

GBJ シンポジウム2025 循環型建築と社会の未来
～サーキュラーエコノミーが導く
グリーンビルディングの可能性～

サーキュラーエコノミーの実践の先に見える未来とは？

Inventory Informed Design to Living in Material Flow

2025年10月16日

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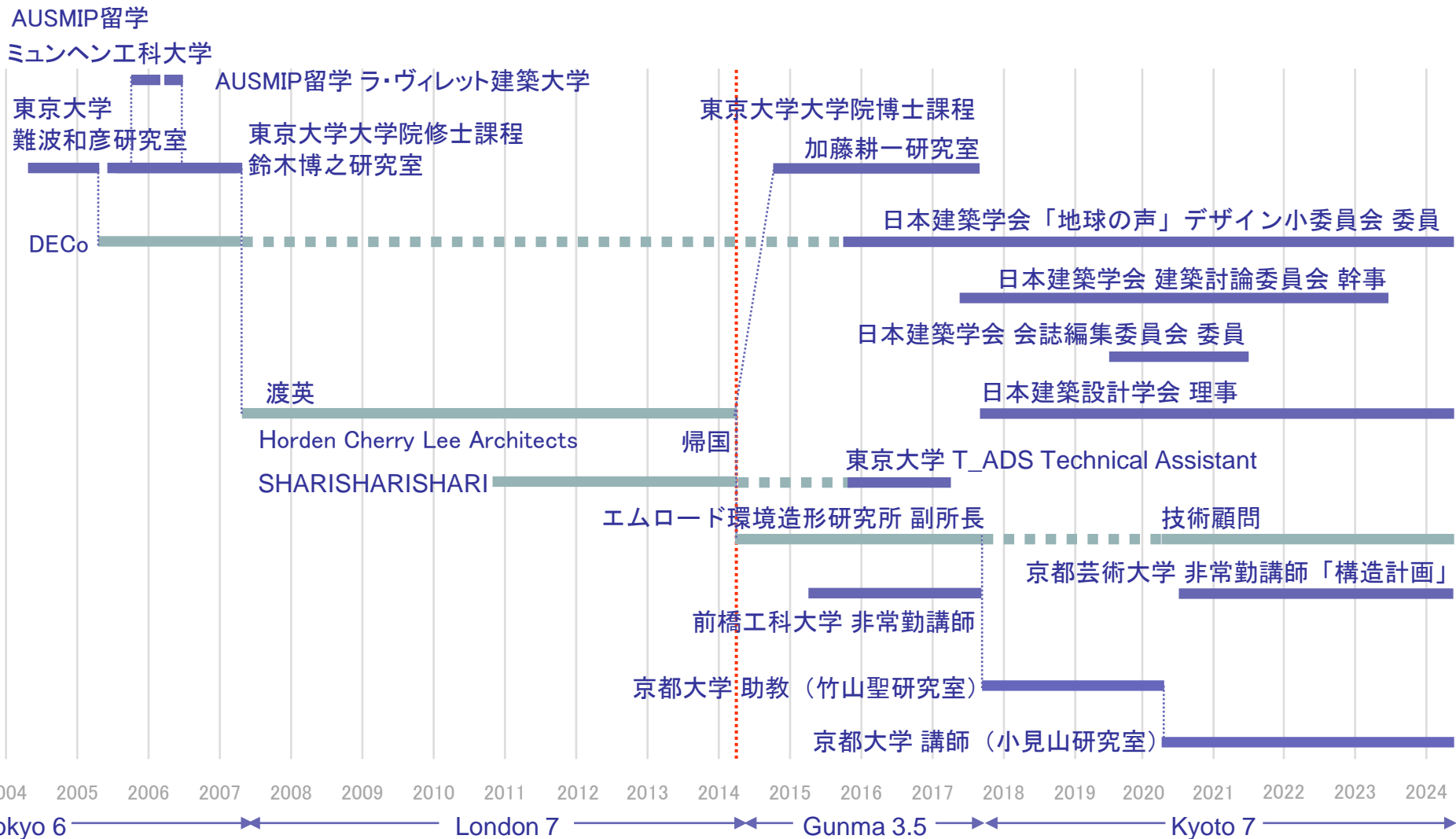
Today's Contents

1. Rediscovery of Timber in UK and Japan

2. MK10 Mobility / Repeatedly Reusable Module

3. CoLoT / Inventory Informed Design

4. KU11 / Living in Material Flow



意匠→歴史→構法史→意匠・・・現在は建築構法史研究と産学連携による建築設計

/ yosuke komiyama timeline

0

小見山陽介 略歴



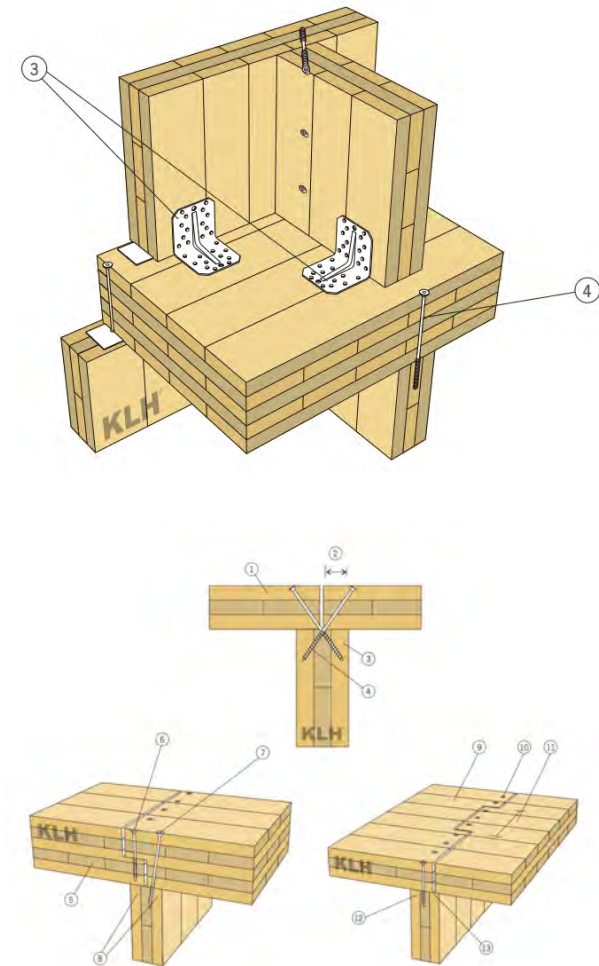
7 storey affordable housing, one of the earliest of CLT multi storey building in London

/ Kingsgate House, Horden Cherry Lee Architects, London (2010-2014)

source : Horden Cherry Lee Architects

1-1

Rediscovery of Timber in UK and Japan



7 storey affordable housing, one of the earliest of CLT multi storey building in London

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Photo taken by Yosuke Komiyama

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Rediscovery of Timber in UK and Japan



Use of Wood in High-Rise Buildings: Steel and Wood Hybrid Office Building

/ Matsuo Construction Saga Head Office, Matsuo Const. + Emeraude + Fukuoka Univ. + Oita Univ. (2018)

Selected as a "Sustainable Building Leading Project (Wooden Construction Pioneer)" in 2016

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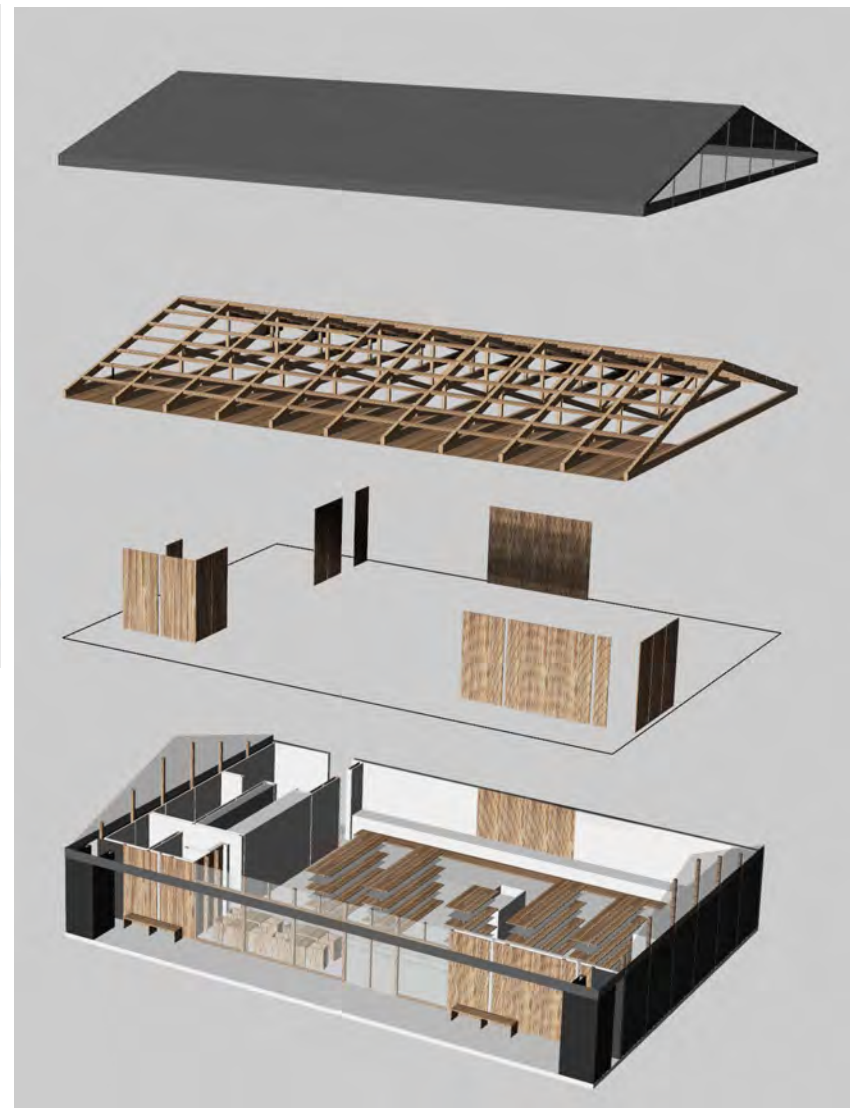
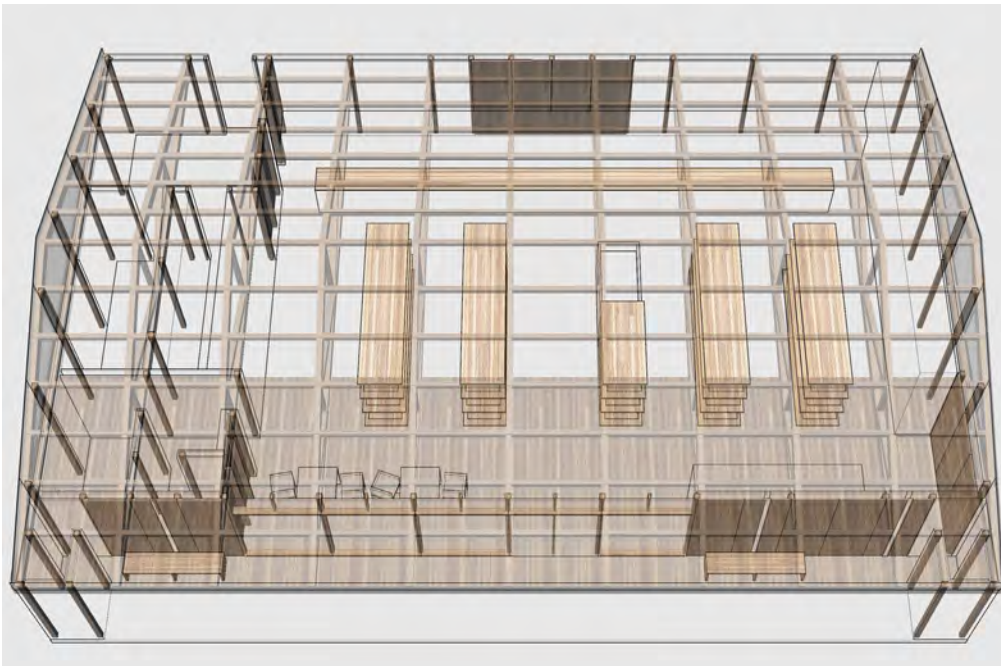
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1-2

Rediscovery of Timber in UK and Japan



Wooden Convenience Store using Conventional Frame Construction & CLT Panels

/ Wooden Convenience Store Prototype, Emeraude Architectural Laboratory (2017-)

Selected a leading CLT Building projects by Forestry Agency, Ministry of Agriculture, Forestry and Fisheries of Japan

1-2

Rediscovery of Timber in UK and Japan



Development of Load-Bearing CLT Walls/Computational Optimization of Openings

/ Shimonita Town Disaster Prevention Station, Emeraude + Gifu Forest Culture Academy + Tokyo IT (2018)

