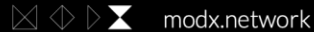


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MODX

Exchanges ▾

Virtual Exchanges ▾

Network ▾

Solutions ▾

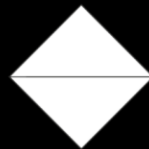
Media

In the News

Contact



modular



ecologies



economies

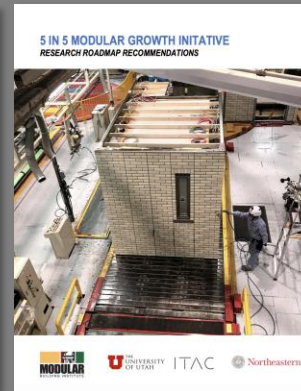
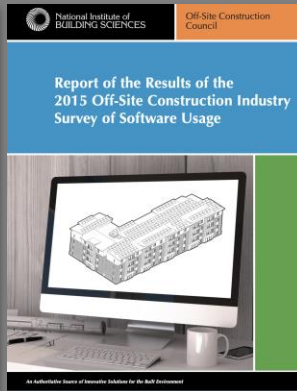
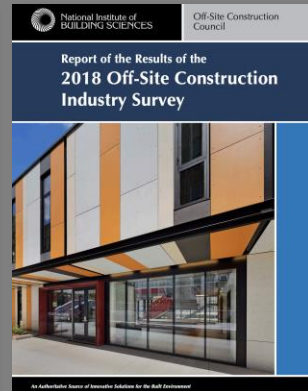
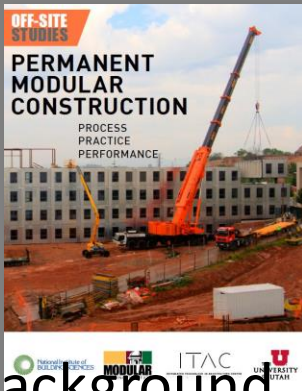
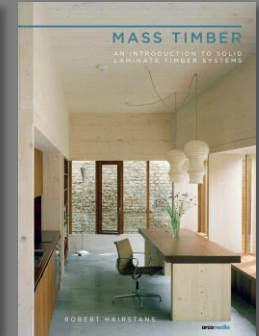
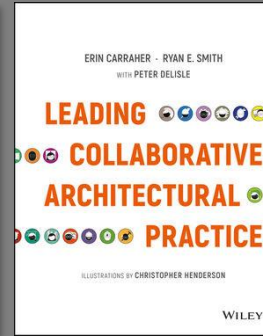
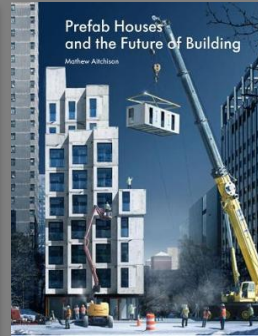
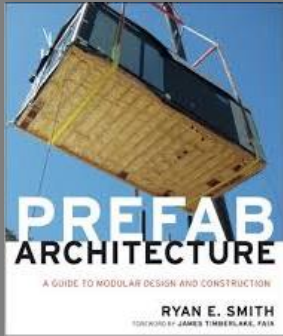


exchanges

MOD X is a knowledge management enterprise, bringing applied research expertise, connections and experience to both new and established players in the industrialized construction sector. We offer live and virtual education, lectures, workshops, and training regarding offsite, industrialized and volumetric modular delivery.

