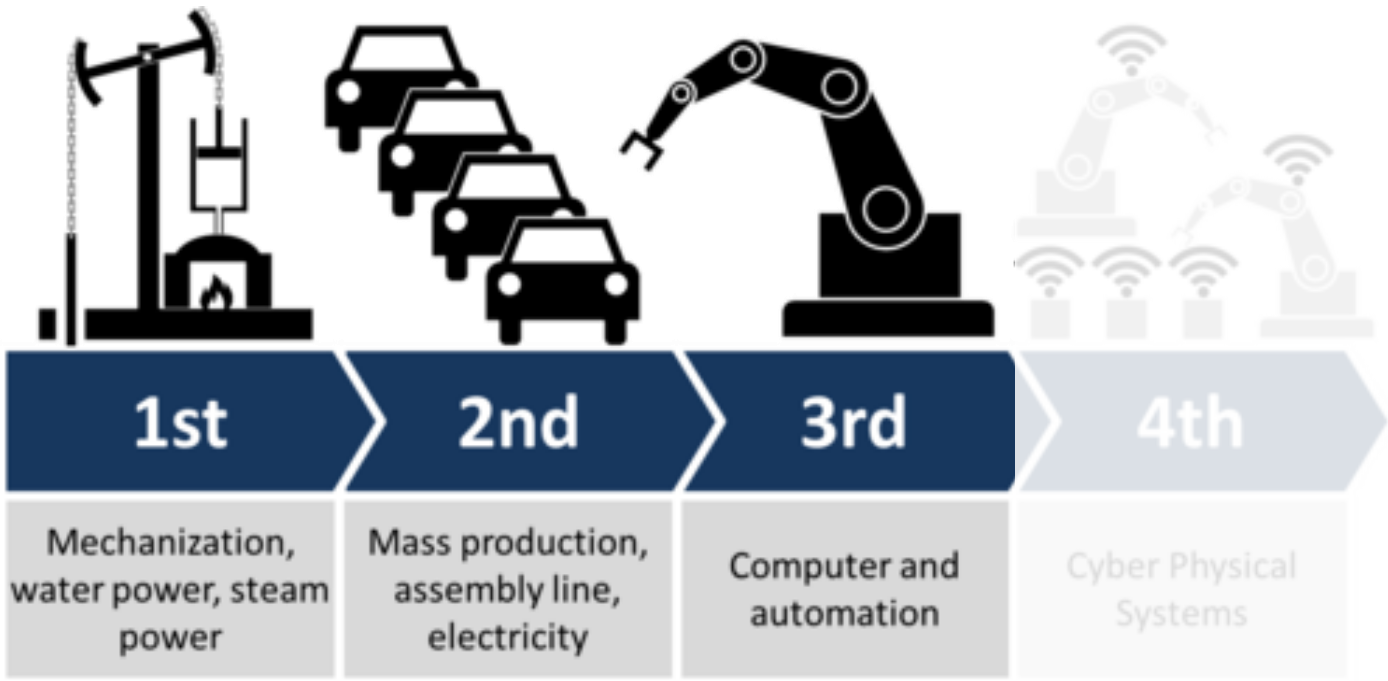


Graphic: Wikipedia



An Assembly Line
of the
Ford Motor Company

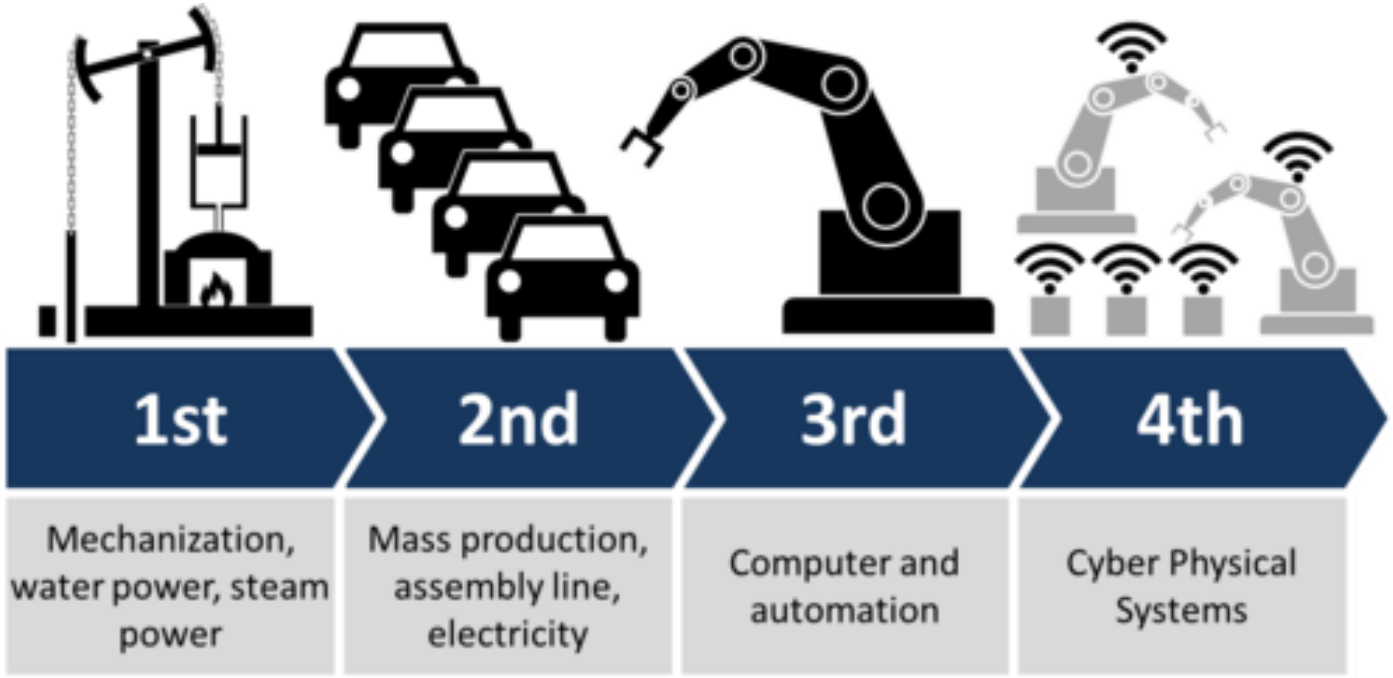
3rd Industrial Revolution



Graphic: Wikipedia


ABB

Industry 4.0



Graphic: Wikipedia


CAUTION

Photo by William Henry Jackson


Justin Sullivan/ Getty Images


DEMAG

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Industry Agenda

