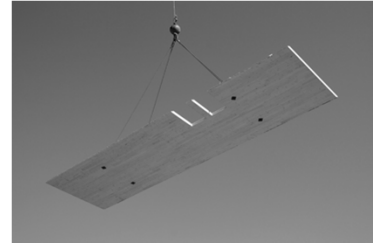


# CROSS-LAMINATED TIMBER AN OVERVIEW



1

## Presentation Outline



2

*Product*   *Manufacturing*   *Applications*   *Connections*   *Advantages*

## What is CLT?

Composition

Size Availability



3

*Product*   *Manufacturing*   *Applications*   *Connections*   *Advantages*

CLT, X-LAM, Massive Timber, BSP



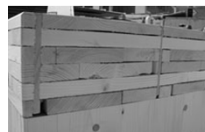
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*Product*   *Manufacturing*   *Applications*   *Connections*   *Advantages*

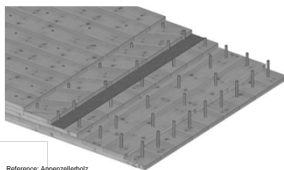
## Related Products

Fastened with:

- Wooden dowels (Thoma Holz, Appenzellerholz, etc.)
- Nails (MHM)



Reference: Appenzellerholz



Reference: Appenzellerholz

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*Product*   *Manufacturing*   *Applications*   *Connections*   *Advantages*

## History

- Initial Development
- Optimization
  - Austria (1996)

6

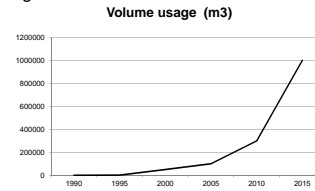
*Product*   *Manufacturing*   *Applications*   *Connections*   *Advantages*

## Manufacturing

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## Current

- Countries leading in the use of CLT
  - Austria, Germany, Switzerland, Sweden, Norway, United Kingdom



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Product **Manufacturing** Applications Connections Advantages

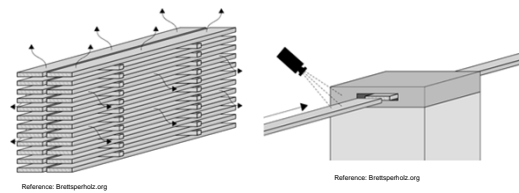
## Manufacturers



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Product **Manufacturing** Applications Connections Advantages

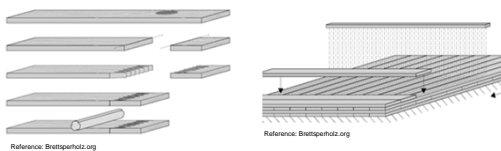
## Steps 1 and 2



10

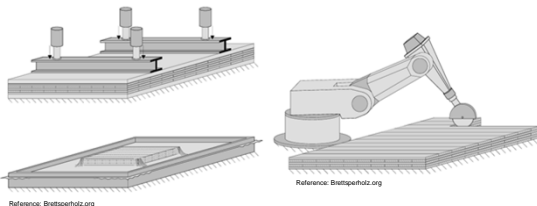
Product **Manufacturing** Applications Connections Advantages

## Steps 3 and 4



11

Product **Manufacturing** Applications Connections Advantages

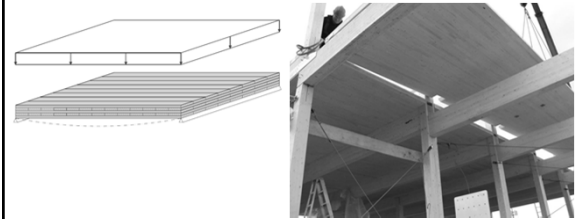


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Product **Manufacturing** Applications Connections Advantages