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background

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FEMA



U.S. Department
of Transportation



WoodWorks™
WOOD PRODUCTS COUNCIL



DIRTT
Build better.™



U.S. DEPARTMENT OF
ENERGY



Forest Products
Laboratory



3form®



AIA



clients



modx.network

building
products
compani

tech
companies

modular

offsite

construction

developers

NGOs

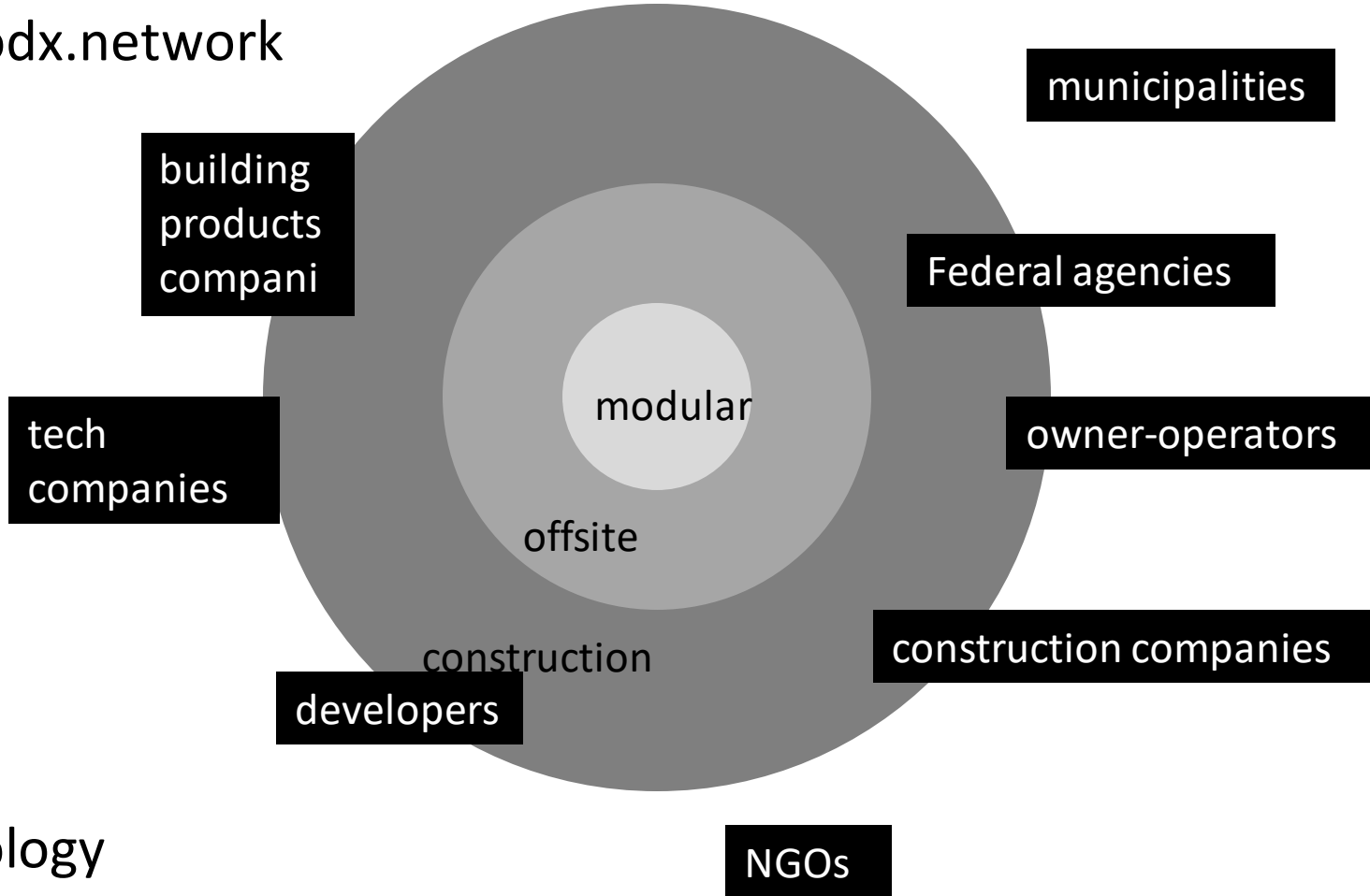
municipalities

Federal agencies

owner-operators

construction companies

ecology



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Journey in Offsite

Helena Lidelow

April 30, 2020



Invention and
Innovation in
Modular

Julian Bowron

May 8, 2020



Offsite Construction
Codes

Ryan Colker

May 12, 2020



Housing
Affordability

Carol Galante

May 13, 2020



Modular Veteran

Greg Sloditskie

May 18, 2020



Product Platforms

Craig Curtis

May 26, 2020



Innovative Industrial
Construction in
Academia

Daniel Hall

May 27, 2020



Environmental
Impact and Modular

John D. Quale

May 25, 2020



Vertical Integration

Vaughan Buckley

June 2, 2020

network (voices)

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Ivan Rupnik, Ryan E. Smith, (MBI Fellows)



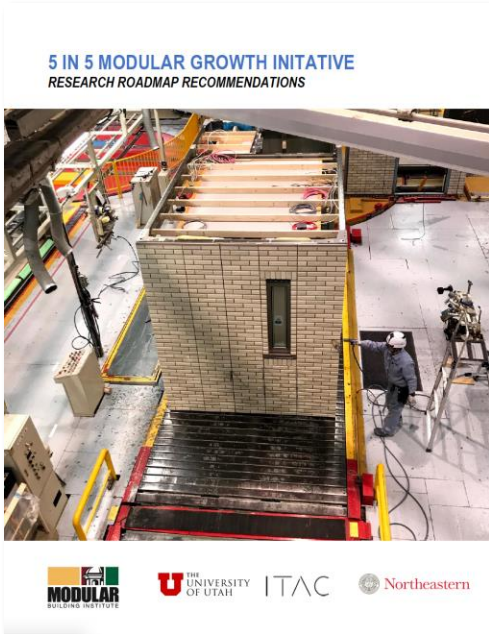
How do we **grow** market share from 2.5% to 5% in 5 years?