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1-2

Rediscovery of Timber in UK and Japan

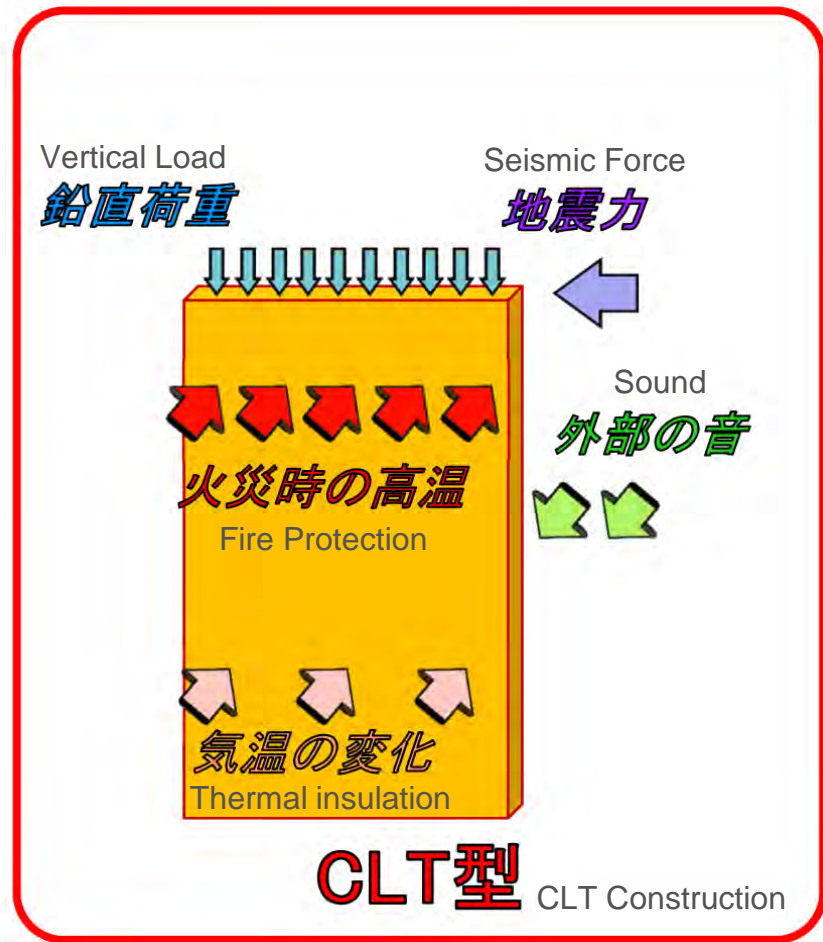
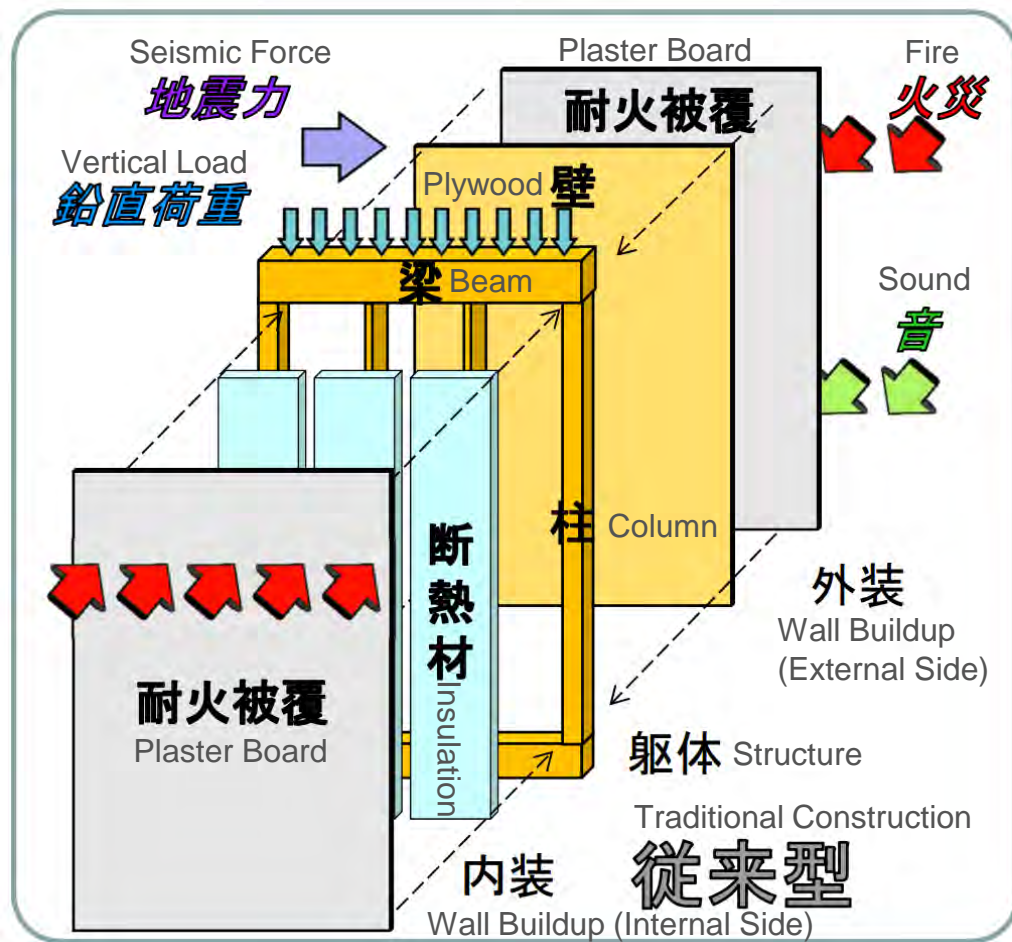
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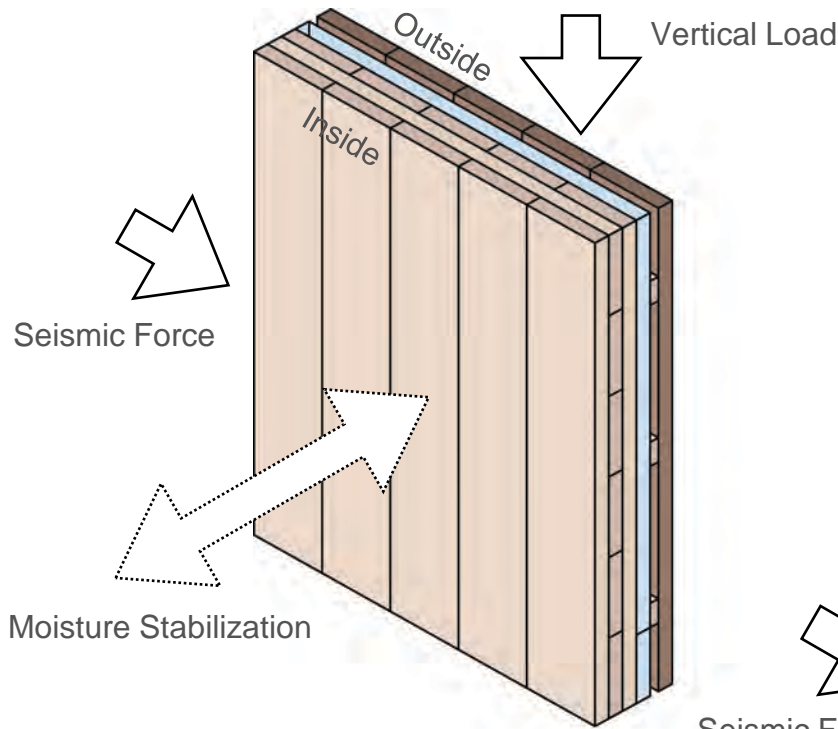


Integration would lead to Energy Efficiency and Rational Use of Materials

/ Source: Forestry and Forest Products Research Institute

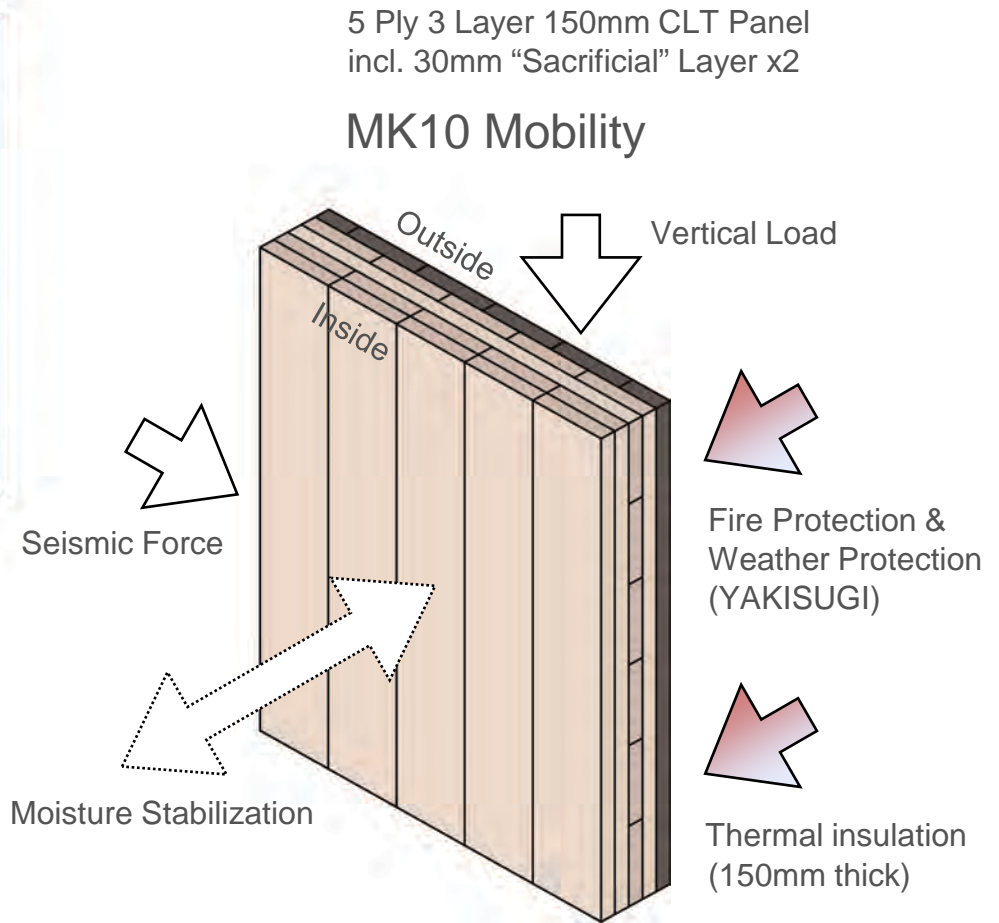
2-1

CLT Modular Construction - Building as Material Banks



Tablet Archive + Gallery in Haruna

3 Ply 3 Layer 90mm CLT Panel
+ 30mm Insulation
+ External Finish (Painted Cypress)



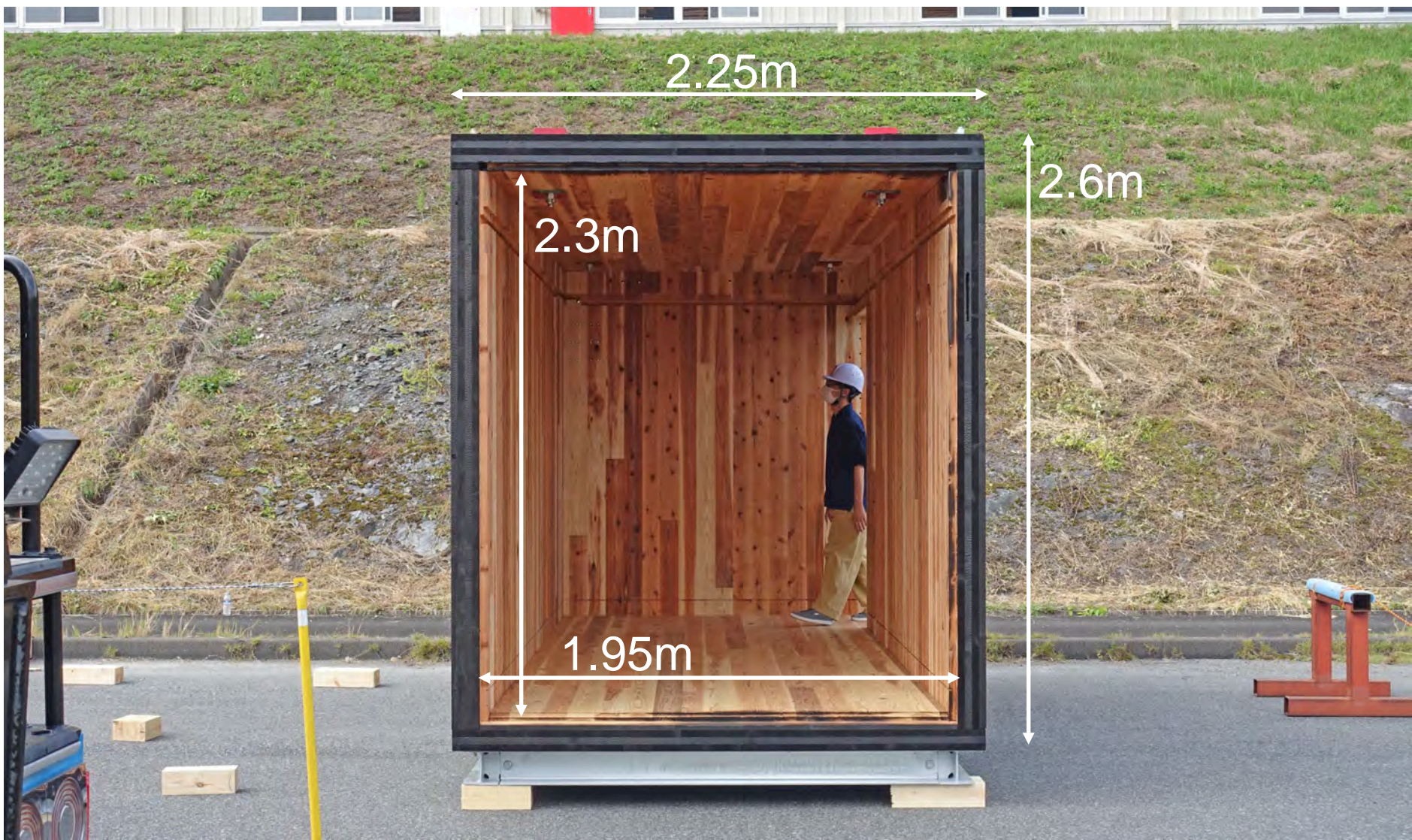
5 Ply 3 Layer 150mm CLT Panel
incl. 30mm "Sacrificial" Layer x2

MK10 Mobility

Further Integration of the Functions to SUGI CLT Panel for Energy Efficiency
/ MK10 Mobility (2021-2022)

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CLT Modular Construction - Building as Material Banks



The external dimensions of the CLT module = the maximum transportable dimensions
/ MK10 Mobility (2021-2022)

2-1

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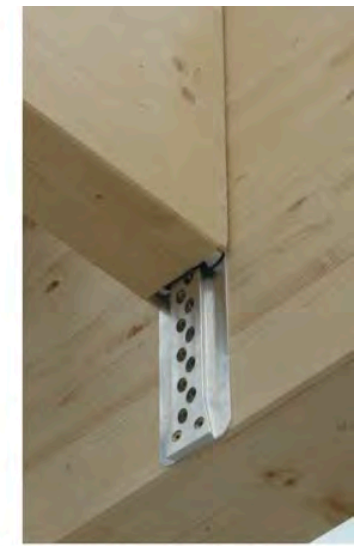
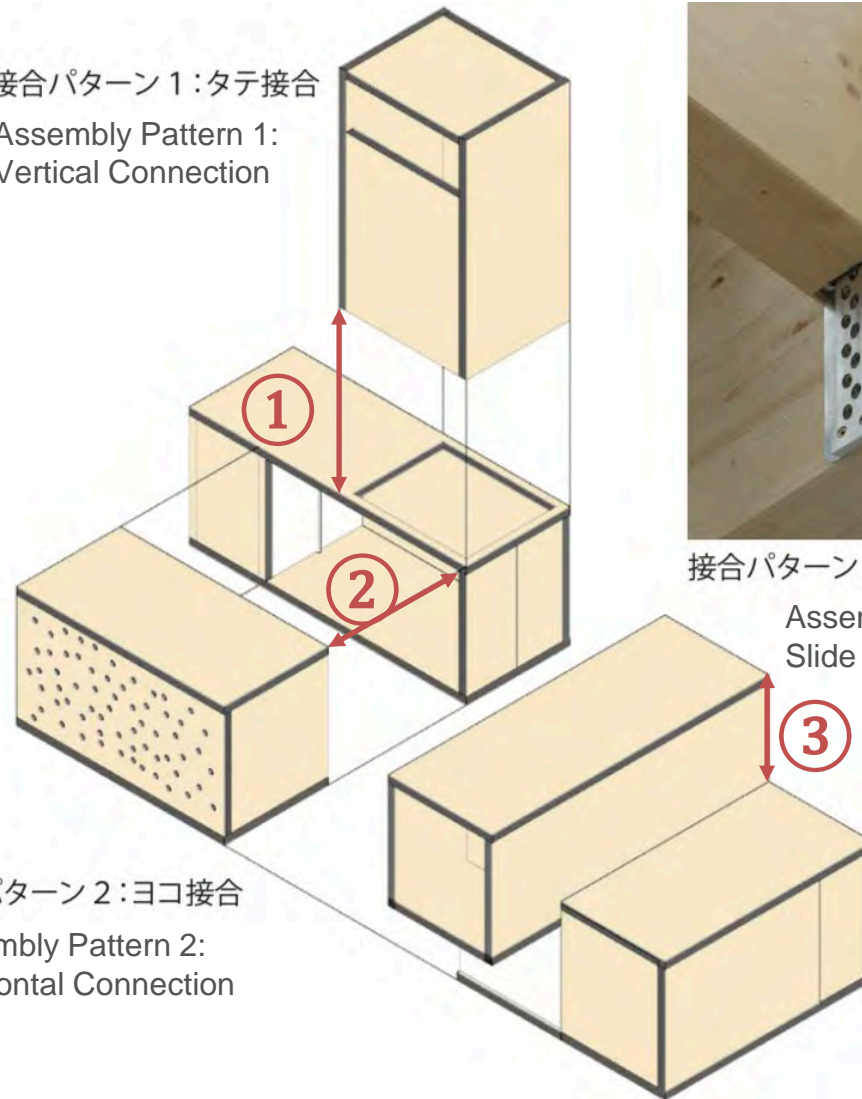
2-1