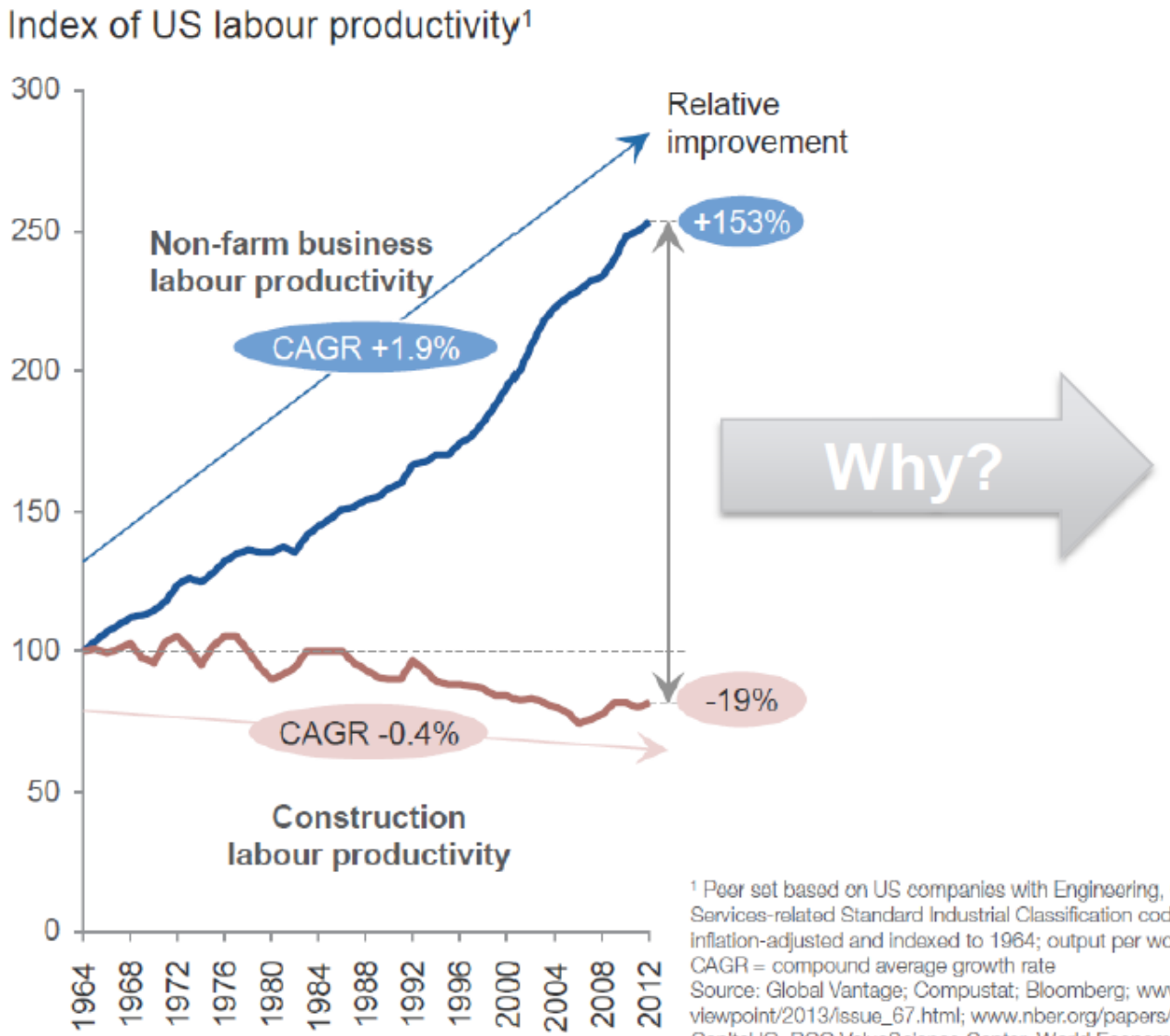
Shaping the Future of Construction

A Breakthrough in Mindset and Technology

Prepared in collaboration with The Boston Consulting Group

May 2016

Why is the construction industry performing so poorly? (in US)



[1] Peer 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

WORLD ECONOMIC FORUM
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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