How do we grow capacity and capability sustainably?

projects / lessons / impacts

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Ivan Rupnik, Ryan E. Smith



5 in 5 Modular Growth Initiative Report
Part 1: Member Workshop
Part 2: North American Survey
Part 3: International Case Studies

5 in 5

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Our **survey** of the North American market found a growing enthusiasm among architects, engineers, owner-operators, even code officials for volumetric modular, especially for those that had had experience with it. Their frustration often came with the existing capacity and capability of the volumetric modular industry

Our **case studies** of volumetric modular industries outside of North America found a lower market share but higher profitability in other markets but a higher capacity and capability. We also found that a number of new players in the US were adopting business models similar to those in abroad.

5 in 5

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Terminology is still confusing...

Offsite construction

Open systems

Closed systems

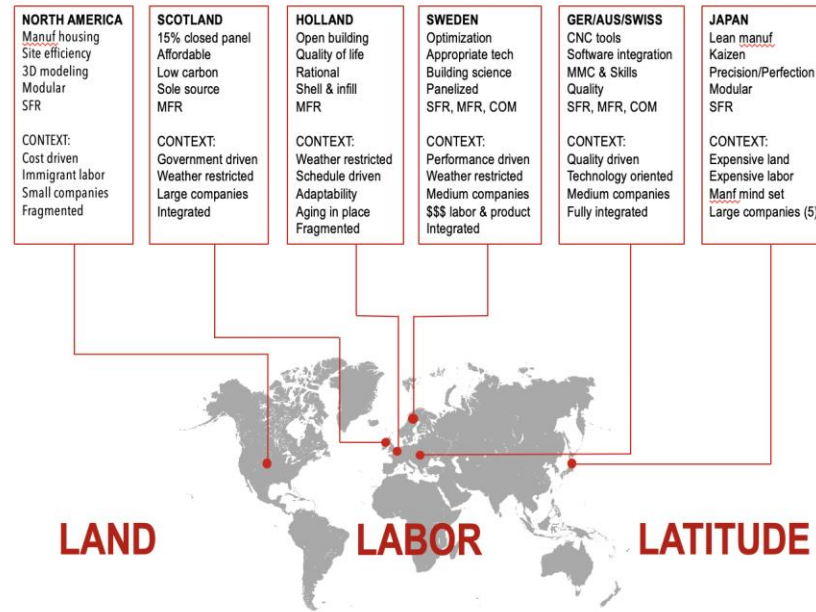
Modular systems = closed systems (1D, 2D, 3D)

lessons

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The offsite industry is still very localized – but some general principles do seem to apply and comparative studies are very valuable.

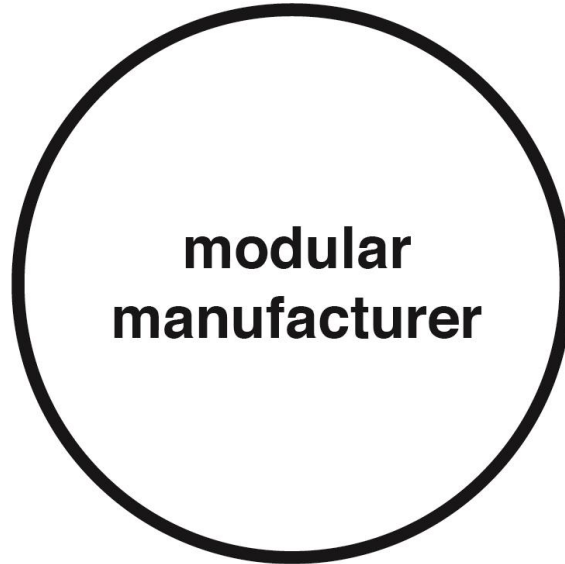


lessons

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In the US, modular manufacturers come on to a project late in the process and are do not see it to its completion.