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CLT Modular Construction - Building as Material Banks



接合パターン 1: タテ接合
Assembly Pattern 1:
Vertical Connection



接合パターン 3: スレ接合
Assembly Pattern 3:
Slide Connection

接合パターン 2: ヨコ接合
Assembly Pattern 2:
Horizontal Connection

Examining how diverse interior spaces can be created by combining simple boxes

/ MK10 Mobility (2021-2022)

2-1

Selected a leading CLT Building projects by Forestry Agency, Ministry of Agriculture, Forestry and Fisheries of Japan

CLT Modular Construction - Building as Material Banks



©スターリンエルメンドルフ

Two units are connected side-by-side to provide the required area
/ MK10 Mobility (2021-2022)

2-1

Selected a leading CLT Building projects by Forestry Agency, Ministry of Agriculture, Forestry and Fisheries of Japan

CLT Modular Construction - Building as Material Banks



©スターリンエルメンドルフ

Floors, walls & roofs are made of 150mm thick cedar CLT panels, UA value of 0.70
/ MK10 Mobility (2021-2022)

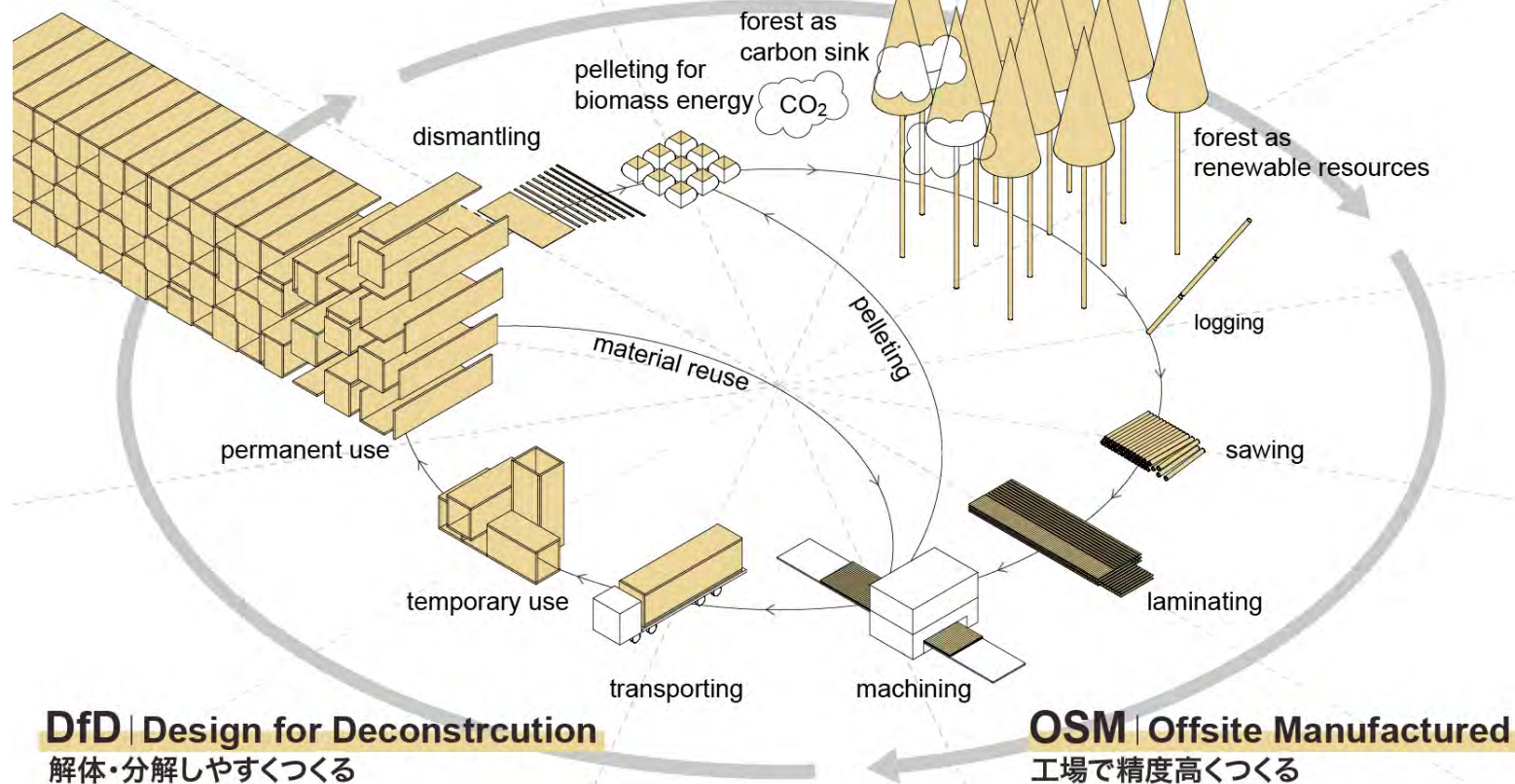
2-1

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CLT Modular Construction - Building as Material Banks

EoL | End of Life Scenarios

廃棄後のことも考えてつくる

**DfD | Design for Deconstruction**

解体・分解しやすくつくる

OSM | Offsite Manufactured

工場で精度高くつくる

〈材料貯蔵庫としての建築〉をめぐる3つの研究領域の見取り図

〈材料貯蔵庫としての建築〉=BaMB | Building as Material Bank 循環する材料が一瞬固定されたものとして建築をとらえる視点

Overview of 3 Research Areas surrounding "Architecture as a Material Banks"

/ MK10 Mobility (2021-2022)

Selected a leading CLT Building projects by Forestry Agency, Ministry of Agriculture, Forestry and Fisheries of Japan

CLT Modular Construction - Building as Material Banks



Unit transportation and hoisting (construction at Kyoto Univ.'s Katsura Campus)
/ MK10 Mobility (2021-2022)

2-1

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CLT Modular Construction - Building as Material Banks



©スターリンエルメンドルフ

Construction experiment at Kyoto University Katsura Campus / MK10 Mobility (2021-2022)

2-1

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CLT Modular Construction - Building as Material Banks



By unitizing the roof units, even waterproofing work can be prefabricated
/ MK10 Mobility (2021-2022)

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CLT Modular Construction - Building as Material Banks



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CLT Modular Construction - Building as Material Banks



Installed at Kyoto Univ. and dismantled & rebuilt in Okayama to test its reusability
/ MK10 Mobility (2021-2022)

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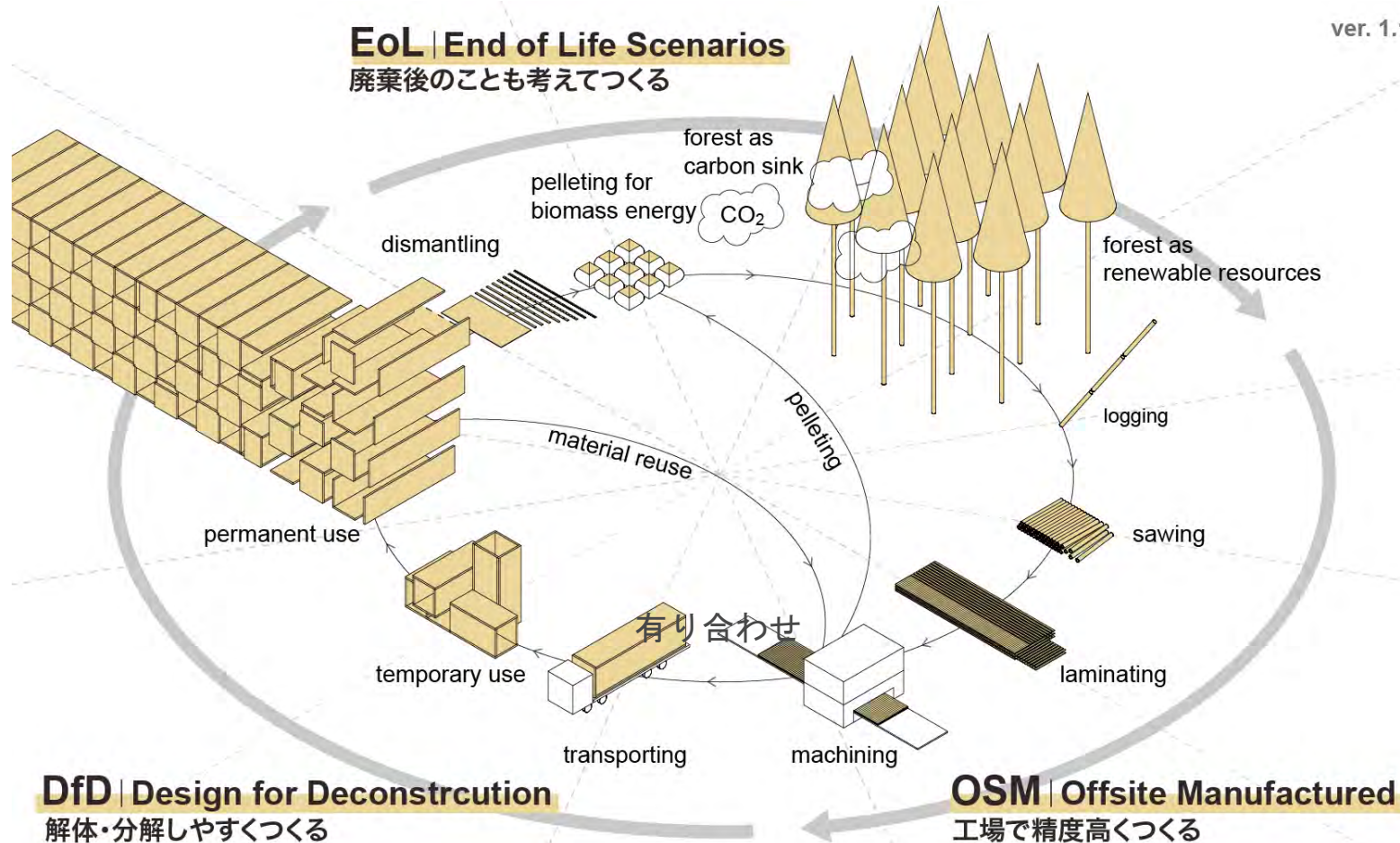
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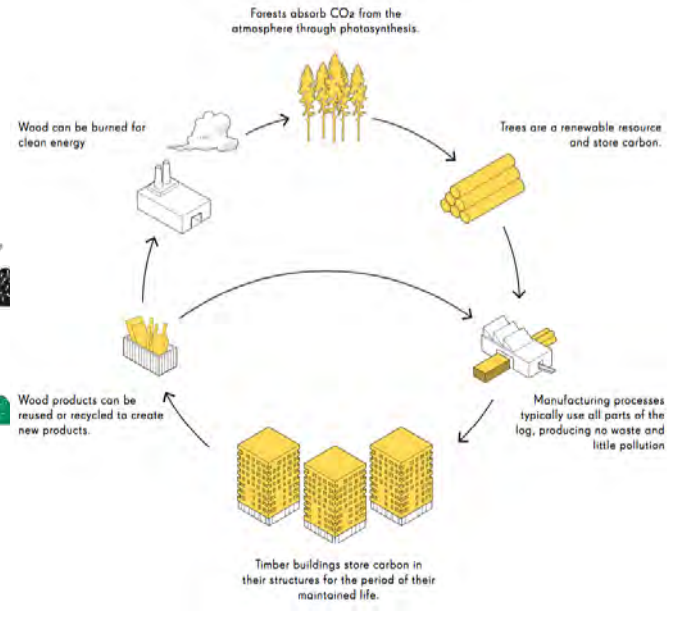
Katerra (North America)

Organizing workflows through
M&A based on IT technology



Blumer Lehmann (Central Europe)

Vertically integrated circular
economy in small regions



NU Living (Western Europe)

Architects will lead the industry
in innovating construction methods

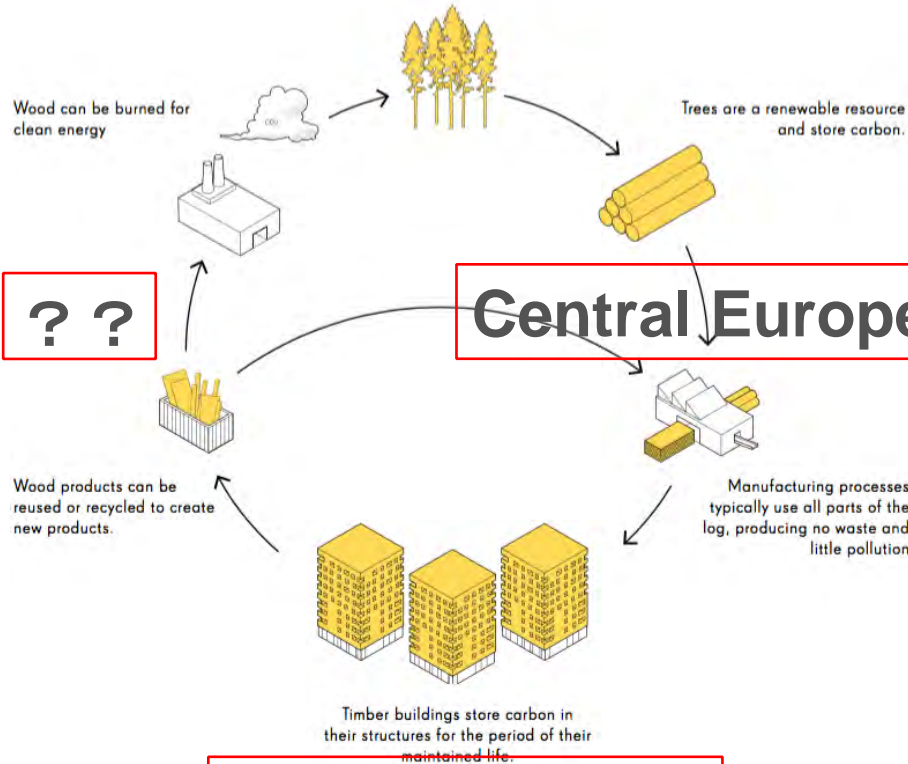
Collection of Circular Diagrams relating to Wooden Architecture
/ Beyond Circle Obsessions on Timber Architecture、KENCHIKU TORON special issue 201906

2-2

Beyond the Circle Obsessions of Wooden Architecture

Eastern/Northern Europe

Forests absorb CO₂ from the atmosphere through photosynthesis.