# Applications

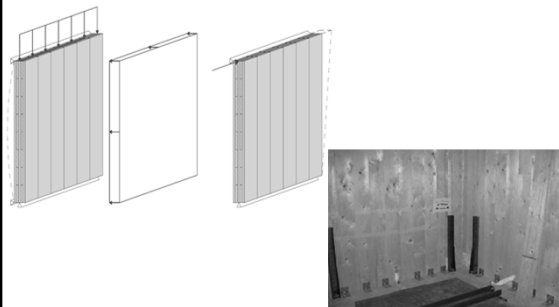
13



Reference: Nordic

14

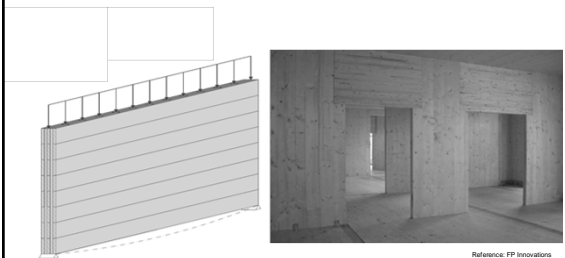
Product Manufacturing **Applications** Connections Advantages



Reference: FP Innovations

15

Product Manufacturing **Applications** Connections Advantages



Reference: FP Innovations

16

Product Manufacturing **Applications** Connections Advantages

## As....



Reference: Nordic

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Product Manufacturing **Applications** Connections Advantages

## As....



Reference: FP Innovations

Reference: FP Innovations

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Product Manufacturing **Applications** Connections Advantages