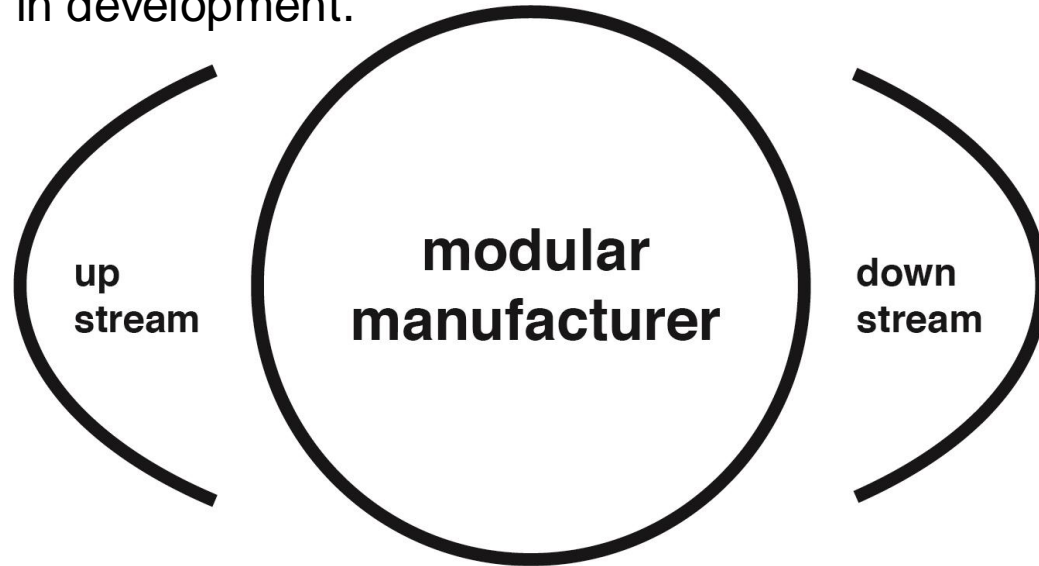


lessons

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In more mature modular "ecologies", modular companies are involved in projects from start to finish. They also control more of the supply chain and are often involved in development.

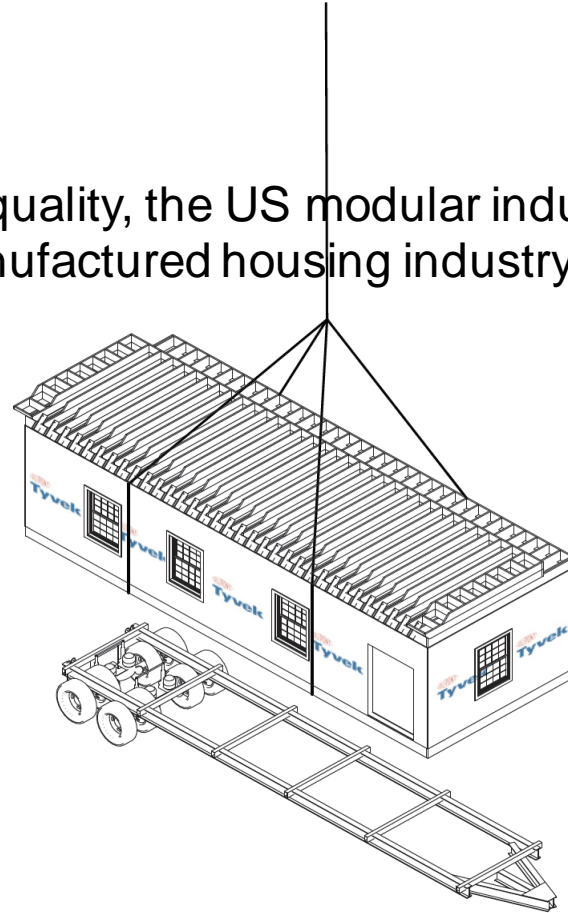
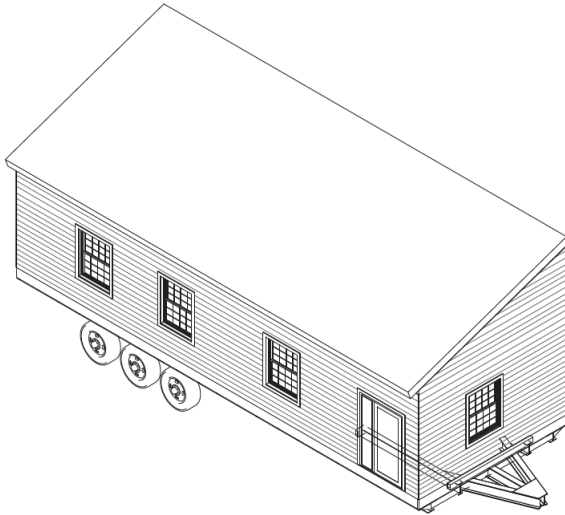


lessons

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Despite of a differences in regulation and quality, the US modular industry is still rooted in some of the logics of the manufactured housing industry.

