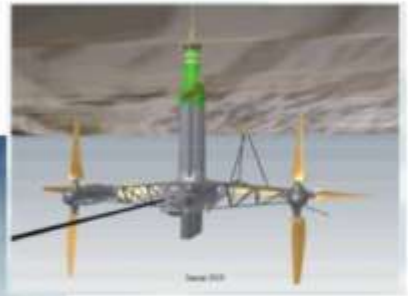
FROM WOOD TO PRODUCT

- Olympic stadiums
- Timber bridges
- The Norwegian pavillion at Expo 2010
- Vennesla Library
- Tidal power plant
- «TREET»



Moelven Limtre AS
Åge Holmestad

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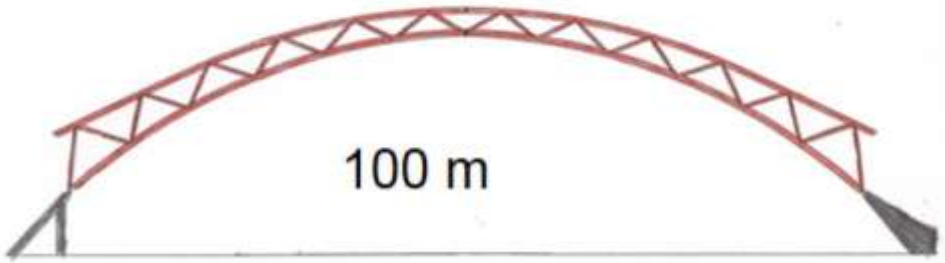
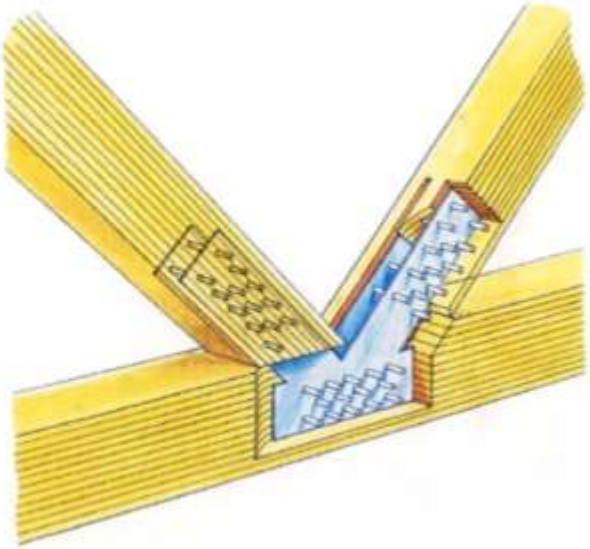
Olympic stadiums

- Arches
- Trusses
- Slotted in-steel plates
- Steel dowells





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Olympic stadiums

- Maximum span width: 96.4 m
- Length: 260 m

Architects:

Niels Torp / Biong Architects.

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Olympic stadiums

Maximum span width: 85,8 m

Length: 127 m

Architects:

Østgård arkitekter AS

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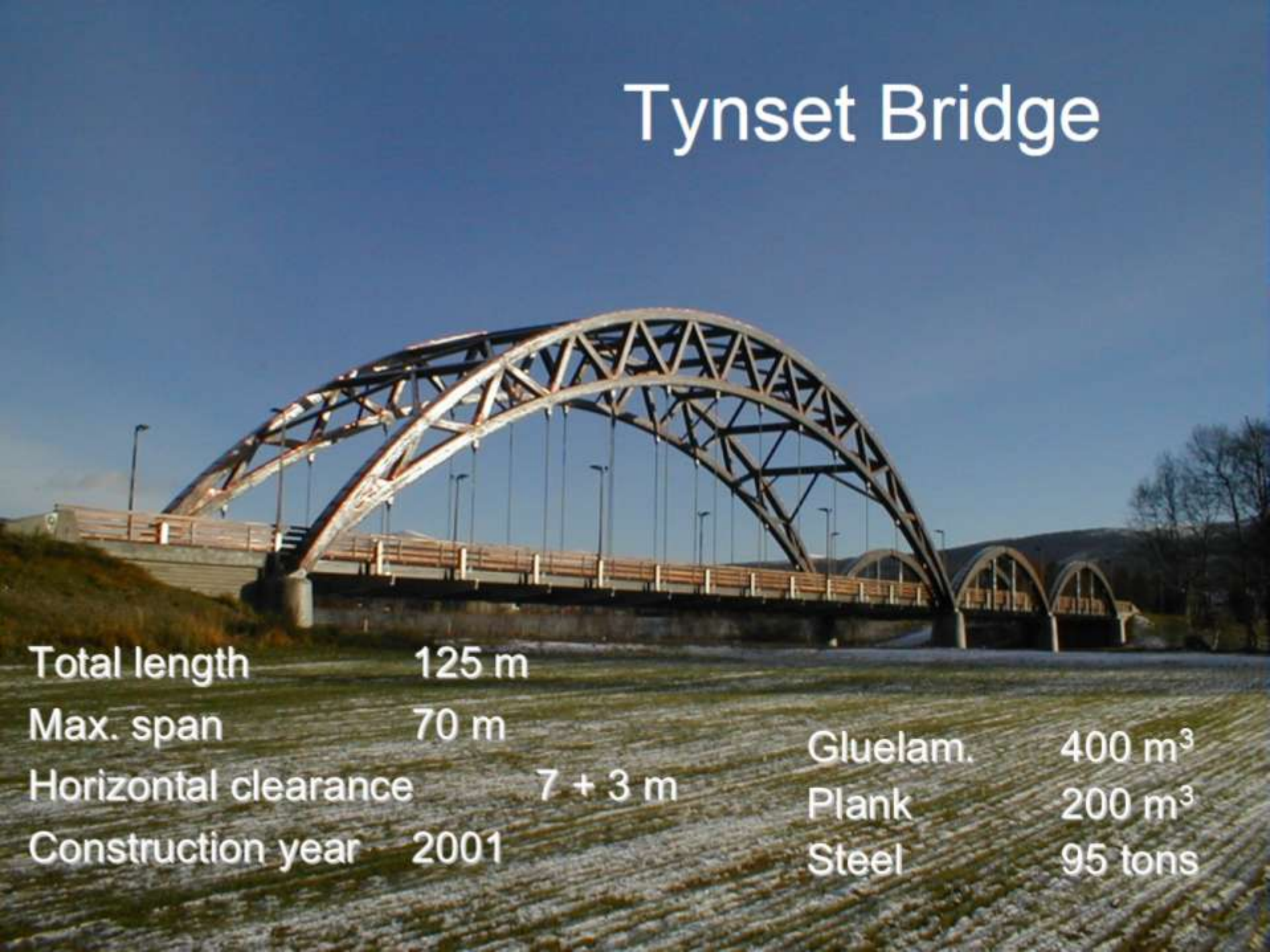
The NordicTimber Bridge Project

- The objective was to increase the competitive power of timber in bridges compared to other structural materials
- The project have been running in the period 1994 – 2001
- **Participation: Finland, Sweden, Denmark and Norway**
  Industry, Research Institute., University and Road authorities

Evenstad Bridge

Total length	**180 m**
Carriageway width	**6.5 m**
Span length	**36 m**
Construction year	**1996**

Tynset Bridge



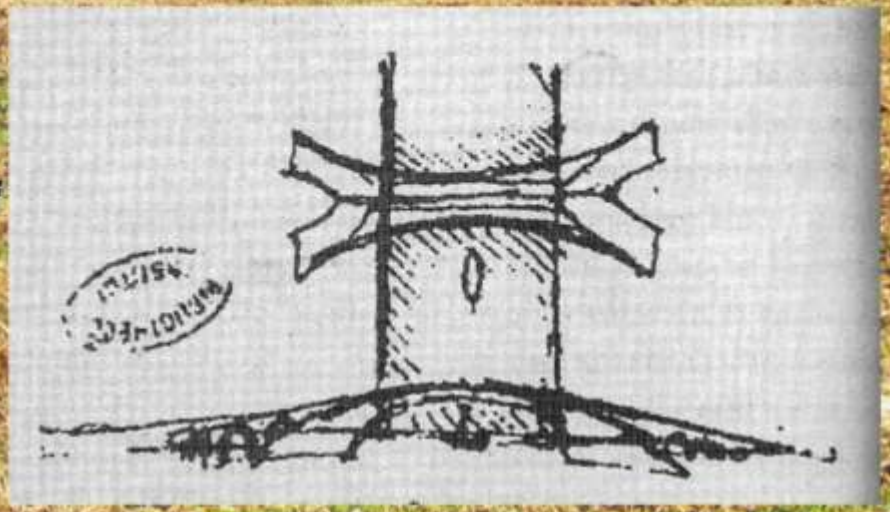
Total length	125 m
Max. span	70 m
Horizontal clearance	7 + 3 m
Construction year	2001