## Roof

Reference: TU

Product
Manufacturing
Applications
Connections
Advantages

## As....

Reference: Nordic

Product
Manufacturing
**Applications**
Connections
Advantages

## As....

Reference: Hölzbau Untertalmer

Reference: EPFL Switzerland

Product
Manufacturing
**Applications**
Connections
Advantages

## Connections

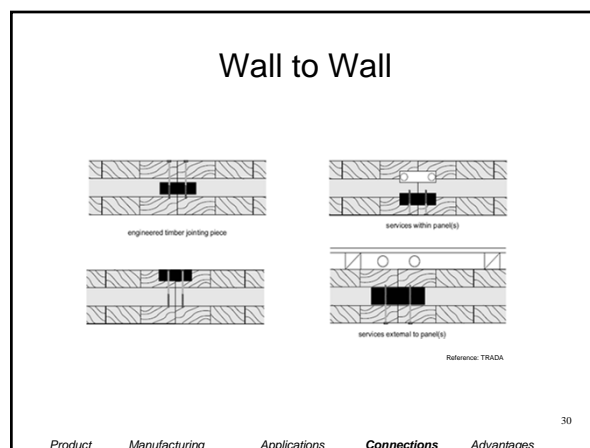
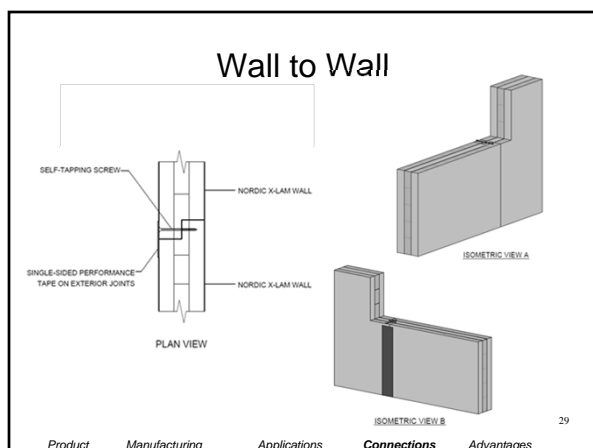
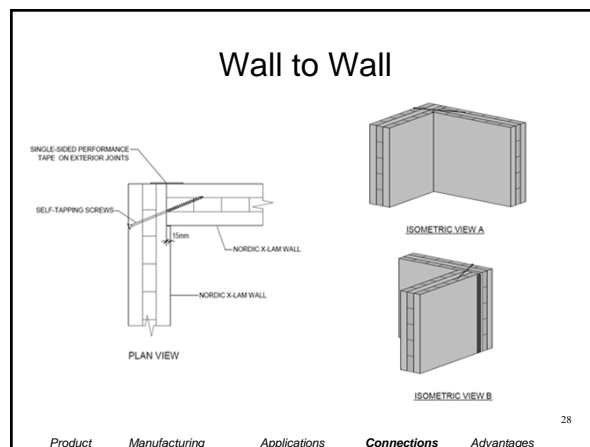
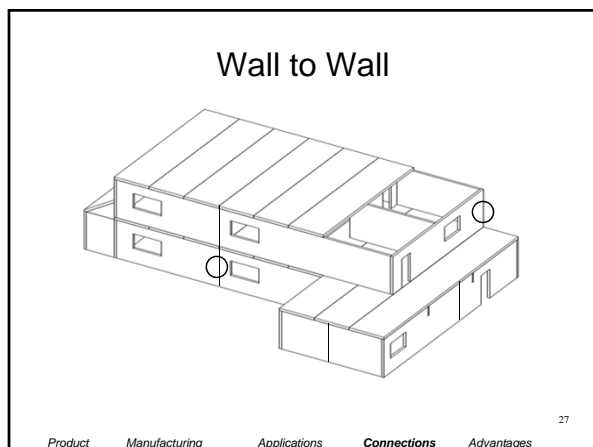
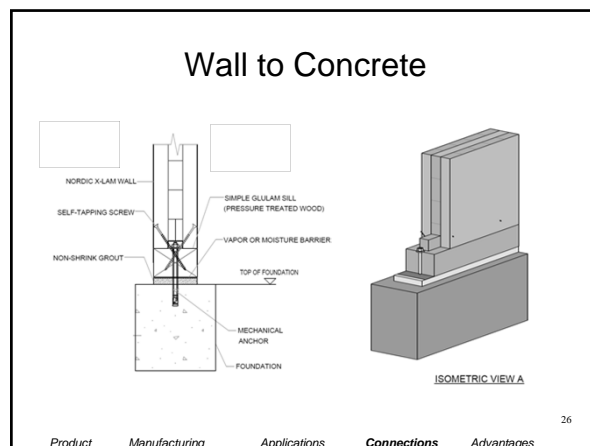
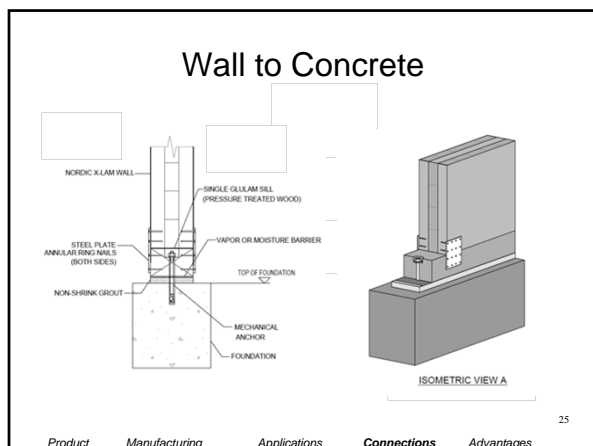
Product
Manufacturing
Applications
**Connections**
Advantages