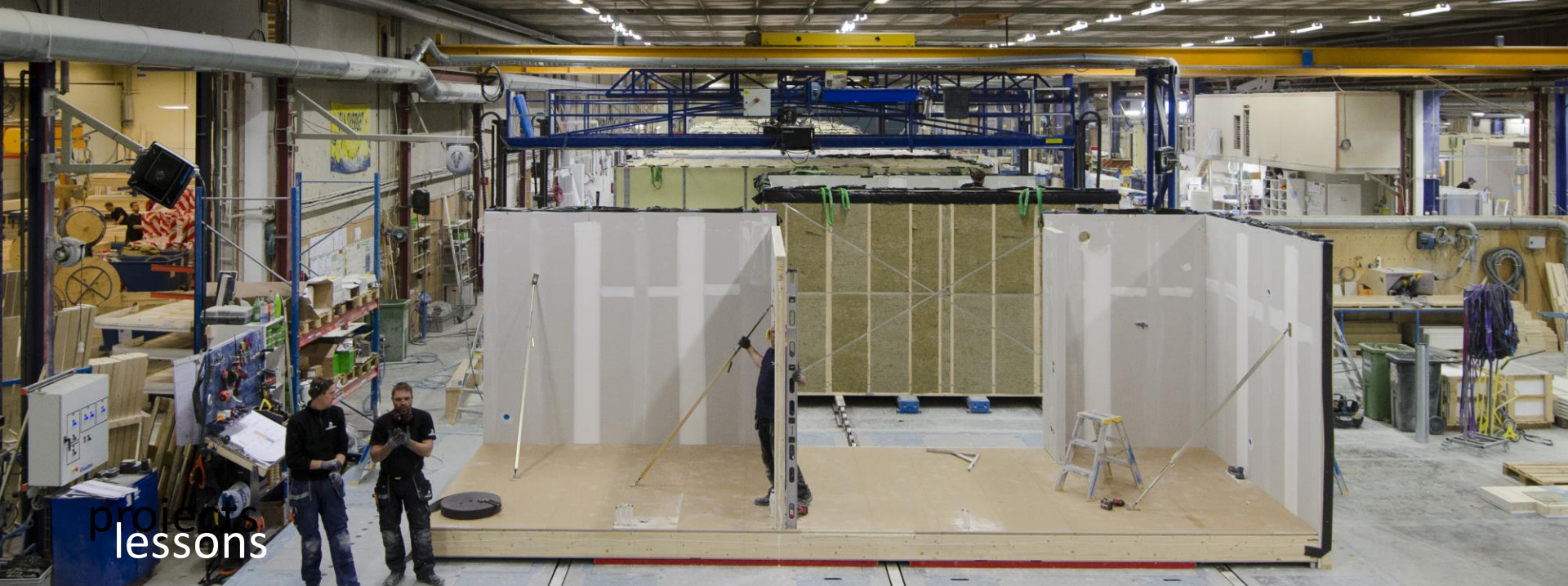


lessons

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In mature modular industries, panelization often precedes volumetricization.



projects
lessons

modx.network

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In Sweden, for example, the redundancies created by 3D modular have also been used to exceed the typical LWF height limits, with structures of up to 8 stories.

lessons



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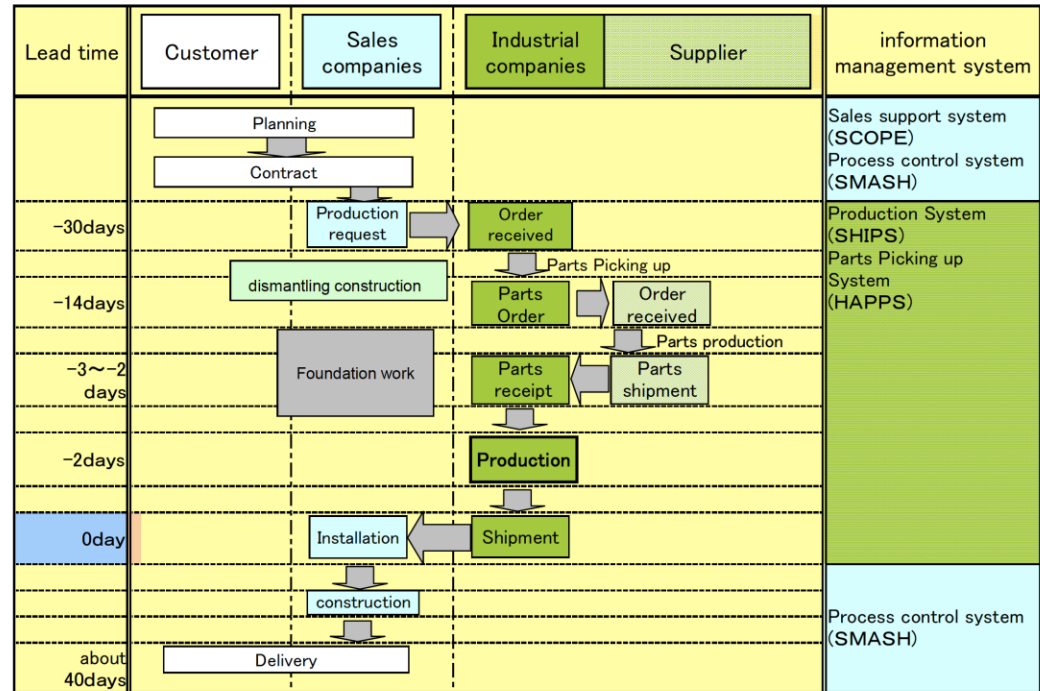
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In Japan, after decades of promising "cheap" and "fast", modular companies now promise, and deliver on "control" and "quality" at a "mere 8%" mark up from conventional construction.

