


**INtouch WITH TIMBER 2010**

**Summary of New Engineered Timber Products**

Martin Milner – C Eng  
CCB evolution




**INtouch WITH TIMBER 2010**

Engineered Timber Products

In Building Structures

Wood

Lumber





**INtouch WITH TIMBER 2010**




*CCB evolution*


This Presentation - Key Points  
Drivers for new products  
Current range of Structural engineered timber products  
Future of Engineered timber products

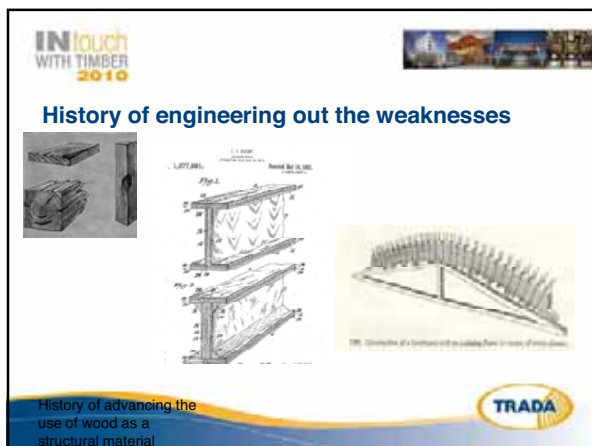
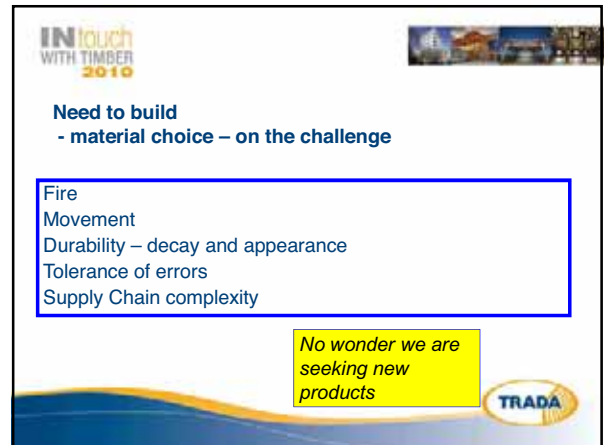
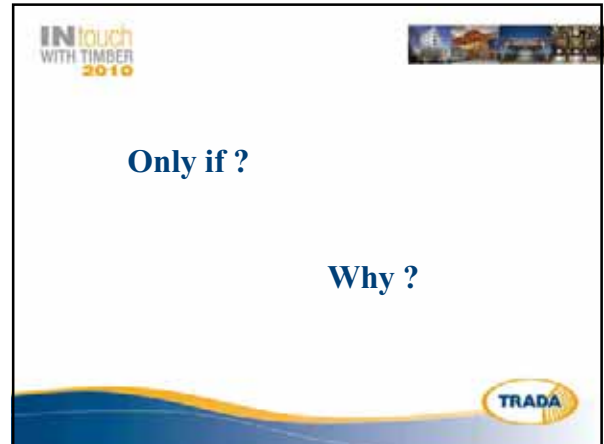


**INtouch WITH TIMBER 2010**



**What is the potential for the use of wood in structural engineering ?**





**IN touch WITH TIMBER 2010**


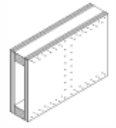
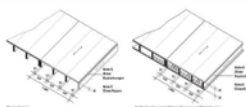
### Nailed Laminated beams – 1950's +




**TRADA**

**IN touch WITH TIMBER 2010**

### Mechanically stress laminated Stress skinned Box beams

**Figure 3 - Typical cross-sections for stress-skinned timber beams.**

1980+      1970+ - new Finn forest 2009

**TRADA**

**IN touch WITH TIMBER 2010**

### Glued ply frames








*Holbrook TF & CCB evolution*

**TRADA**

**IN touch WITH TIMBER 2010**

### Product scope

- Engineered Timber Products
- KVH® - Construction Timber
- Sawn Timber Products
- Mechanically jointed Products
- Adhesive bonded Timber Products
- Reconstructed

*CCB evolution*

**TRADA**

**IN touch WITH TIMBER 2010**

### Breaking down the tree



**TRADA**

**IN touch WITH TIMBER 2010**

### Enhancement of Timber Products

- Chemical
- Heat Treatment
- Cement / Gypsum

**TRADA**

**INtouch WITH TIMBER 2010**

**Engineered Timber Products Beams**

- Glu Laminated
- Laminated Veneer Lumber
- Laminated Strand Lumber
- Engineered Strand Lumber
- Wood Plastic Lumber