Gluelam.	400 m^3
Plank	200 m^3
Steel	95 tons

Leonardo da Vinci Bridge

a sculptural bridge

- The original concept was of stone over The Golden Horn with a span of 234 m and a total length of 350 m
- The shape is interpreted into wood
- This timber bridge span is 40m and a total length of 120 m



Flisa Bridge

Expo 2010 – Norway pavilion

Norway Powered By Nature:

- Better city, Better life is the theme of the Expo 2010 in Shanghai.

Designed by the norwegian architect firm Helen & Hard

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Expo 2010 – Norway pavilion

The pavilion is made up of 15 trees, each of them a functional part of the whole pavilion – like a forest.

The pavilion was awarded the Silver Medal at the Expo for Best Design.

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Expo 2010 – Norway pavilion

One tree:

- 9 glulam pieces

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Expo 2010 – Norway pavilion

Expo 2010 – Norway pavilion

Vennesla Library

Architect:
HELEN & HARD AS

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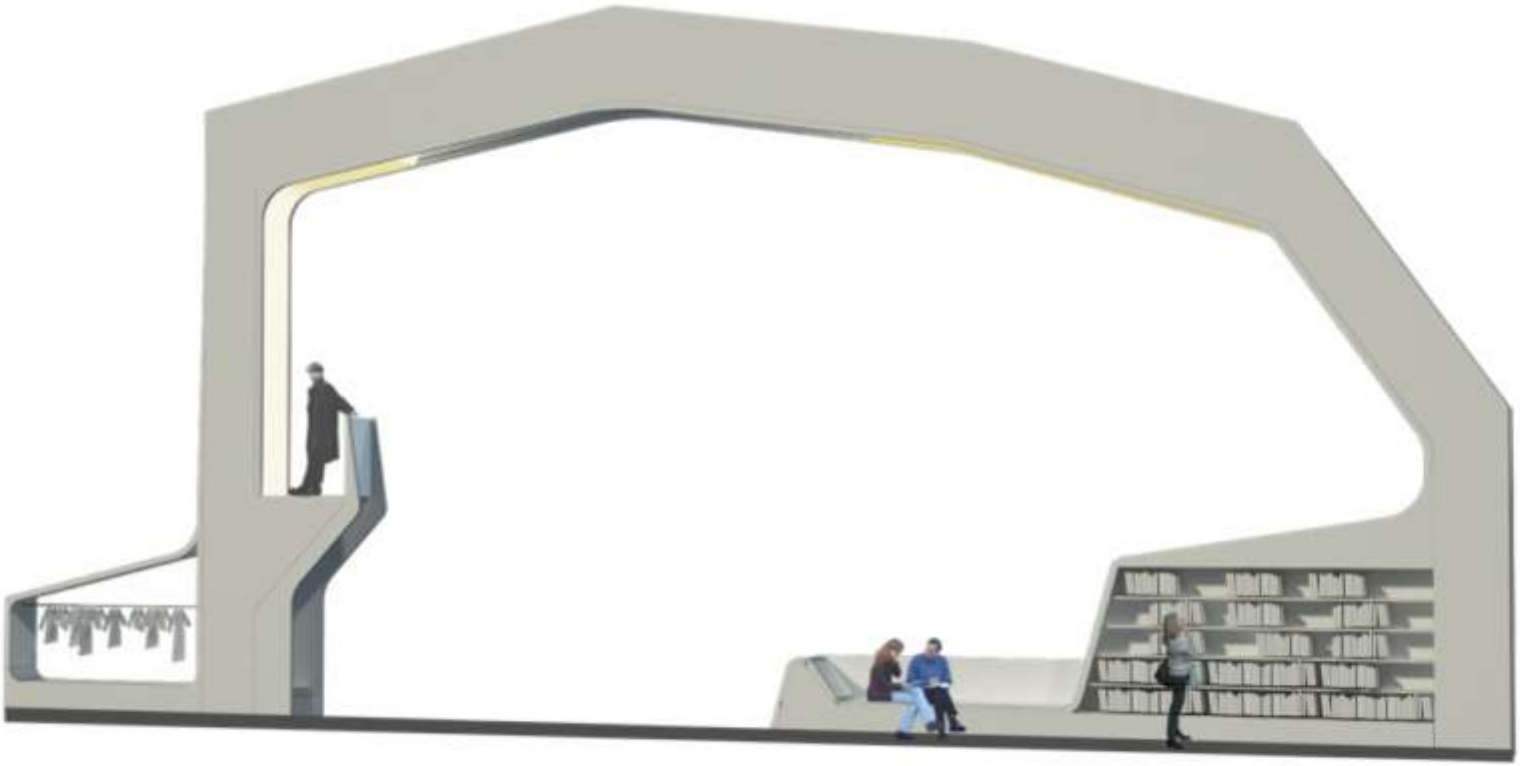
Vennesla Library