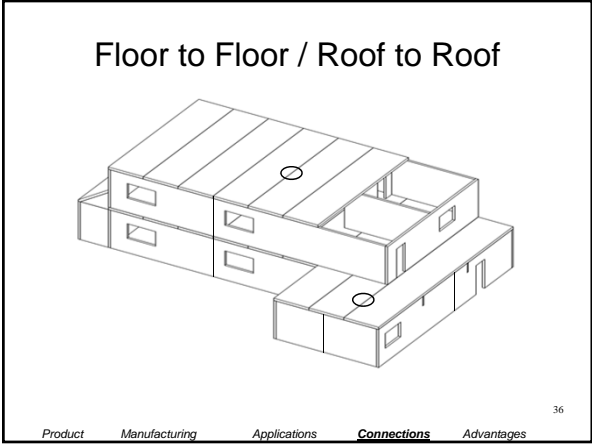
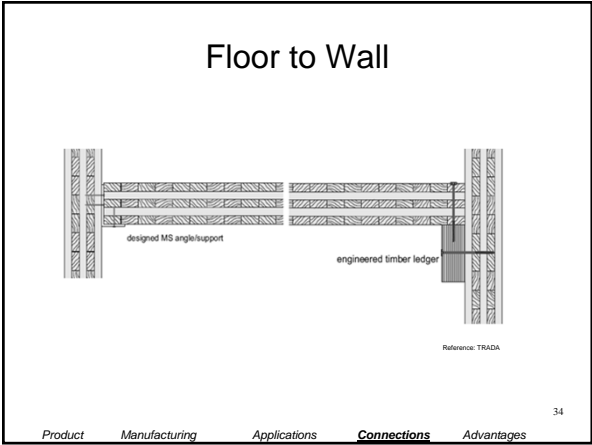
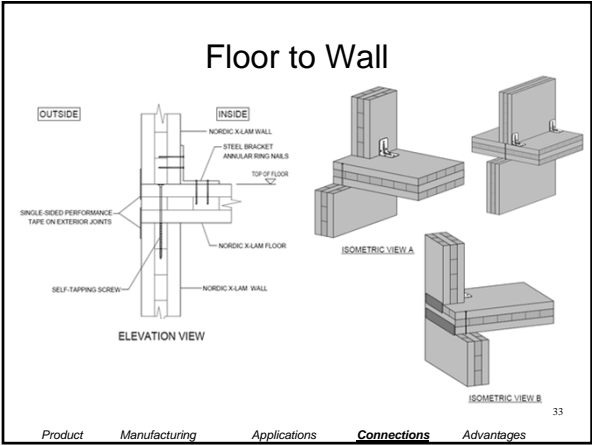
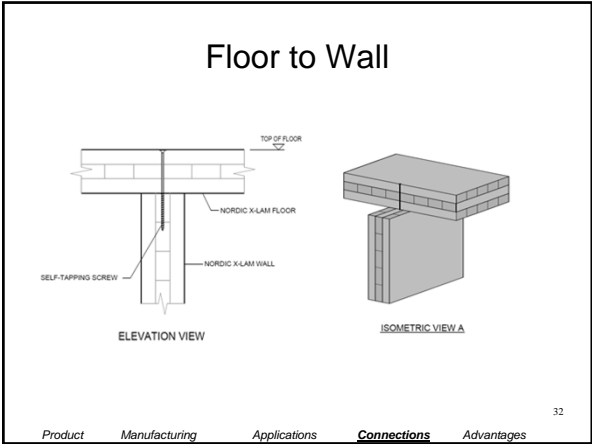
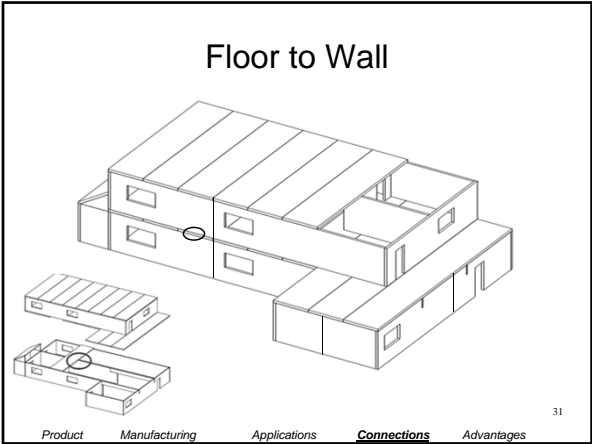
## Wall to Concrete

Product
Manufacturing
Applications
**Connections**
Advantages

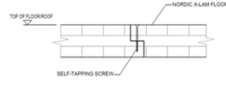
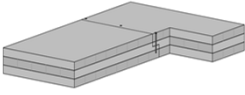
## Wall to Concrete