lessons



Flow from Planning to Delivery



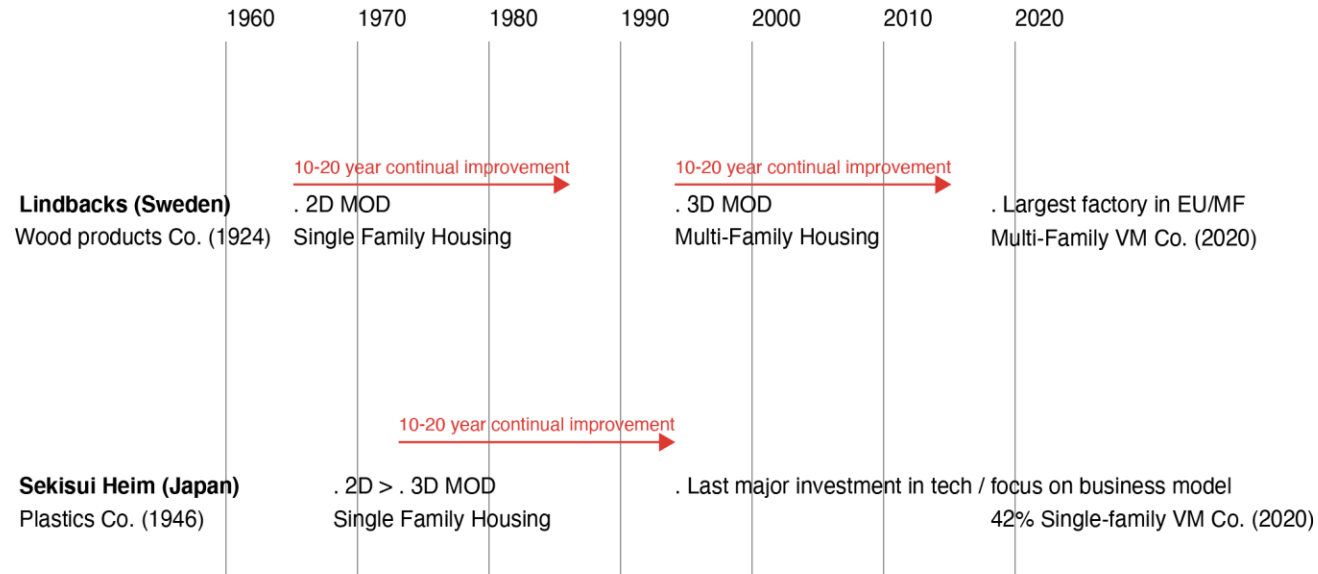
SCOPE: Sekisui Cad-system Of Planning and Estimation
SMASH: Sekisui Management Aid System of Heim

HAPPS: Sekisui Heim information & Production System
SHIPS: Heim Automated Parts Picking up System

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Continual improvement is a key to sustainable growth in capacity and capability



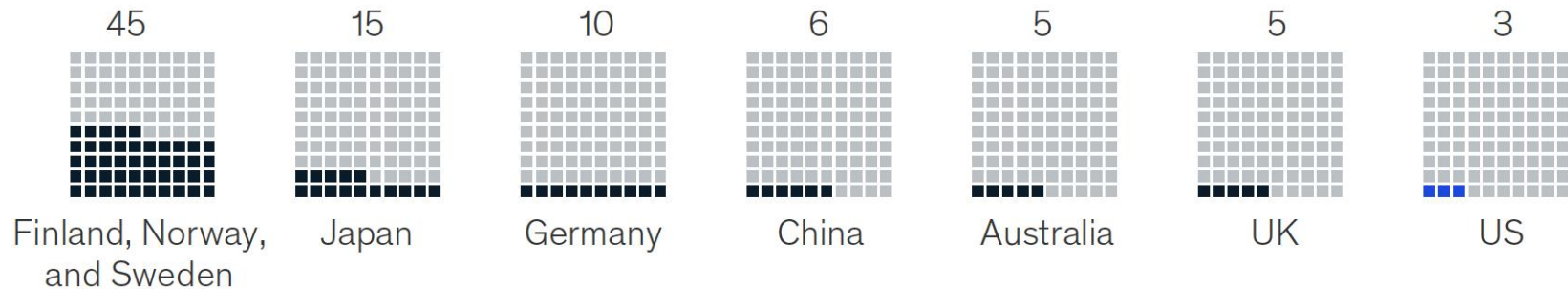
lessons

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Data is still inconsistent...