Photo by Homag

Photo by Renggli

Photo by Holzbau Austria


Justin Sullivan/ Getty Images

Structural Engineered Wood Products

1D

- LSL
- PSL
- LVL
- I-Joist
- Gluelam

2D

- OSB
- Plywood
- Gluelam
- CLT
- DLT
- NLT

Non-Structural Engineered Wood Products

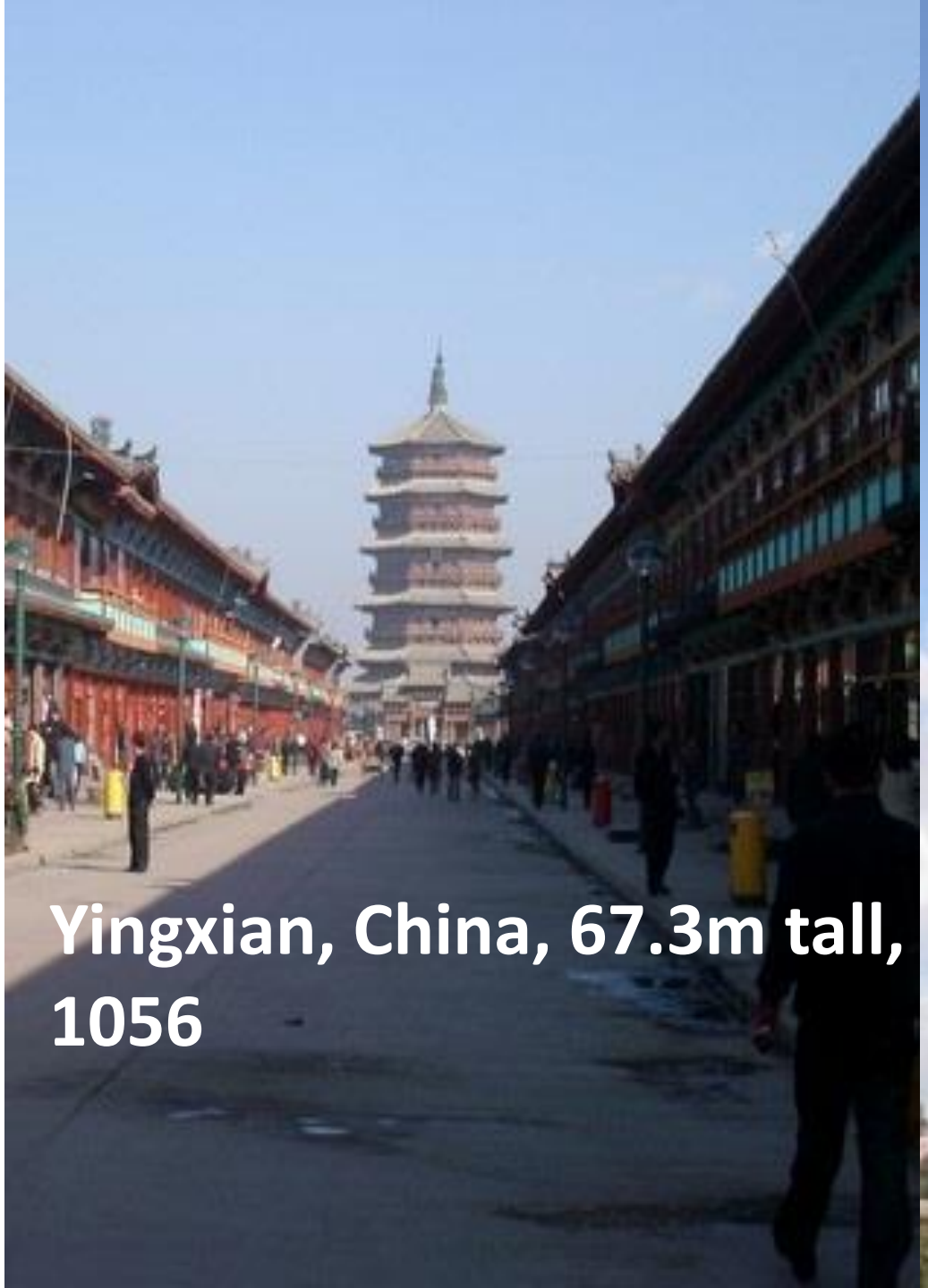
- Wood Fiber Insulation (LDF)
- MDF
- HDF