Central Europe

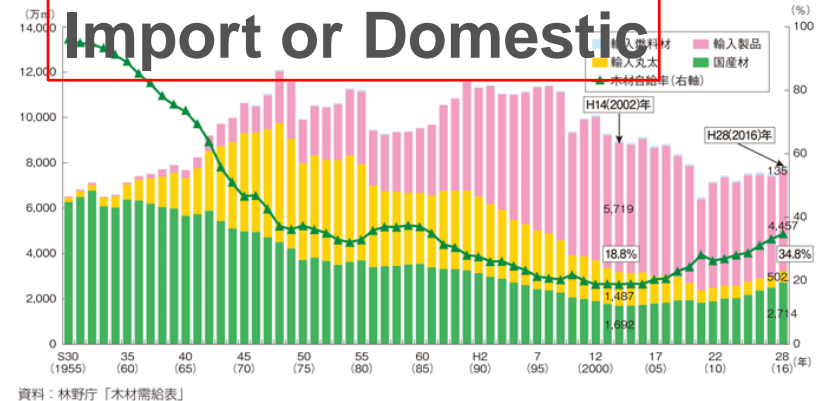
Western Europe

森林資源の循環利用 (イメージ)



All in Japan

木材供給量と木材自給率の推移



Japan: Motivation is to encourage active use of (domestic) matured forest resources

/ Source: 100 UK CLT Projects | Think Wood (2018)

/ Source: Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

2-2

Beyond the Circle Obsessions of Wooden Architecture

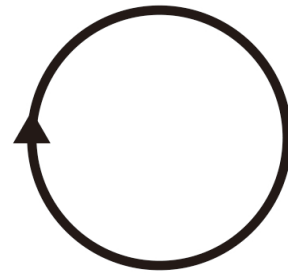


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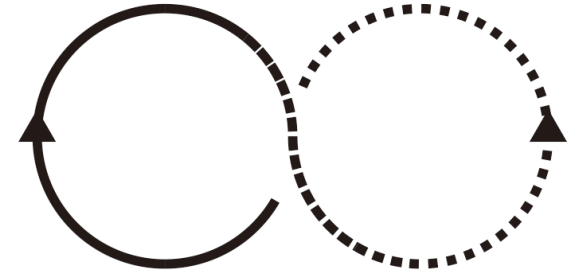
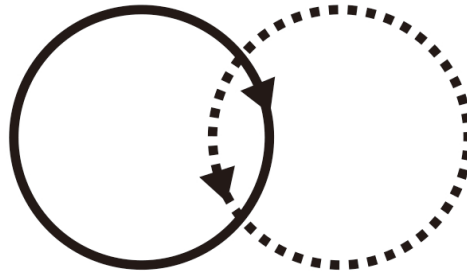
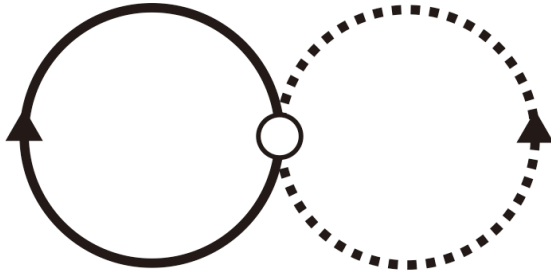
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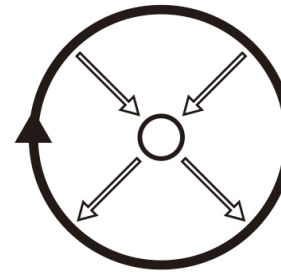
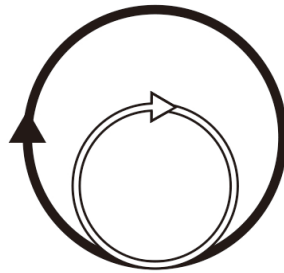
1. merged



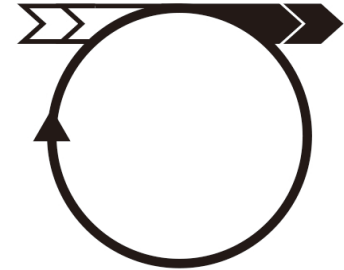
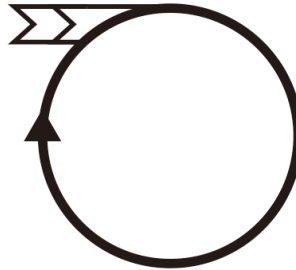
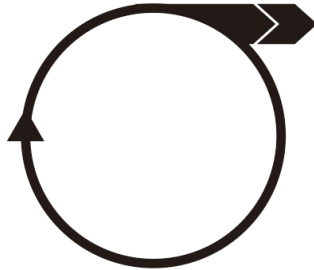
2. contrasting



3. included



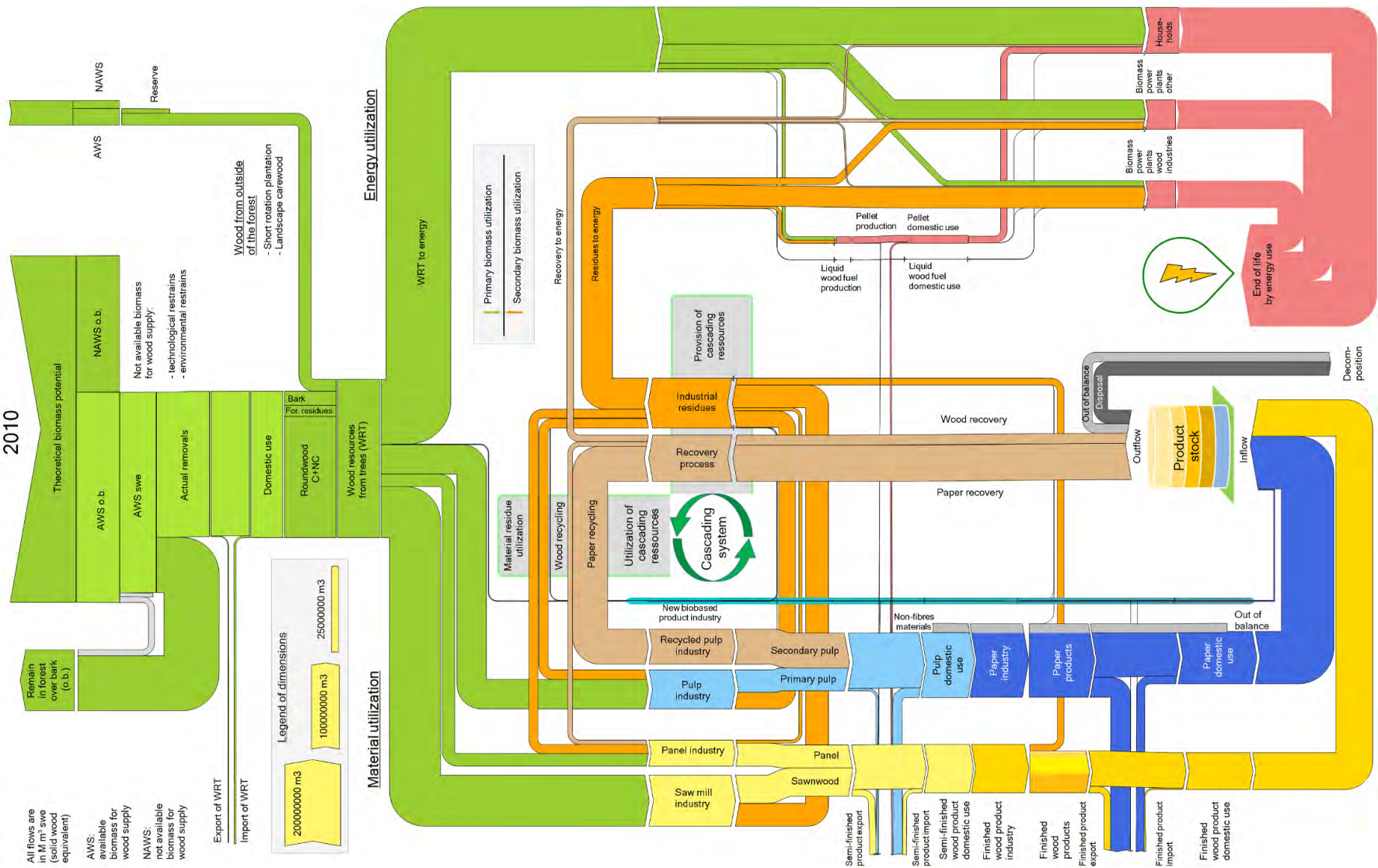
4. utilizing



Collection of Circular Diagrams relating to Wooden Architecture
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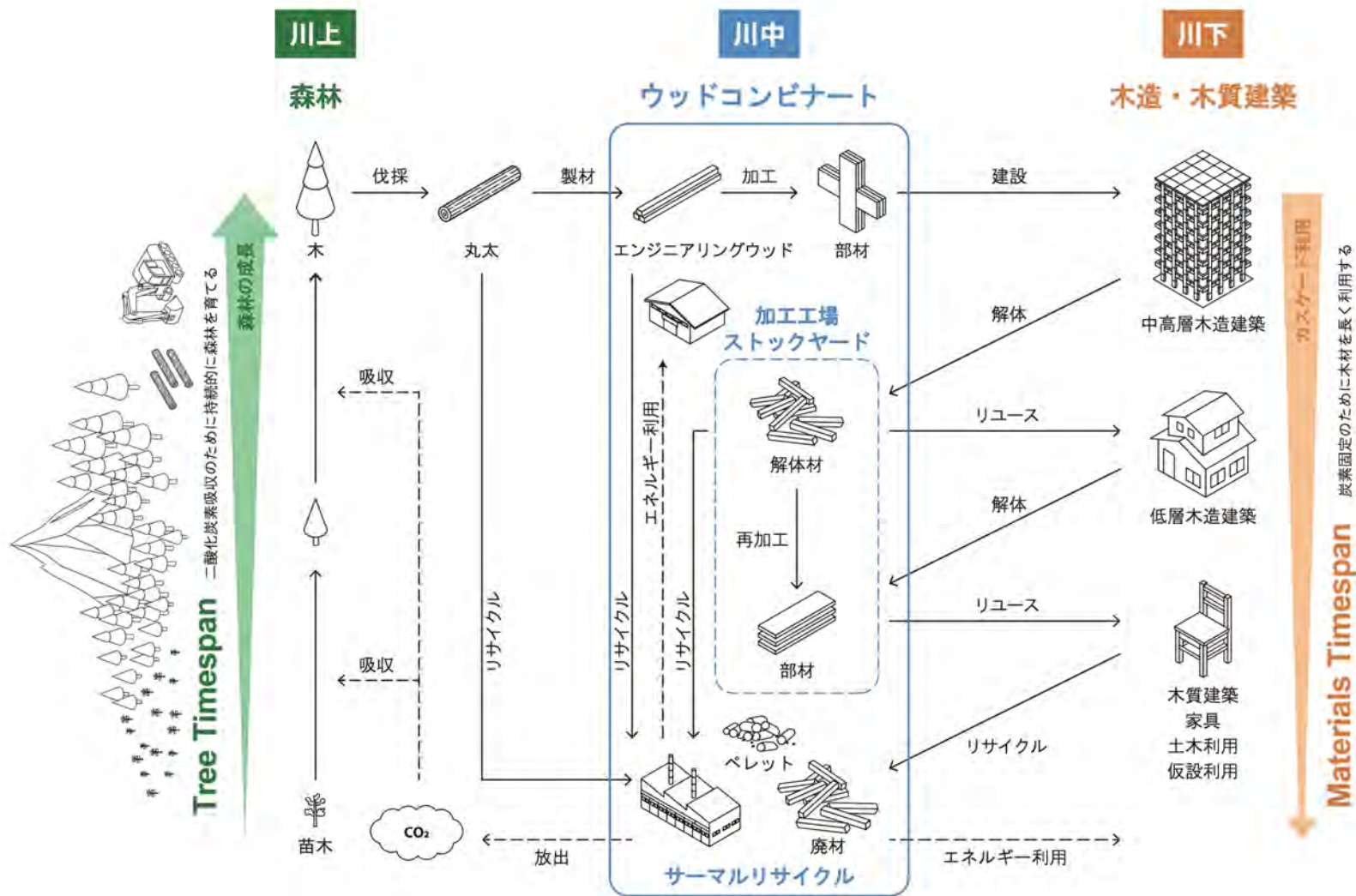
2-2

Beyond the Circle Obsessions of Wooden Architecture



An attempt to Describe Material Flows including Energy Recovery

/ Beyond Circle Obsessions on Timber Architecture、KENCHIKU TORON special issue 201906