Typical glulam frame

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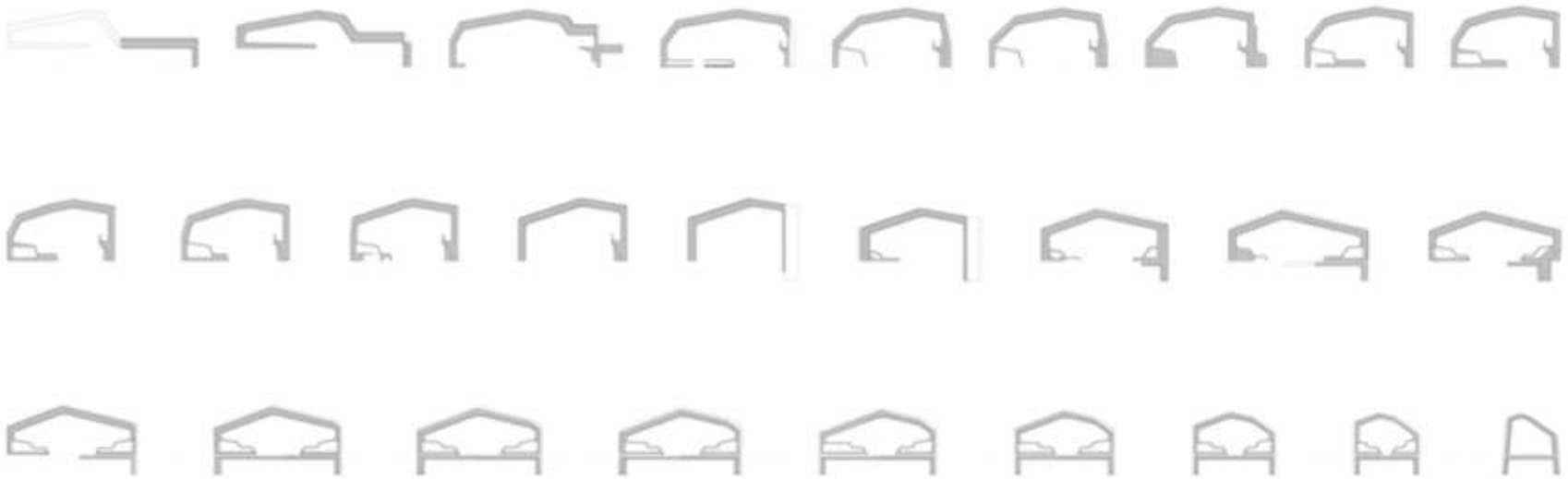
Vennesla Library



27 different glulam frames !