Specialty Products

Photo by Homag

Wood Fiber Boards

Wood Windows



Yingxian, China, 67.3m tall, 1056


Kizhi, Russia, 37.5m tall, 1862
and no metal!


Alberta, approx.
25m tall, 1920’

8 Storey Heavy Timber - 1905

Today

Today

Photo Steamworks

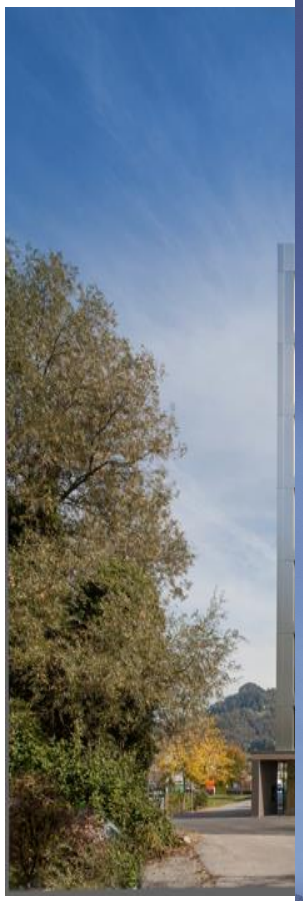
We used to know how to do it…

Photo Steamworks and GHL CONSULTANTS LTD


Murray Grove, 29.8m
(8+1) 2008
London

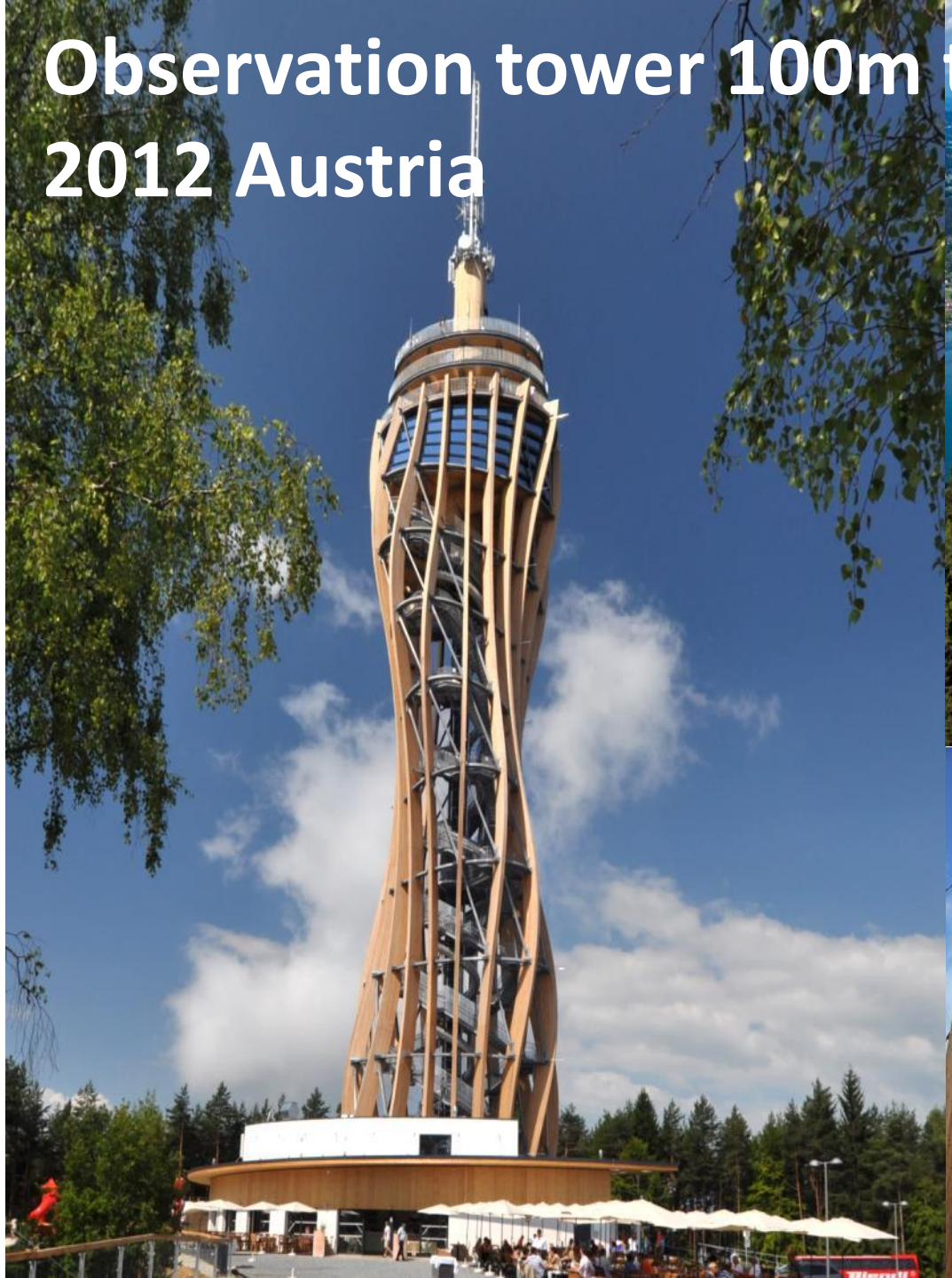
Forte, 32.2m (9+1)
Melbourne 2012

LCT 1, 8 floors in 8 days, 2012 Austria




Bergen, 14.5 floors,
56m, Norway 2015