Current offsite share of housing, %



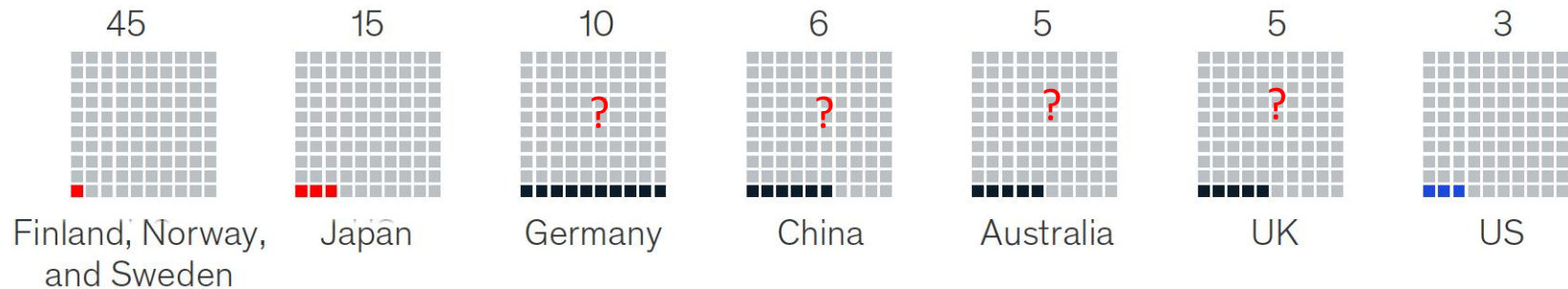
lessons

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... because **terminology** is inconsistent.

Current offsite share of housing, %

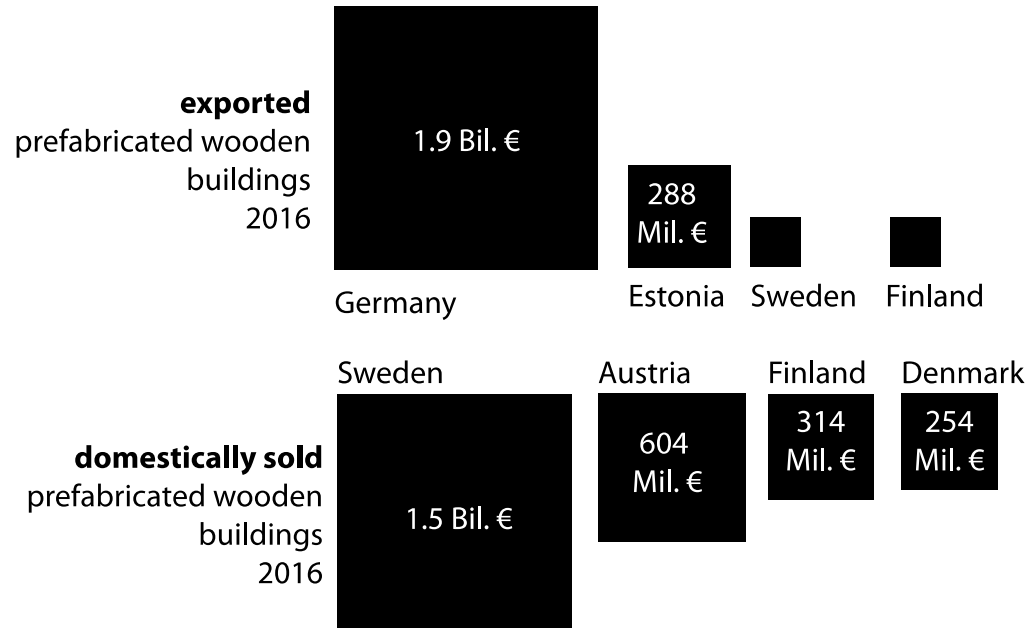


lessons

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The EU, for example, has clear terminology, and therefore, better data.



lessons

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Despite of significant progress, the (social and economic) value of design, vertical integration and automation is still not clear in the **North American** context, even within the offsite industry. This is an interdisciplinary problem that needs to be addressed before offsite will begin to grow sustainably.

In **Europe** and **Japan**, design, vertical integration, automation as well as ecological sustainability are much more ingrained within the offsite industry, and yet high market share is relegated to the single-family sector.

While local contexts will continue to impact offsite construction, a more **comparative** and more **interdisciplinary approach** is needed if we are to progress.