Cascading Use of Wood in line with the Growth Rate of Forests

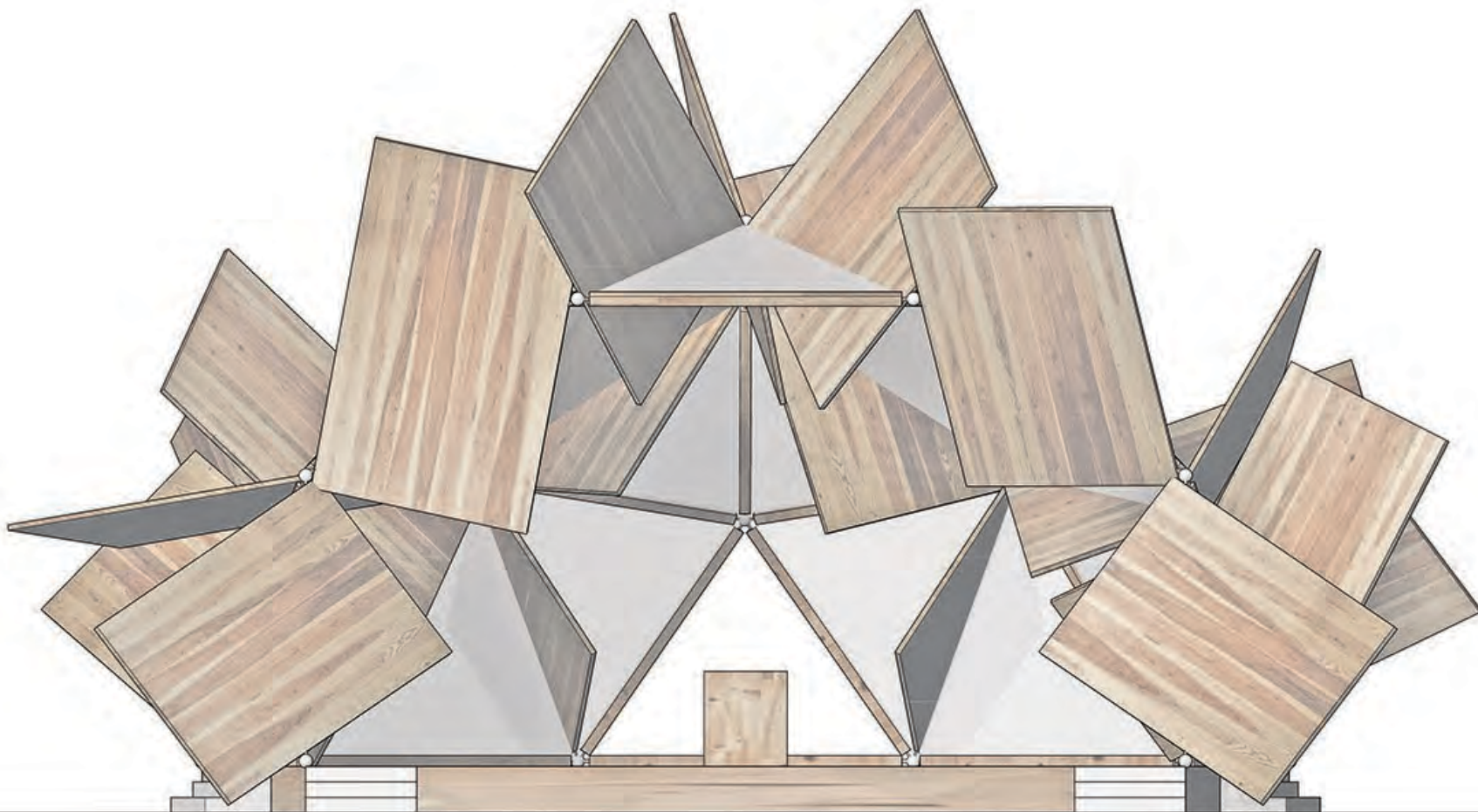
/ Towards Circular Timber Construction, Yosuke Komiyama + Obayashi Cooperation (2022-2023)

2-2

Beyond the Circle Obsessions of Wooden Architecture

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1. My encounter with Timber Tradition
2. MK10 Mobility / Repeatedly Reusable Module
- 3. CoLoT / Inventory Informed Design**
4. KU11 / Living in Material Flow



Motherboard is used in the Structure without any processing, to make it easy to reuse

/ Reusable Stage Design Proposal for Tree Planting Festival, Yosuke Komiyama(2019-2020)

Kyoto University + SANTO

3-1

Circular Use of Timber Waste - Inventory Informed Design



Reusing Materials from Dismantled CLT Temporary Buildings into Furniture

/ Reusable Stage Design Proposal for Tree Planting Festival, Yosuke Komiyama(2019-2020)

Kyoto University + SANTO

3-2

Circular Use of Timber Waste - Inventory Informed Design



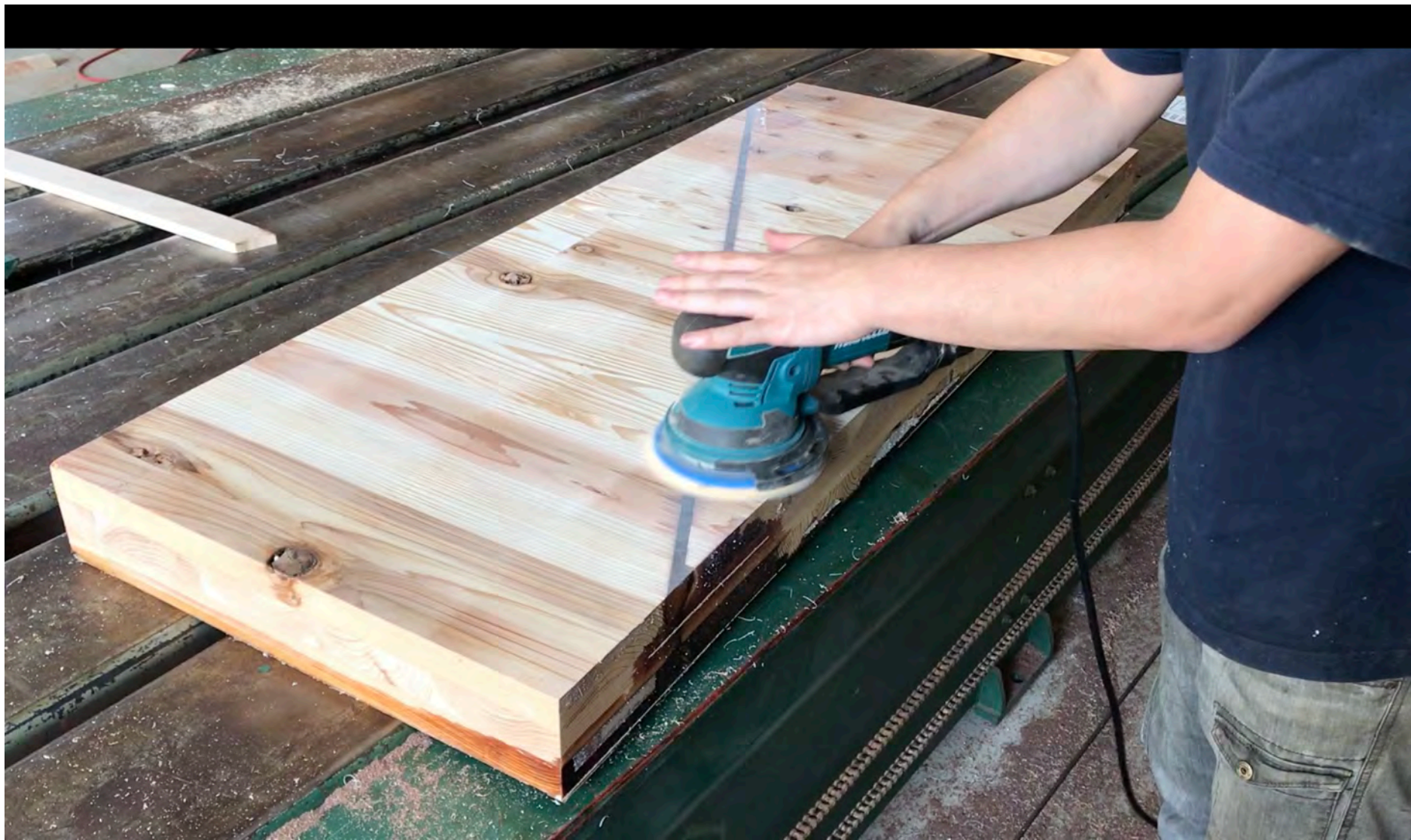
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Offcuts from Factories, Leftovers & Wastes from Construction sites made into furniture

/ rCLT product catalogue - CLT modular furniture, Kyoto Univ. Komiyama lab. (Yuji Nomura, 2022-)

Kyoto University Research University Strengthening Promotion Project SPIRITS2022 Selected Project

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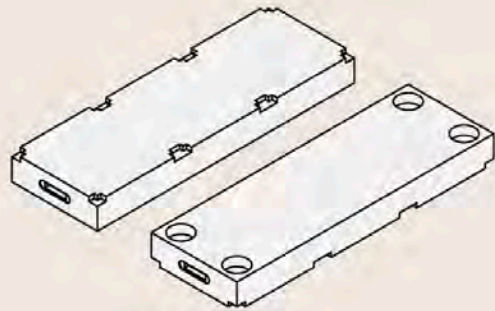


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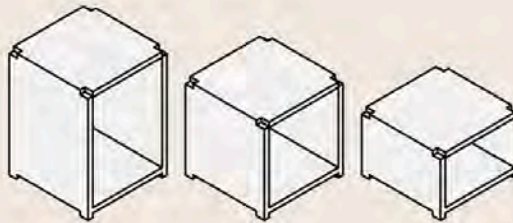
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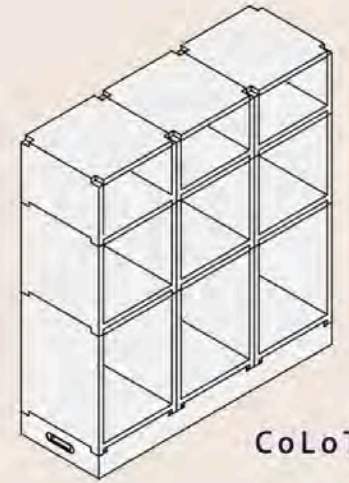
木のカタマリ

+



棚モジュール

=



CoLoT



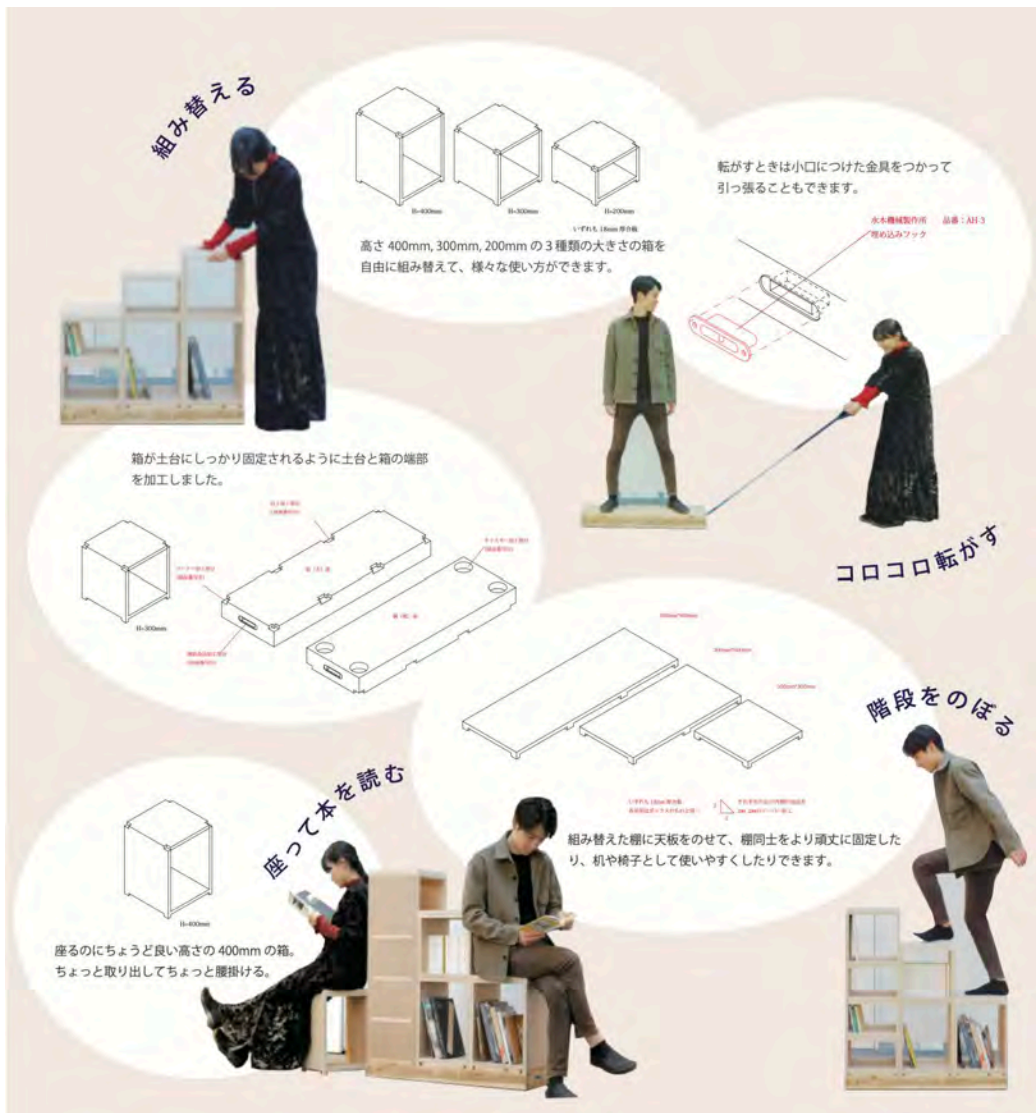
Offcuts from Factories, Leftovers & Wastes from Construction sites made into furniture

/ CoLoT, Kyoto Univ. Komiyama Lab. (2022-)

Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

3-3

Circular Use of Timber Waste - Inventory Informed Design



Offcuts from Factories, Leftovers & Wastes from Construction sites made into furniture

/ CoLoT, Kyoto Univ. Komiyama Lab. (2022-)

Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

3-3

Circular Use of Timber Waste - Inventory Informed Design



Offcuts from Factories, Leftovers & Wastes from Construction sites made into furniture
/ CoLoT, Kyoto Univ. Komiyama Lab. (2022-)

3-3

Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

Circular Use of Timber Waste - Inventory Informed Design



Offcuts from Factories, Leftovers & Wastes from Construction sites made into furniture
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3-3

Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

Circular Use of Timber Waste - Inventory Informed Design



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Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

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Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

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/ CoLoT, Kyoto Univ. Komiyama Lab. (2022-)

Kyoto University Katsura Campus Empirical Research Promotion Fund 2023 Selected Project

3-3

Circular Use of Timber Waste - Inventory Informed Design



Upcycling wastes generated during deconstruction site into chairs for the new space
/ Seikatsu Club Ibasho Space Furniture Project, Komiyama Lab (2024-)

3-4














有り合わせのデザイン - Inventory Informed Design

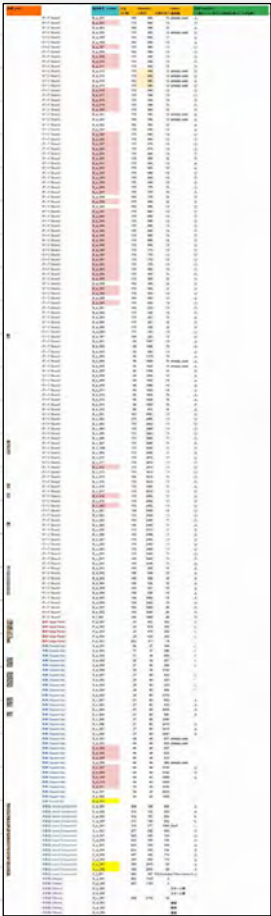


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3-4

有り合わせのデザイン - Inventory Informed Design

	A	B	C	D	E	F	G	H
1	画像 photo		識別番号 number	寸法 dimension			memo	状態 (condition)
2				W (幅)	L(長さ)	D(奥行き)	備考欄	○ (傷なし) △ (釘穴など軽微な傷) × (大きな傷)
108		ボード (Board)	B_c_024	146	2440	11		△
109		ボード (Board)	B_c_025	173	2433	11		○
110		ボード (Board)	B_c_026	140	2486	11		○
111		ボード (Board)	B_c_027	175	2495	11		○
112		ボード (Board)	B_c_028	175	2495	11		○
113		ボード (Board)	B_c_029	175	2495	11		○
114		ボード (Board)	B_c_030	115	2488	11		○
115		ボード (Board)	B_c_031	140	2440	11		○
116		ボード (Board)	B_c_032	100	2496	11		○
117		ボード (Board)	B_d_001	145	528	15		△
118		ボード (Board)	B_d_002	136	528	15		△
119		ボード (Board)	B_d_003	145	526	15		△
120		ボード (Board)	B_d_004	136	526	15		△
121		ボード (Board)	B_d_005	145	527	15		△
122		ボード (Board)	B_d_006	136	528	15		△
123		ボード (Board)	B_d_007	136	2450	15		△
124		ボード (Board)	B_d_008	136	2454	15		△
125		ボード (Board)	B_e_001	156	2450	26		○
126		ボード (Board)	B_e_002	155	2040	26		○
127		ボード (Board)	B_f_001	145	1860	26		○
128		面材 (large Panel)	P_a_001	20	621	302		○
129		面材 (large Panel)	P_a_002	20	619	302		○
130		面材 (large Panel)	P_a_003	20	618	302		○
131		面材 (large Panel)	P_a_004	20	620	302		○
132		面材 (large Panel)	P_b_001	602	911	19		
133		角棒 (Square bar)	S_a_001	56	37	598		△
134		角棒 (Square bar)	S_a_002	57	37	596		△
135		角棒 (Square bar)	S_a_003	57	39	600		△
136		角棒 (Square bar)	S_a_004	56	39	601		△
137		角棒 (Square bar)	S_a_005	57	40	594		△