Observation tower 100m tall
2012 Austria



HOHO, Vienna, 84m, 24 floors 2018

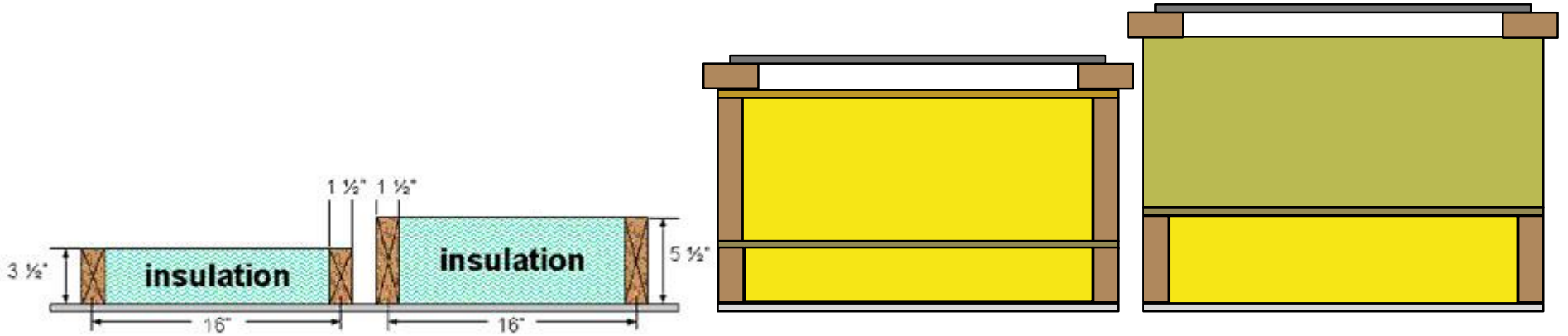
Wood Innovation Design Center, 7 ½ floors
Prince George 2012

Photo FII

Brock Commons, Vancouver, 17+1, 2016


ENERGY
STEPCODE
BUILDING BEYOND THE STANDARD

Energy Efficient = Thicker Walls



- Energy efficient does not equal sustainable but without energy efficiency no sustainability!

PATHWAY TO 2032: **PART 9 (HOMES)**

1st Passive House in Canada

Dramatic shift over 15 years!

Justin Sullivan/ Getty Images


THANK YOU