Product
Manufacturing
Applications
**Connections**
Advantages





## Floor to Floor / Roof to Roof






ISOMETRIC VIEW A

Product
Manufacturing
Applications
**Connections**
Advantages

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## Floor to Floor / Roof to Roof

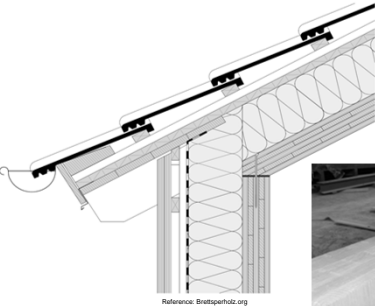




Reference: TRADA

Product
Manufacturing
Applications
**Connections**
Advantages

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## Roof







Reference: Brettspierholz.org

Reference: TU Gießen

Product
Manufacturing
Applications
**Connections**
Advantages

## Panel Handling



Reference: FP Innovations

Product
Manufacturing
Applications
**Connections**
Advantages

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## Panel Handling




Reference: FP Innovations

Product
Manufacturing
Applications
**Connections**
Advantages

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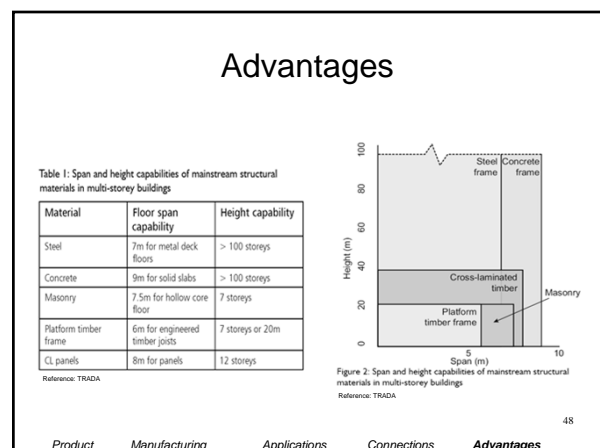
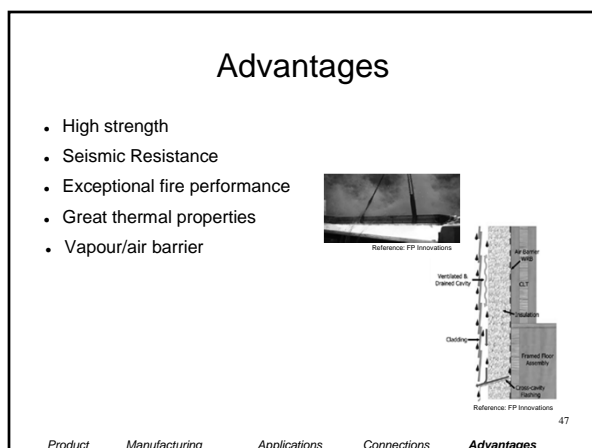
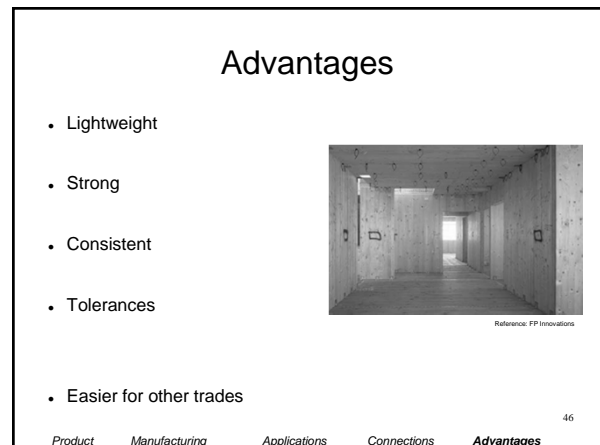
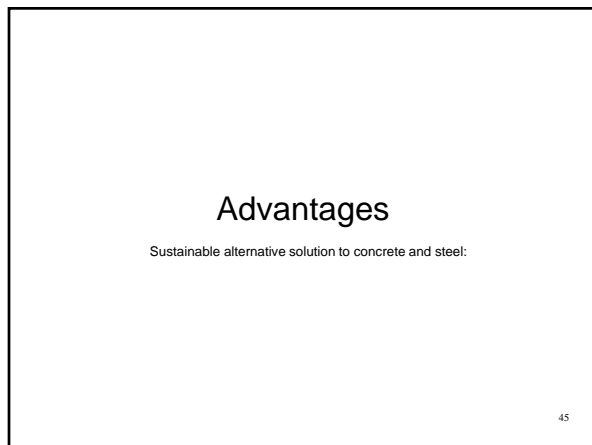
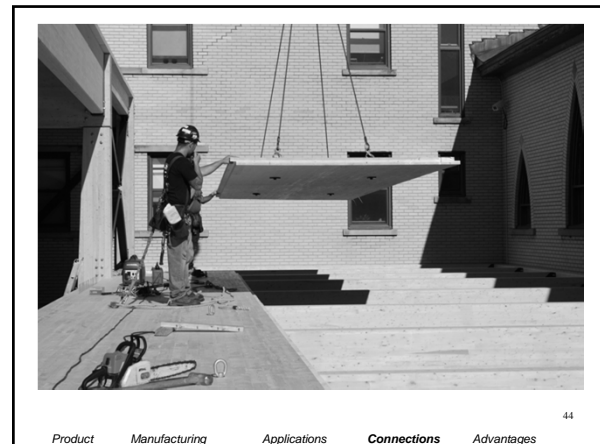
## Panel Handling