Upcycling wastes generated during deconstruction site into chairs for the new space

/ Seikatsu Club Ibasho Space Furniture Project, Komiyama Lab (2024-)

3-4

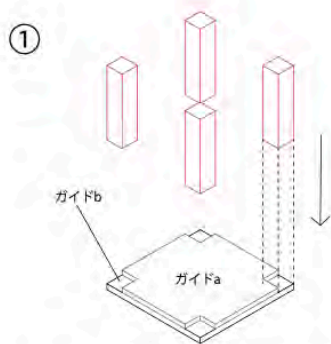
有り合わせのデザイン - Inventory Informed Design



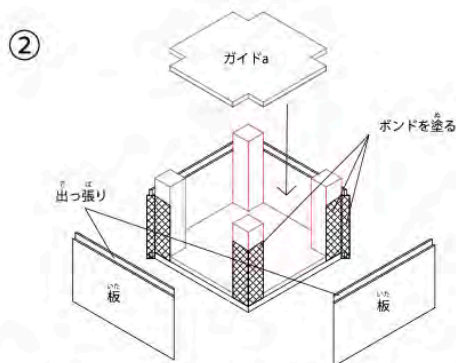
Upcycling wastes generated during deconstruction site into chairs for the new space
/ Seikatsu Club Ibasho Space Furniture Project, Komiyama Lab (2024-)

3-4

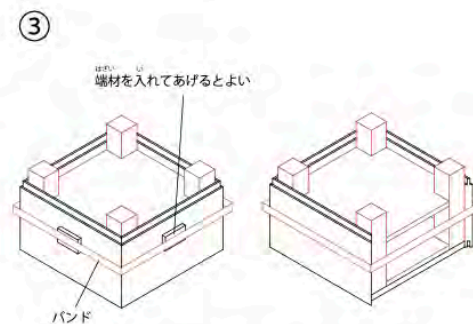
有り合わせのデザイン - Inventory Informed Design



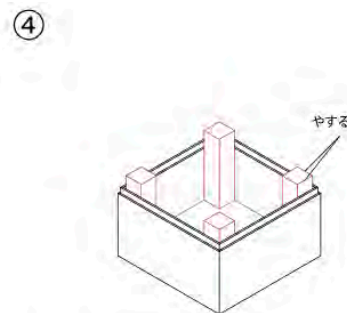
① ガイドa,bを組み合わせたものに、柱を合わせて立てます。



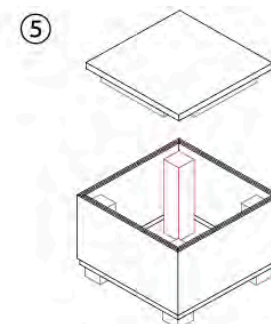
② 柱の側面と板の斜めの面にボンドを塗り、板から飛び出るところには塗らないようにします。板の引っ張りが上にくるようにしてください。平らなところで組み立てましょう。つぎに、もう一つのガイドaを上に入れて、柱が内側に倒れてこないようにします。



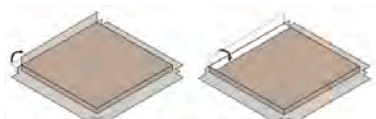
③ ボンドで板を付け、もう一つのガイドaを柱の内側に入れた後、バンドで締め付けて固定します。



④ 乾かしたあと、ガイドaを取り外したら、柱の飛び出ているところを、やすりでなめらかにします。



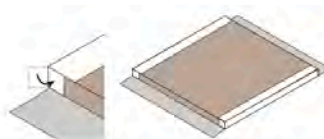
⑤ ひっくり返したら完成です。



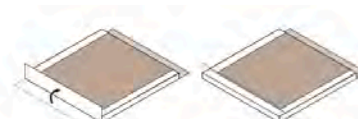
① 1辺を裏板に沿わせるようにして折り曲げる
② 上に飛び出した部分を裏板にかぶせるように折り曲げて両面テープで留める



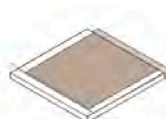
③ 図の部分にノコギリで切り込みを入れる



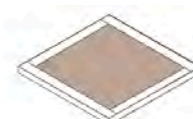
④ 切り込みを入れた部分を裏板に沿わせるように折り曲げる
⑤ 残りの3箇所も同じようにする



⑥ ①と同様に残っている1辺を裏板に沿わせて折り曲げる



⑦ ②と同様に上に飛び出した部分を裏板にかぶせるように折り曲げて両面テープで留める



⑧ 向かい側の辺も同じようにして完成



Upcycling wastes generated during deconstruction site into chairs for the new space
/ Seikatsu Club Ibasho Space Furniture Project, Komiyama Lab (2024-)

3-4

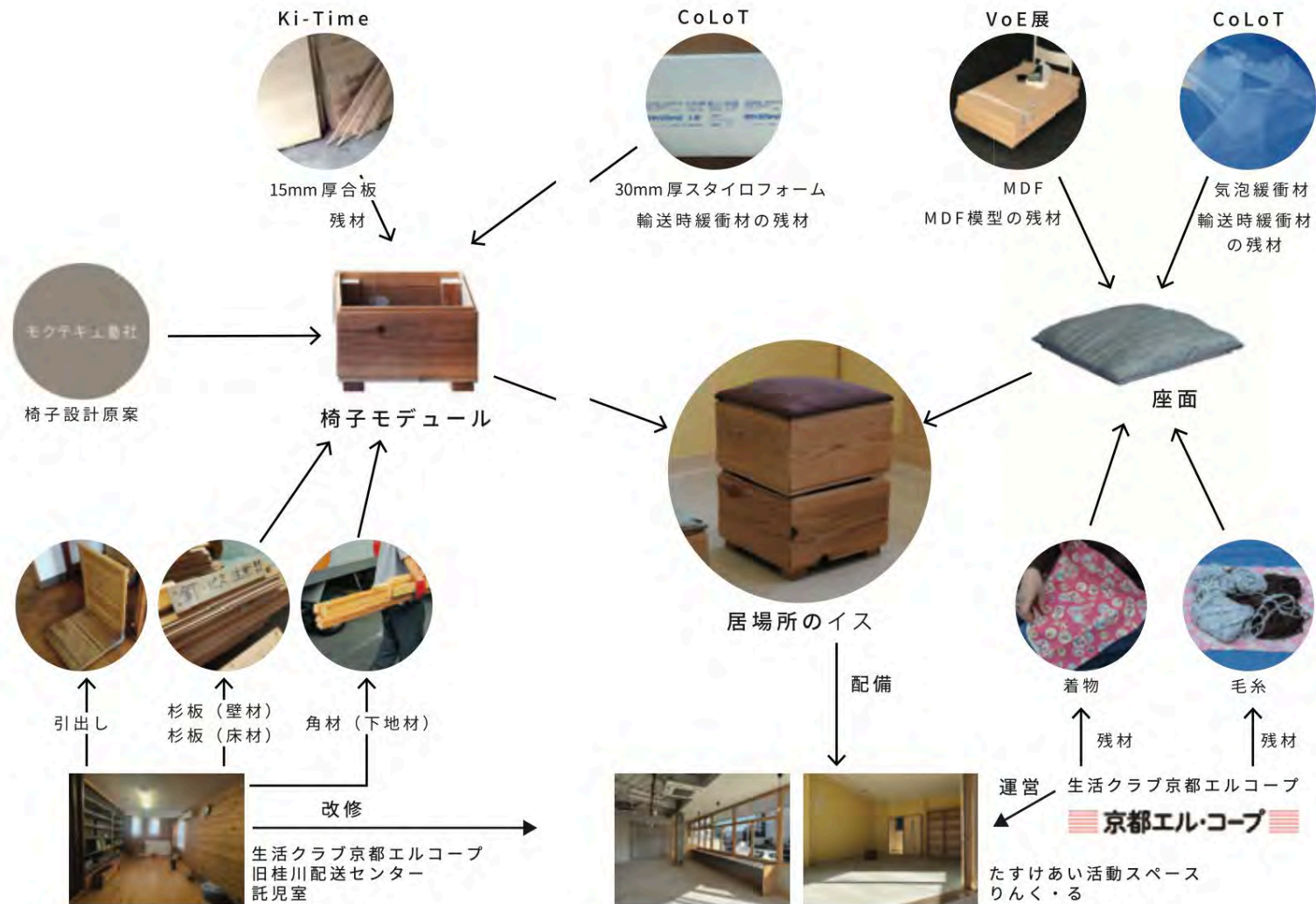
有り合わせのデザイン - Inventory Informed Design



Upcycling wastes generated during deconstruction site into chairs for the new space
/ Seikatsu Club Ibasho Space Furniture Project, Komiyama Lab (2024-)

3-4

有り合わせのデザイン - Inventory Informed Design



Upcycling wastes generated during deconstruction site into chairs for the new space

/ Seikatsu Club Ibasho Space Furniture Project, Komiyama Lab (2024-)

3-4

有り合わせのデザイン - Inventory Informed Design

Today's Contents

1. Rediscovery of Timber in UK and Japan
2. MK10 Mobility / Repeatedly Reusable Module
3. CoLoT / Inventory Informed Design
- 4. KU11 / Living in Material Flow**



Photo: Hiroki Nakadoi

half-finished house - a house that will be completed bit by bit over time

/ KU11, Yosuke Komiyama + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiyama (M&E) (2024)

4-1

Living with half-finished Timber Frame



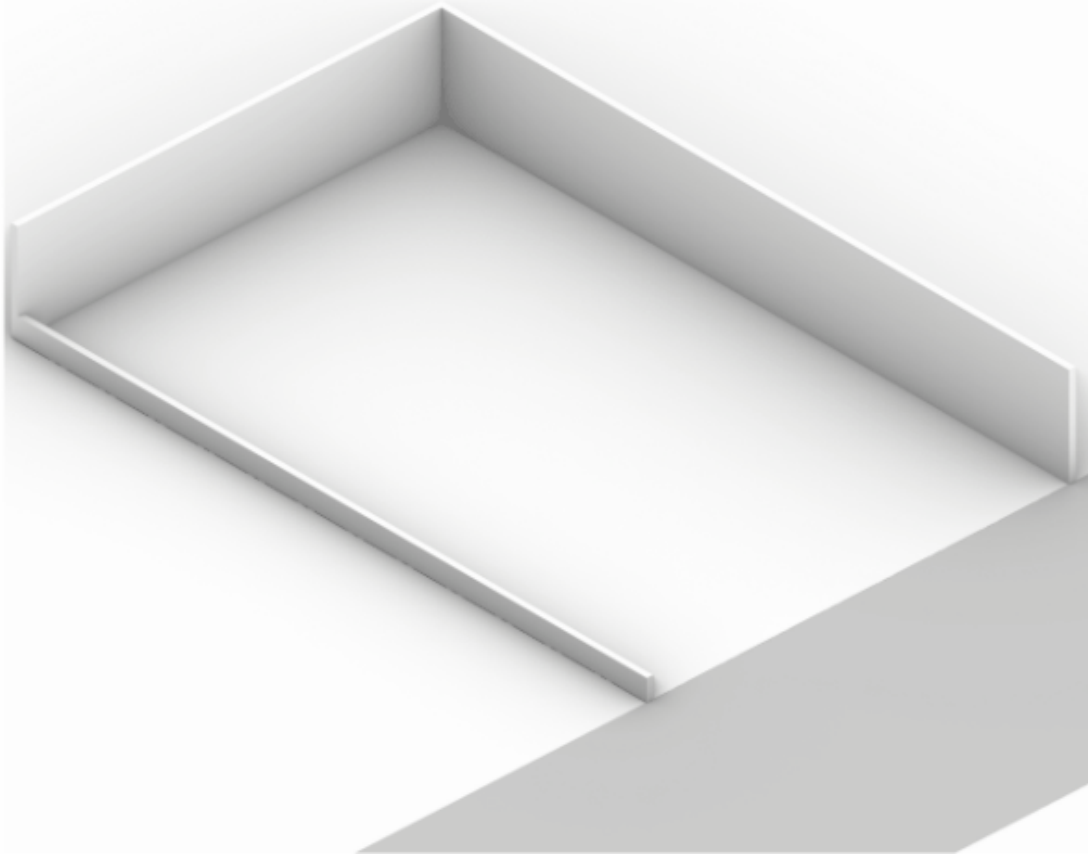
Photo: Yohei Sasakura

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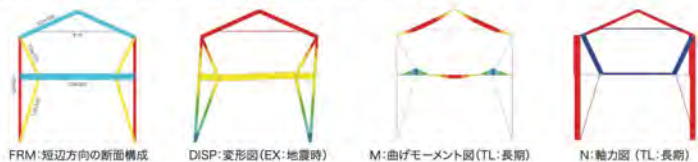
/ KU11, Yosuke Komiya + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiya (M&E) (2024)