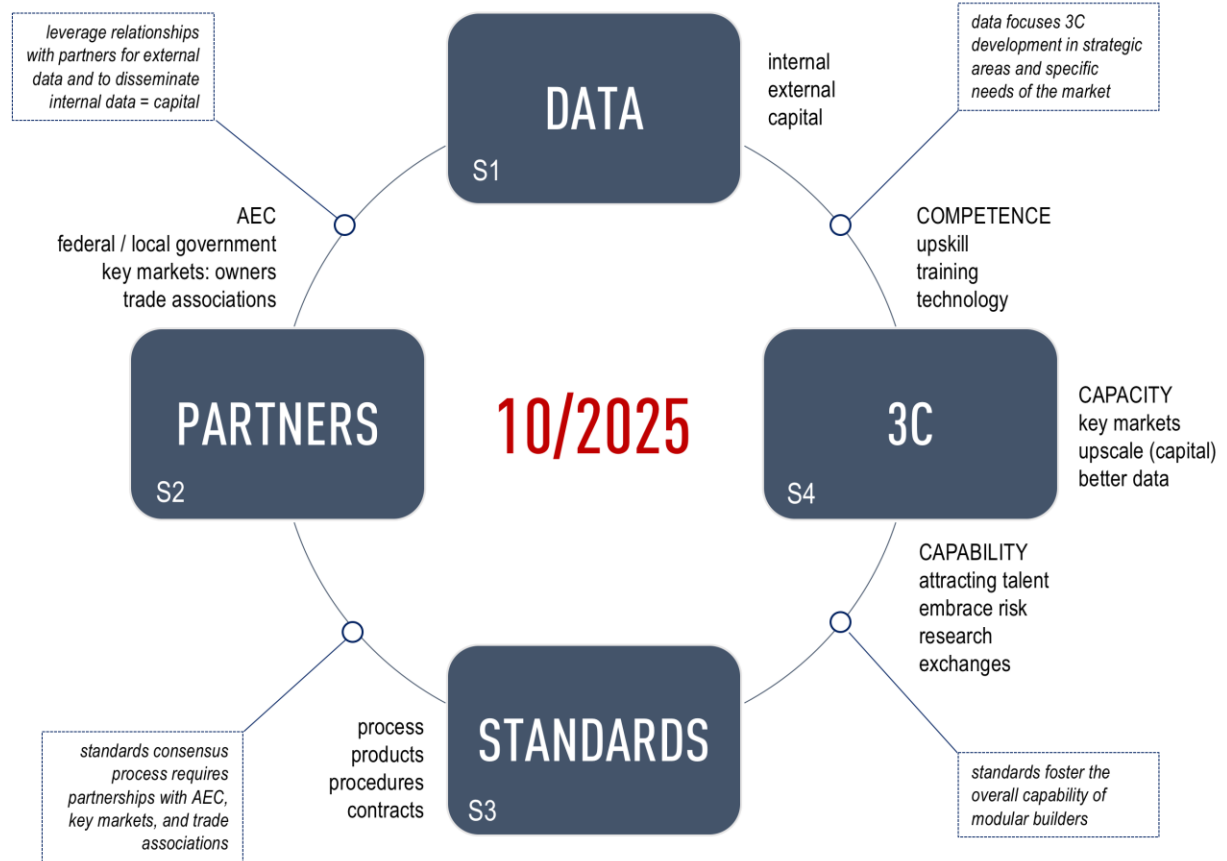
lessons

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We have provided
MBI a set
of priorities
based on our
ongoing
research.

impact

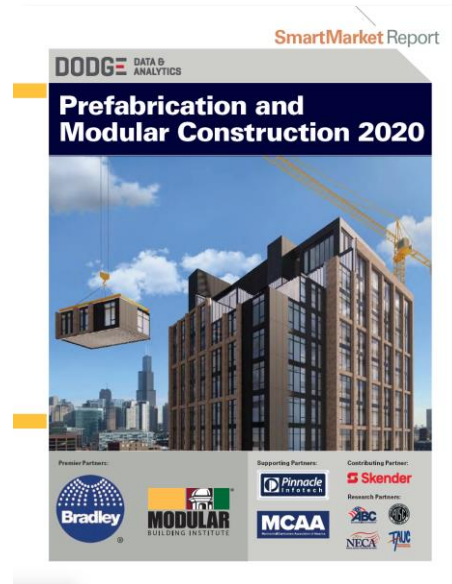
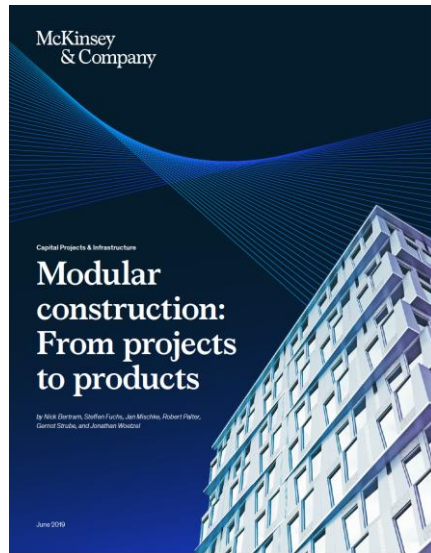


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We are happy to see our research impacting the work of others:

impact



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This work is also beginning to influence decision making at the federal level:



impact

MOD X looks forward to collaborating with UNB and others in Canada!

OFF-SITE CONSTRUCTION RESEARCH CENTRE



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THANK YOU!

join the modx.network...