Reference: FP Innovations

Product
Manufacturing
Applications
**Connections**
Advantages

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## Potential

- Address code issues
- Maximize the advantages
- Benefit from versatility

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Bridport House

Courtesy: EURBAN

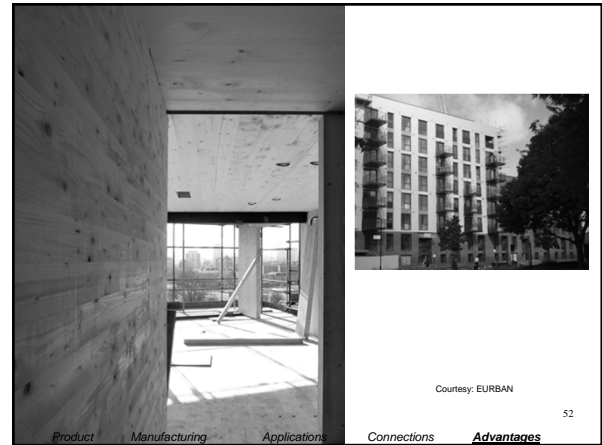
50

Product Manufacturing Applications Connections **Advantages**



Courtesy: EURBAN

Product Manufacturing Applications Connections **Advantages**



Courtesy: EURBAN

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Product Manufacturing Applications Connections **Advantages**



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Product Manufacturing Applications Connections **Advantages**

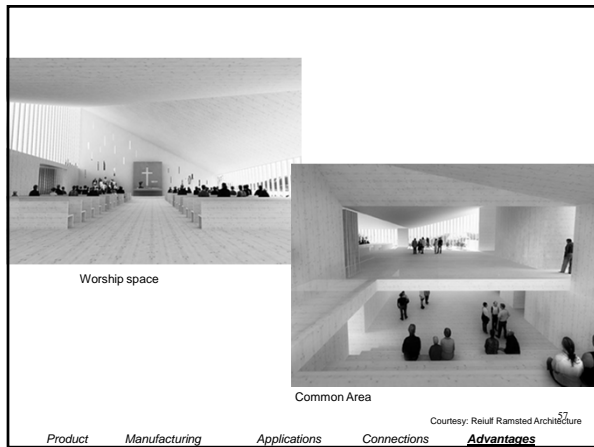
Courtesy: Drost + van Veen



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Product Manufacturing Applications Connections **Advantages**

Courtesy: Alex de Ruijke - drmm





THANK YOU

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