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Vennesla Library

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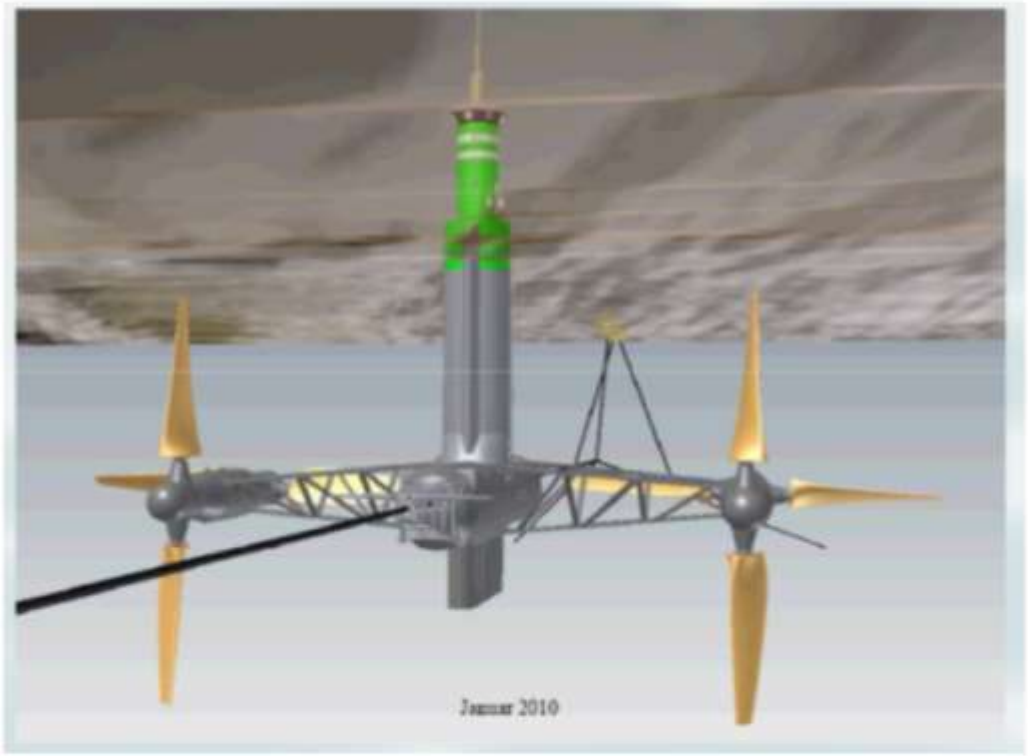
Tidal power plant