4-1

Living with half-finished Timber Frame

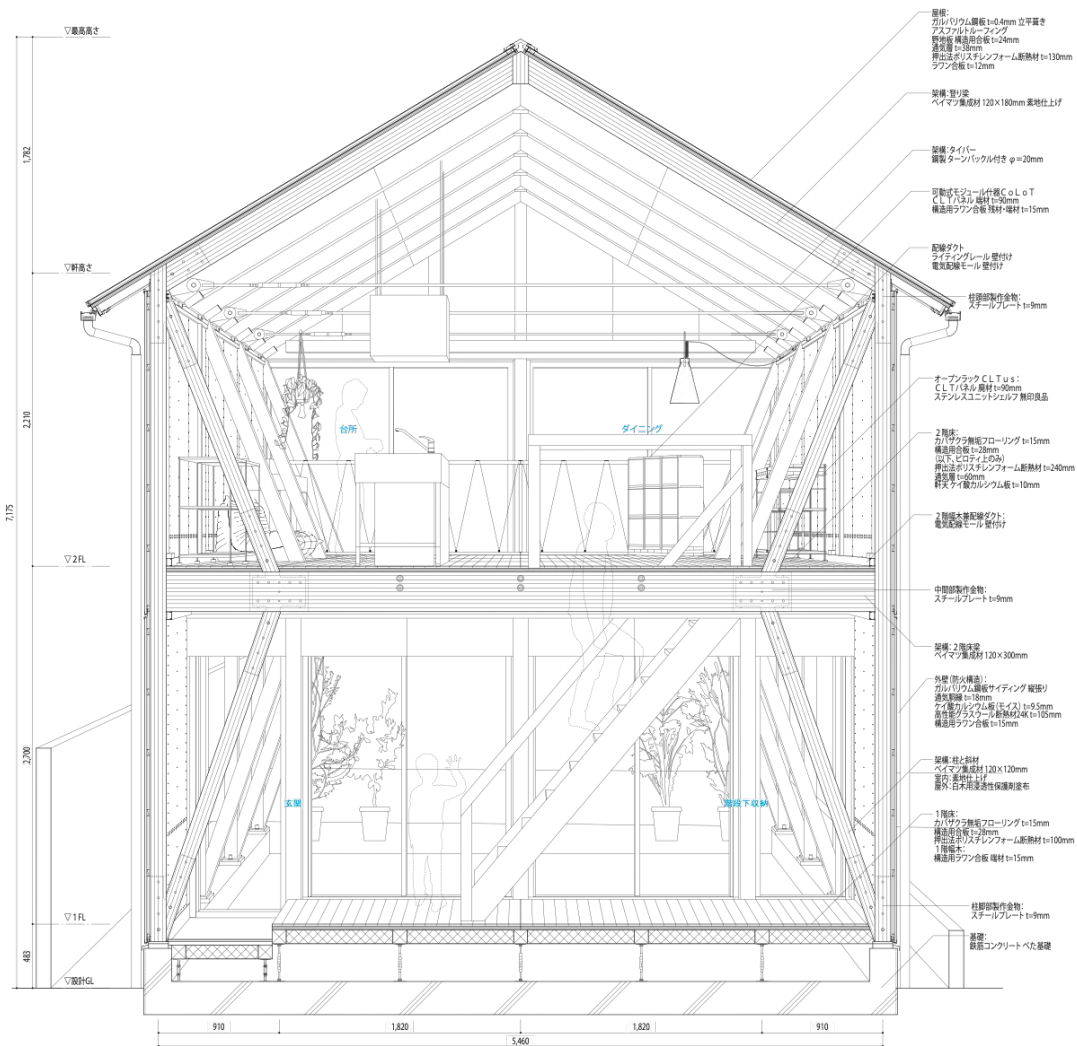
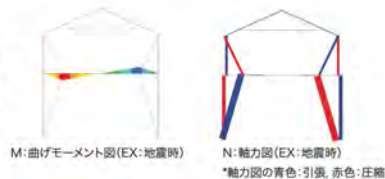
プロトタイピングとしての素体

BASE STRUCTURE AS PROTOTYPING



偏心ブレース構造で汎用性の高いハードをつくる。隣家が迫っている長手方向と、道路を挟んで田んぼに面した短手で方向とて、耐震要素をそれぞれ面的要素 (構造用合板) と線的要素 (偏心ブレース) とで使い分けている。汎用構造解析ソフトによるシミュレーションを使いながら形状を調整した。

木でできたフレームは、汎用性の高いハードであると同時に、それ自体も容易に解体・改変可能なものである。

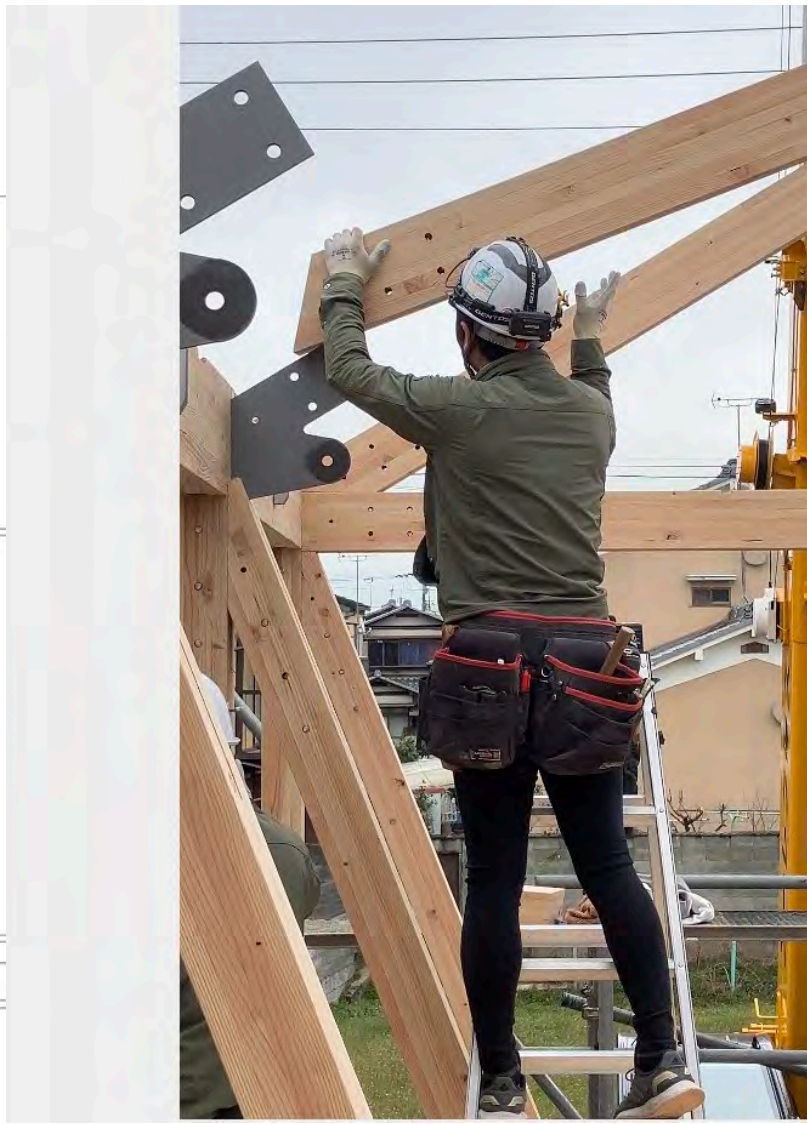


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4-1

Living with half-finished Timber Frame



half-finished house - a house that will be completed bit by bit over time

4.1

Living with half-finished Timber Frame

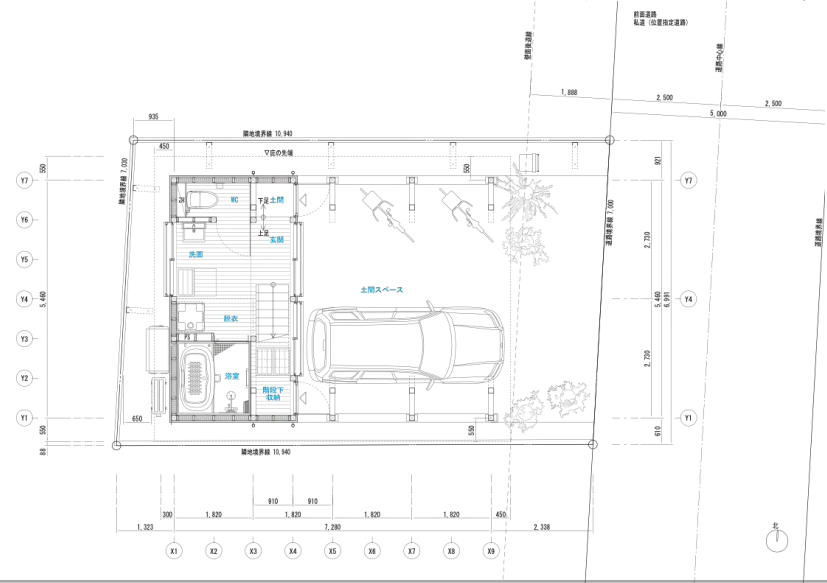
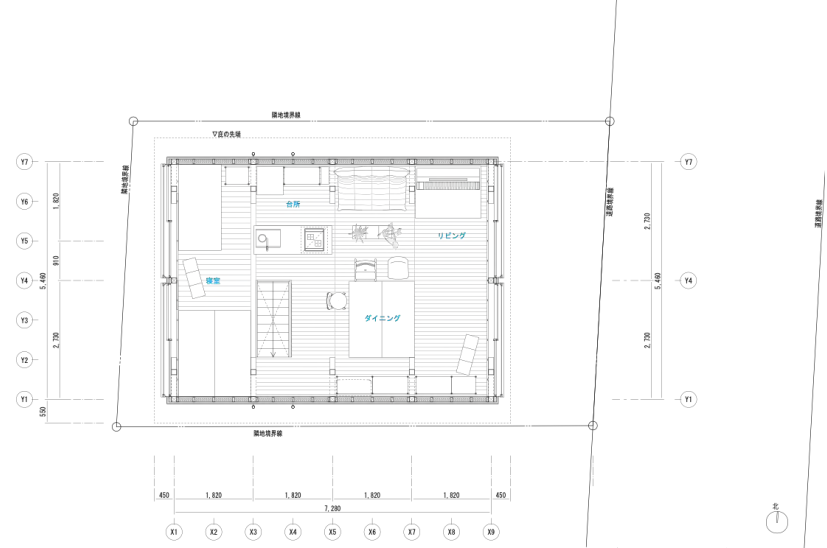


Photo: Yohei Sasakura

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Living with half-finished Timber Frame





Photo: Hiroki Nakadoi

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Living with half-finished Timber Frame



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4-1

Living with half-finished Timber Frame



Photo: Yosuke Komiyama

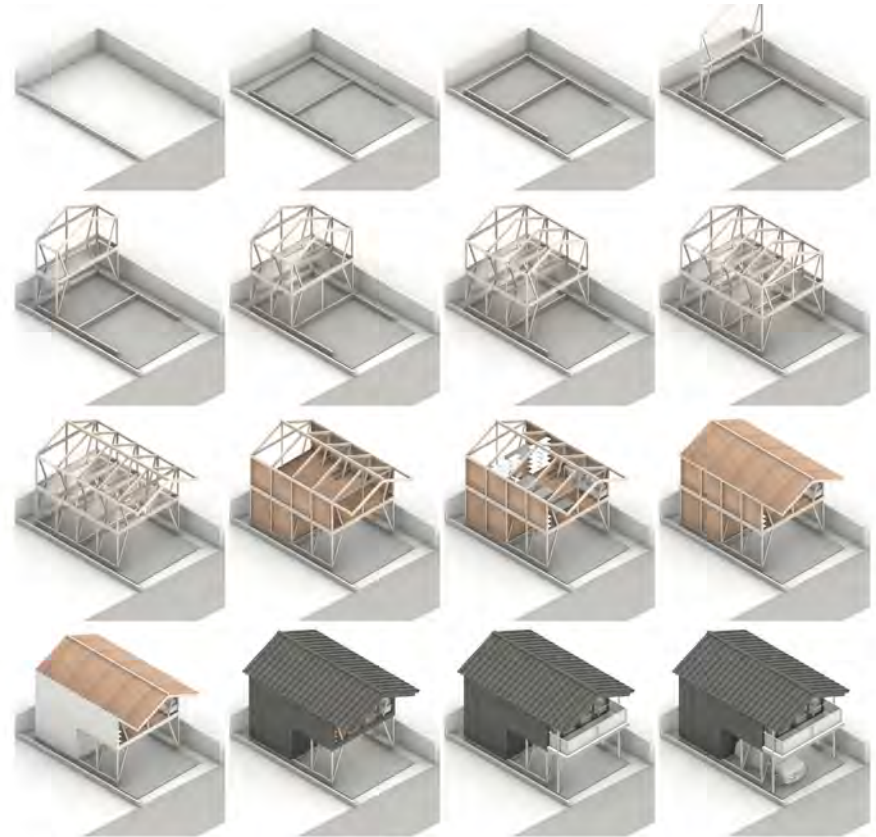
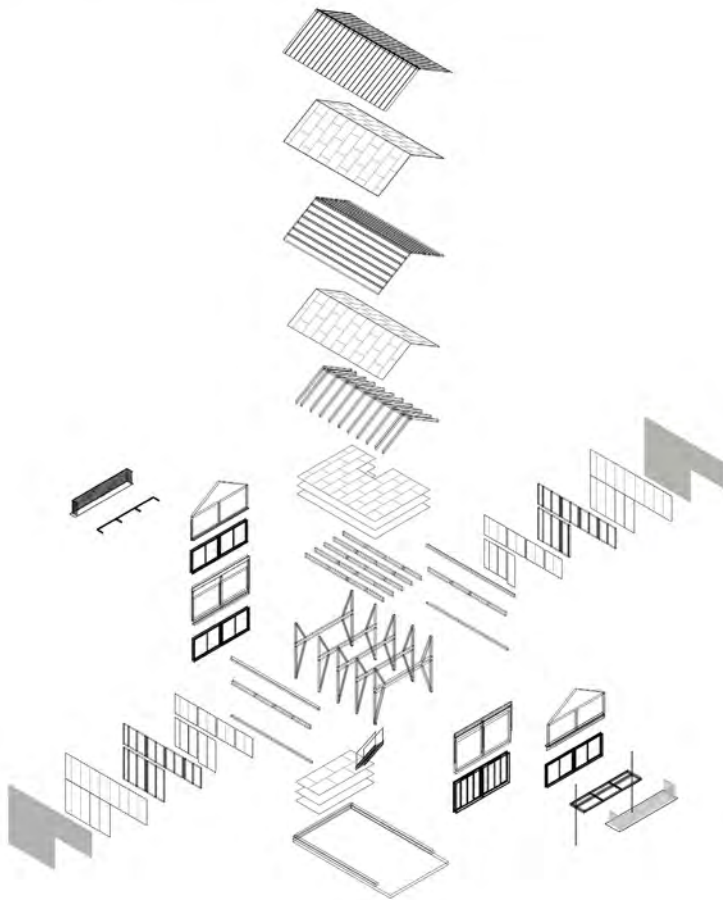
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/ KU11, Yosuke Komiyama + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiyama (M&E) (2024)

4-1

Living with half-finished Timber Frame

BASE STRUCTURE AS MATERIAL BANK



設計趣旨:

つくりこみすぎない、住みながら少しずつ手を加える、失敗したら作り直す。それはスケルトンインフィルともセルフビルドとも違う、ある種の継続的な手入れである。ここでは動くもの・動かないものという分類はなされず(ここが終の棲家とは限らず、建物が解体されることだってあり得るのだから、すべては動く)、かつてビルディングエレメント論でなされたような機能ごとの分類もなく(今日と同じ使い方を明日もするとは限ら

プロジェクト名: 素体の家

主要用途: 専用住宅

建設予定地: 京都府京都市西京区桂良町11-3

施主名: 応募者(大学教員)、妻(設備設計者)、息子(小学1年生)

主構造形式: 木造

主要仕上材料: 合板、ステンレススチール、モルタル

建築面積: 65.79㎡

half-finished house - a house that will be completed bit by bit over time

/ KU11, Yosuke Komiyama + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiyama (M&E) (2024)