**TRADA**

**INtouch WITH TIMBER 2010**

**Duo and Trio Beams**

**TRADA**

**INtouch WITH TIMBER 2010**

**Engineered Timber Products Composites**

- Steel Plates
- Nails and Dowels
- Steel members
- Cement / Gypsum

*CCB evolution*

**TRADA**

**INtouch WITH TIMBER 2010**

**Nail Plates**

*CCB evolution*

**TRADA**

**INtouch WITH TIMBER 2010**

**Hybrid - structures**

**TRADA**

**INtouch WITH TIMBER 2010**

**Composites**

**B & K Structures**  
Specialty in Steel & Timber Composite Design

**TRADA**

**IN touch WITH TIMBER 2010**

**B & K Structures**  
*Building Timber Structures*

**CCB**  
*CONCRETE CONSTRUCTION*

**TRADA**

**IN touch WITH TIMBER 2010**

**Sepa. fi**

**TRADA**

**IN touch WITH TIMBER 2010**

**Engineered Timber Products Panels**

- Massive Wood
- Cross Laminated Timber
- Plywood
- OSB
- Chipboard
- Fibre boards - mdf, hardboard

**TRADA**

**IN touch WITH TIMBER 2010**

**TRADA**

**IN touch WITH TIMBER 2010**

**TRADA**

**IN touch WITH TIMBER 2010**

**Cross Laminated Timber**

Method	Height (m)	Span (m)
Steel frame	0 - 130	0 - 15
Concrete frame	0 - 80	0 - 15
Cross-laminated timber	0 - 40	0 - 15
Platform timber frame	0 - 20	0 - 5
Masonry	0 - 20	0 - 10

KLH – Falmouth School

Curved

**TRADA**

**IN touch WITH TIMBER 2010**

TRADA

**IN touch WITH TIMBER 2010**

Brettstapel

TRADA

**IN touch WITH TIMBER 2010**

**SIPS and Magnum Board**

[www.kronotex.com](http://www.kronotex.com)

TRADA

**IN touch WITH TIMBER 2010**

**Re inventing Timber**

**Anthony POWER BEAM**  
3000F<sub>v</sub> - 2.1E - 300F<sub>v</sub>  
1. Best Composite G beam  
ICC ESR-1104

**Glulam Appearance Grade**

Practical Appearance      Structural Appearance      Architectural Appearance

TRADA

**IN touch WITH TIMBER 2010**

**Re inventing Timber**

CHARACTERISTIC MATERIAL VALUES

		WEL-1	WEL-2	WEL-3	WEL-4
Modulus of Elasticity (E)	Timber	10.0	10.0	10.0	10.0
	Concrete (Fibre)	3.0	3.0	3.0	3.0
	Concrete (Fibre)	4.0	4.0	4.0	4.0
	Composite (parallel)	5.0	10.4	20.0	20.0
	Composite (perpendicular)	4.0	5.0	5.0	5.0
Mean Modulus of Elasticity (E <sub>mean</sub> )	Timber	10.0	10.0	10.0	10.0
	Concrete (Fibre)	3.0	3.0	3.0	3.0
15th Percentile of Modulus (E <sub>15</sub> )	Timber	8.5	8.5	8.5	8.5
	Concrete (Fibre)	2.5	2.5	2.5	2.5

IWS Intelligent Wood Systems

TRADA

**IN touch WITH TIMBER 2010**

**Engineered Timber Products Composites**

- Steel Plates
- Nails and Dowels
- Steel members
- Cement / Gypsum

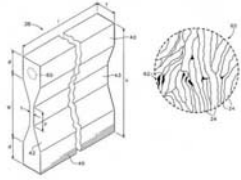
Timber product combinations

TRADA




**INtouch WITH TIMBER 2010**

### Compressed wood waste structural I-beam



Knokey, Eugene R. (Anacortes, WA, US)  
Schmidt, Ernest W. (Sheridan, WY, US)  
2005 – [patent]



**INtouch WITH TIMBER 2010**

### Mallite



**INtouch WITH TIMBER 2010**

### In summary



Projects – ccb evolution



**INtouch WITH TIMBER 2010**

# VAST



**INtouch WITH TIMBER 2010**

### Summary of New Engineered Timber Products

Martin Milner – C Eng  
CCB evolution