4-1

Circular Use of Timber Waste - Inventory Informed Design



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Circular Use of Timber Waste - Inventory Informed Design



Photo: Yohei Sasakura

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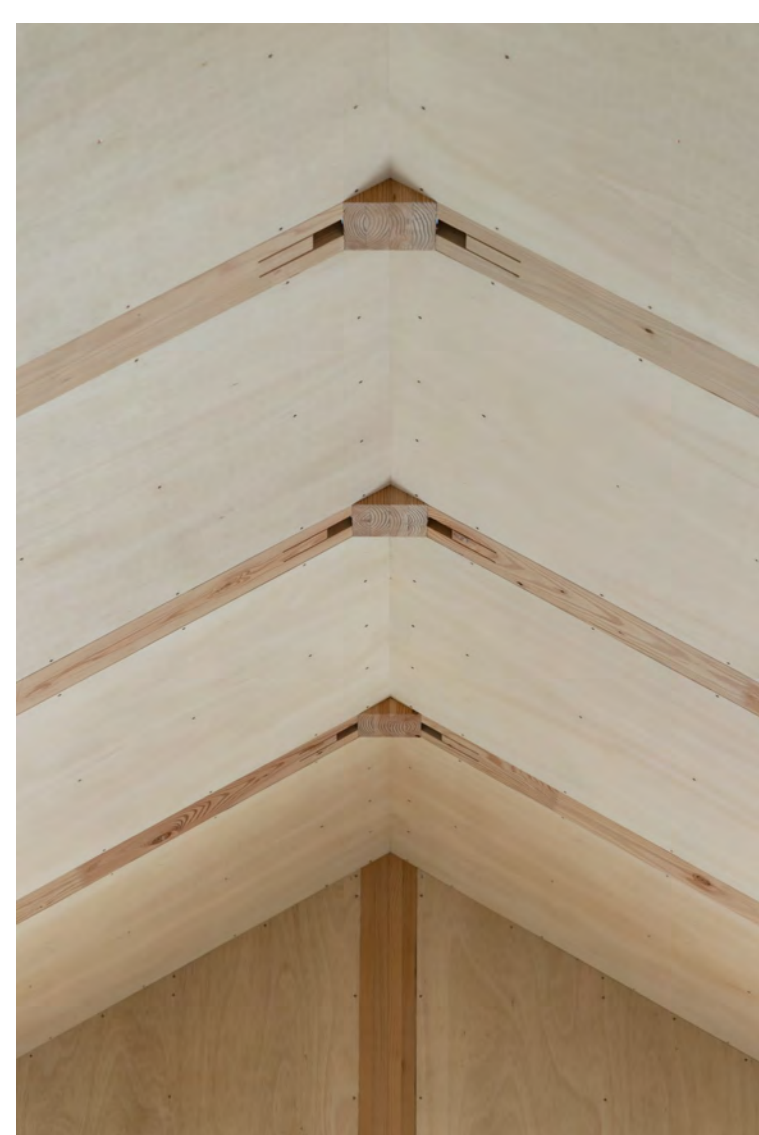


Photo: Yohei Sasakura

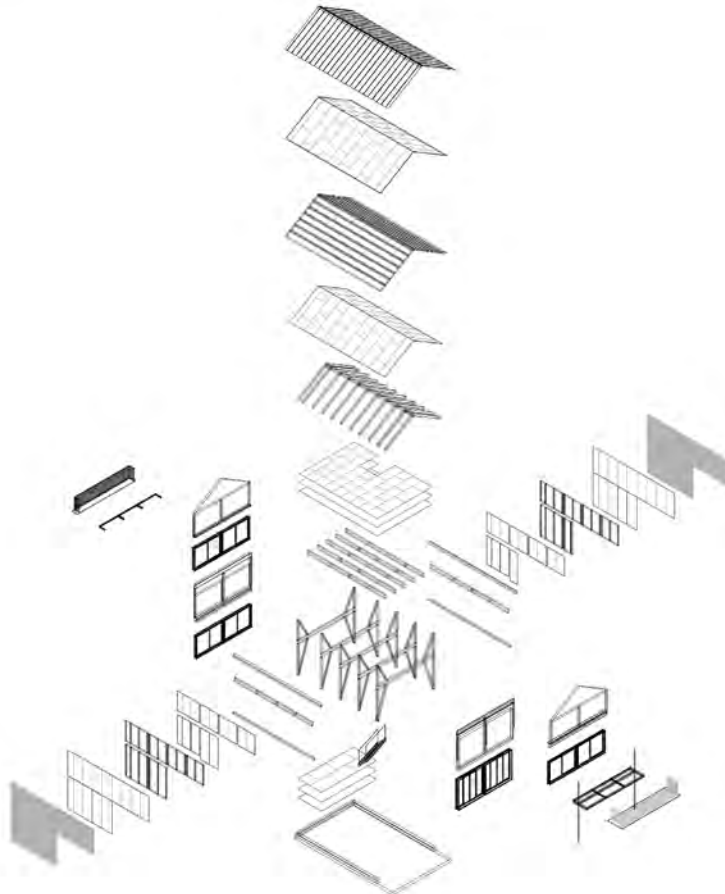
half-finished house - a house that will be completed bit by bit over time

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4-1

Circular Use of Timber Waste - Inventory Informed Design

BASE STRUCTURE AS MATERIAL BANK



No.	区分	樹種	等級	W	H	L	本数	m	端材長さ	端材本数
1	土台	EW (桧) 土台	E95-F270	120	120	4000	4	0.2304	1	1
2	"	"	"	120	120	3000	1	0.0432	1	1
3	大引	EW (桧) 土台	E95-F270	105	105	4000	2	0.0882	2	1
4	"	"	"	105	105	3000	1	0.0331		
5	"	"	一面現し	105	105	4000	1	0.0441		
6	1F梁	EW (米松) E135	一面現し	120	300	6000	1	0.216	0.5	1
7	"	"	"	120	180	4000	3	0.2592		
8	"	"	"	120	180	3000	1	0.0648	1	1
9	"	"	三面現し	120	300	6000	1	0.216	0.5	1
10	"	"	"	120	300	4000	2	0.288		
11	"	"	"	120	180	4000	2	0.1728		
12	"	"	"	120	120	4000	1	0.0576	3	1
13	"	"	—	120	300	6000	3	0.648		
14	"	"	"	120	300	4000	2	0.288		
15	"	"	"	120	180	4000	5	0.432		
16	"	"	"	120	120	4000	1	0.0576	2	0
17	2F梁	EW (米松) E135	一面現し	120	240	4000	4	0.4608		
18	"	"	"	120	180	6000	2	0.2592	0.5	2
19	"	"	三面現し	120	120	5000	2	0.144		
20	1F登梁 1,2階筋交い?	EW (米松) E135	四面現し	120	120	3000	20	0.864	0.7	10
21	2F登梁	EW (米松) E135	一面現し	120	180	4000	18	1.5552	0.7	18
22	2F棟木	EW (米松) E135	—	120	180	4000	2	0.1728		
合計							79	6.595		

No.	区分	樹種	等級	W	H	L	本数	m	端材長さ	端材本数
1	通し柱	EW(米松) E135柱	カド無	120	120	6000	1	0.0864	1	1
2	"	"	一面現し	120	120	6000	3	0.2592	1	3
3	"	"	四面現し	120	120	6000	6	0.5184	1	6
4	管柱	EW(米松) E135柱	カド無	120	120	3000	2	0.0864	0.5	2
5	"	"	一面現し	120	120	3000	1	0.0432	0.5	1
6	"	"	二面現し	120	120	3000	2	0.0864	0.5	2
7	"	"	三面現し	120	120	3000	5	0.216	0.5, 1	3, 1
8	1階間柱	EW(WW) 柱	—	105	105	3000	2	0.0662	0.5	2
9	小屋束	EW(米松) E135柱	一面現し	120	120	3000	2	0.0864	1.5	2
10	"	"	四面現し	120	120	3000	1	0.0432	0.5	1
合計							25	1.4918		

No.	区分	樹種	等級	W	H	L	本数	m	端材長さ	端材本数
1	間柱	積層(WW)	—	105	45	3000	11	0.1562	0.9	11
2	"	"	"	105	30	3000	28	0.266	0.9	28
3	"	"	別層包	105	45	3000	1	0.0142		
4	"	"	"	105	30	3000	1	0.0095		
5	"	積層(RW)	別層包	120	45	3000	1	0.0162		
6	窓まぐさ	積層(RW)	—	120	45	4000	3	0.0648		
合計							45	0.5269		

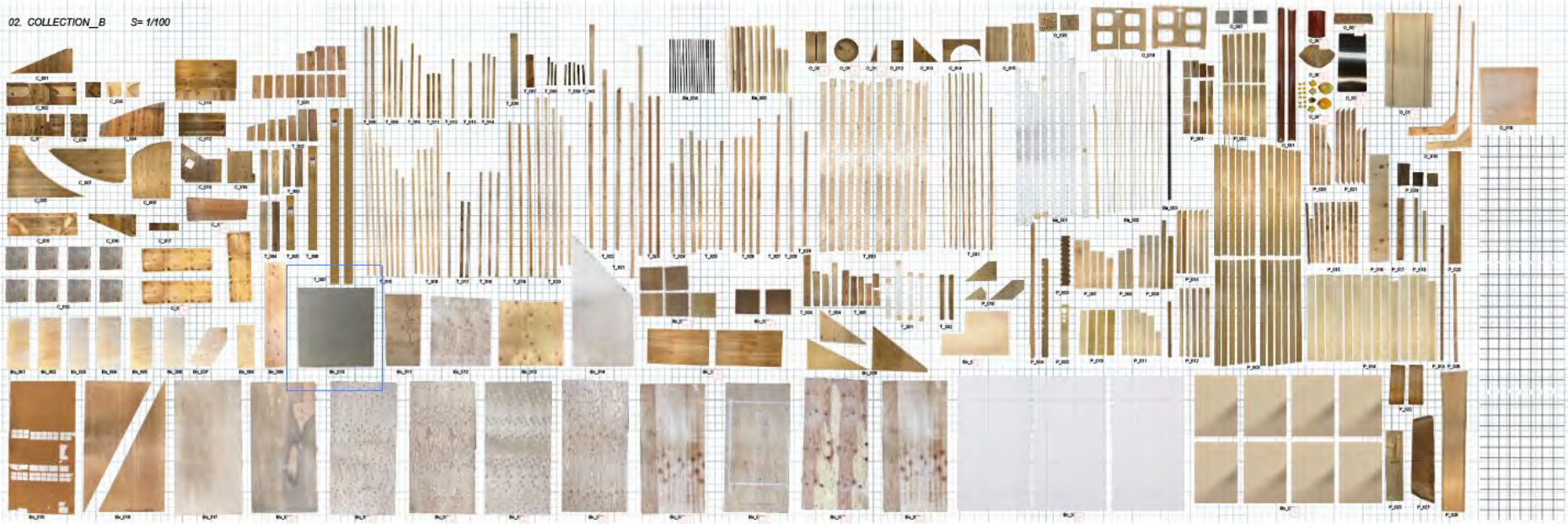
No.	区分	厚み	突	サイズ	枚数	端材長さ	端材本数
1	床合板	28mm	あり	910×1820	33	半分	14
2	野地合板	24mm	あり	910×1820	48	半分	8

half-finished house - a house that will be completed bit by bit over time

/ KU11, Yosuke Komiyama + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiyama (M&E) (2024)

4-1

Circular Use of Timber Waste - Inventory Informed Design



half-finished house - a house that will be completed bit by bit over time

/ KU11, Yosuke Komiyama + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiyama (M&E) (2024)

4-2

Circular Use of Timber Waste - Inventory Informed Design



Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ Material flow around the full-scale project of the Komiyama Laboratory, Yosuke Komiyama (2022-)

4-2

Inventory Informed Design - How to secure storage space?



Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ Temporary Material Placement Bench, MOKUTEKI KOGEI (2024-2025)

4-2

Inventory Informed Design - How to secure storage space?



Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ Temporary Material Placement Bench, MOKUTEKI KOGEI (2024-2025)

4-2

Inventory Informed Design - How to secure storage space?



Photo: Yohei Sasakura

half-finished house - a house that will be completed bit by bit over time

/ KU11, Yosuke Komiyama + Toshiaki Kimura (Structural Engineering) + Tsutsumi Komiyama (M&E) (2024)

4-2

Inventory Informed Design - Living in Material Flow



/ Material flow around the full-scale project of the Komiyama Laboratory, Yosuke Komiyama (2022-)

Inventory Informed Design = Rediscovery of XXX



Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ Garden Stone Project, Komiyama Laboratory (2022-)

5-2

Inventory Informed Design - Rediscovery of Garden Stone

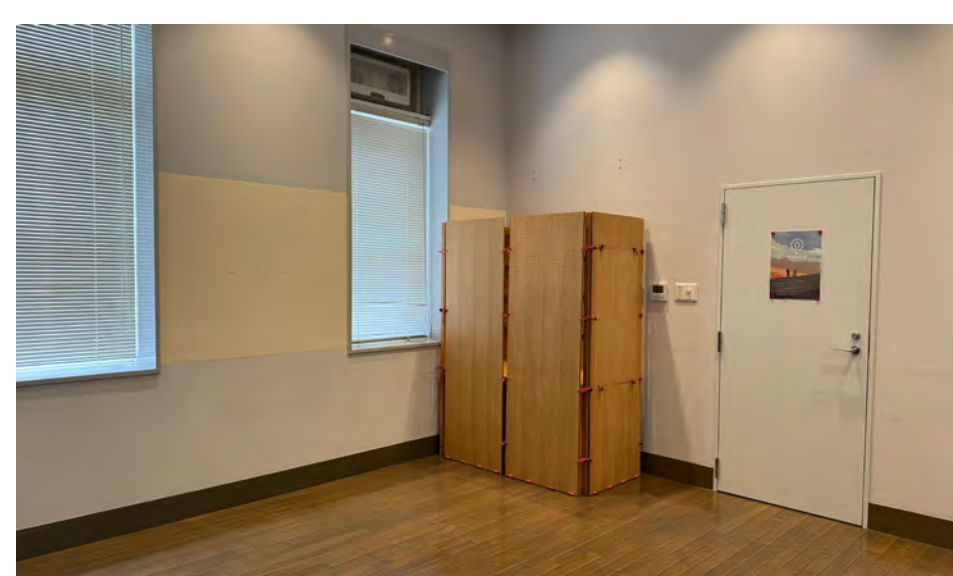


Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ Temporary Shading for KATSURAZAKA Park, Komiyama Laboratory (2025-)

5-3

Inventory Informed Design - Rediscovery of PVC Pipe



Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ Foldable Furniture for DIIN Center, Komiyama Laboratory (2025-)

5-4

Inventory Informed Design - Rediscovery of Paracord



Adjusting Regional Material Flows through Creative Activities in the Laboratory

/ CoLoT + Foldable Canopy for MIDOSUJI, Komiyama Laboratory + Takenaka Corp. (2025-)

5-5 Inventory Informed Design - Rediscovery of Small Strip of Land