- with wooden turbine blades



SCHWEIGHOFER PRIZE
2011

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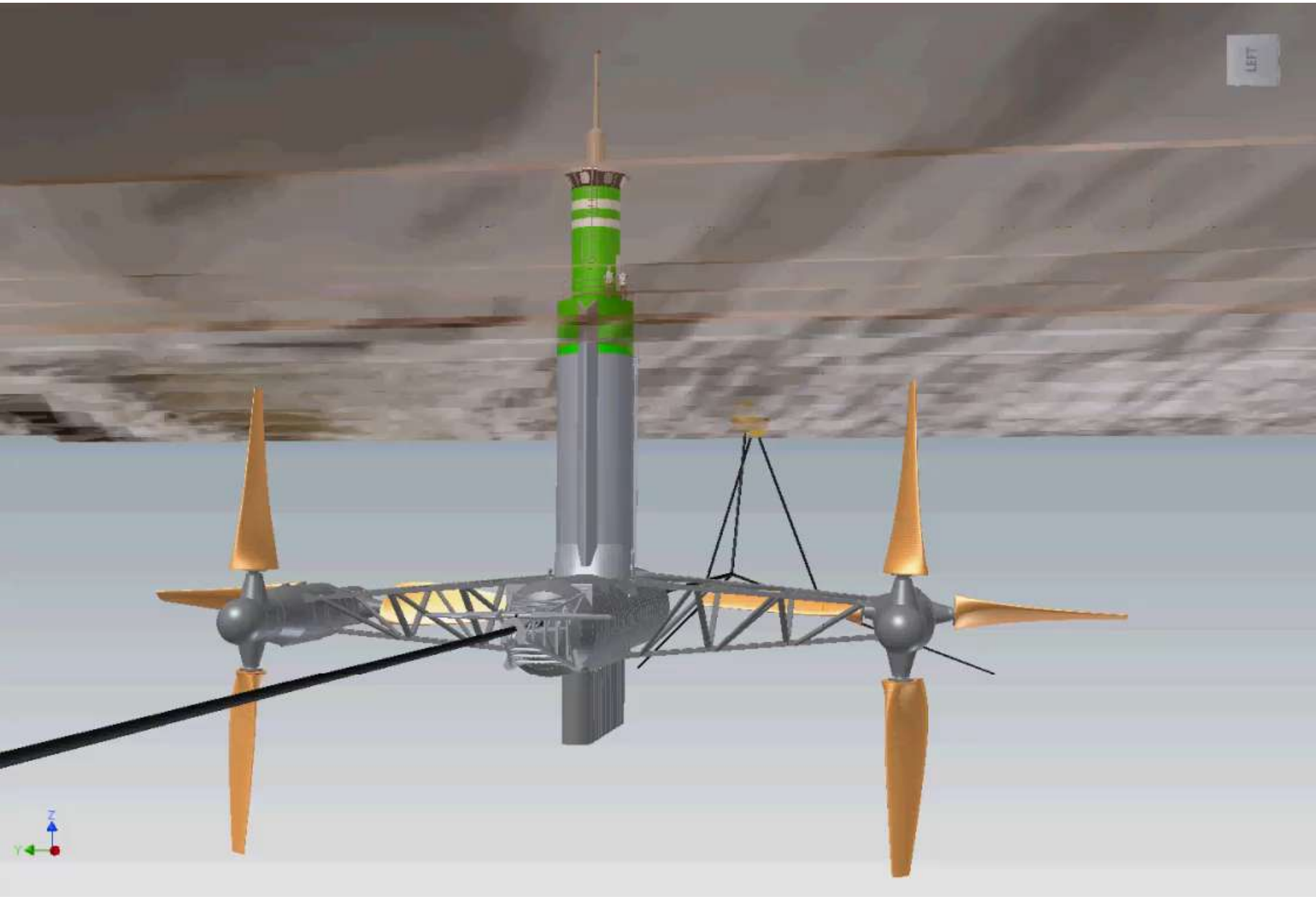
LEFT
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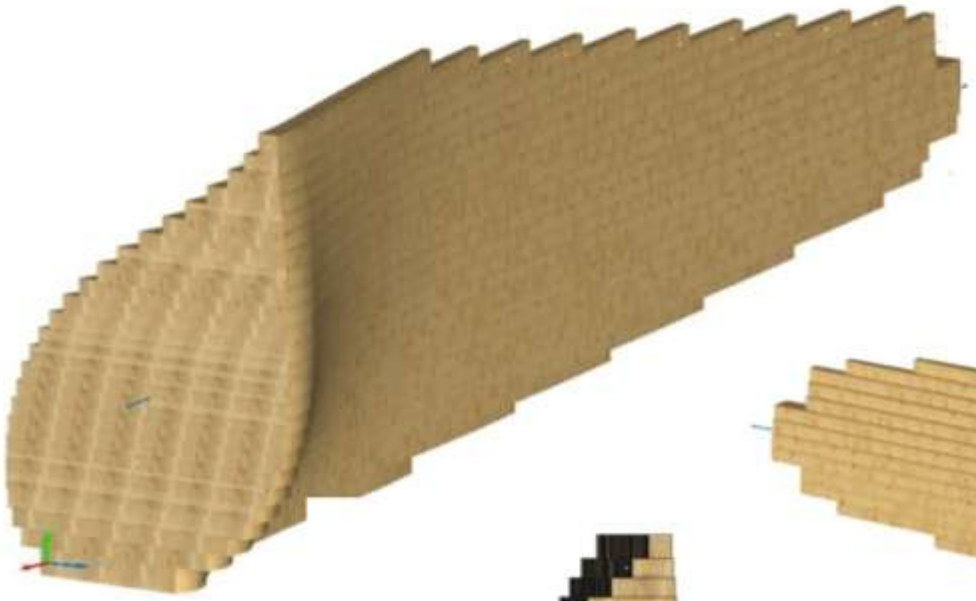
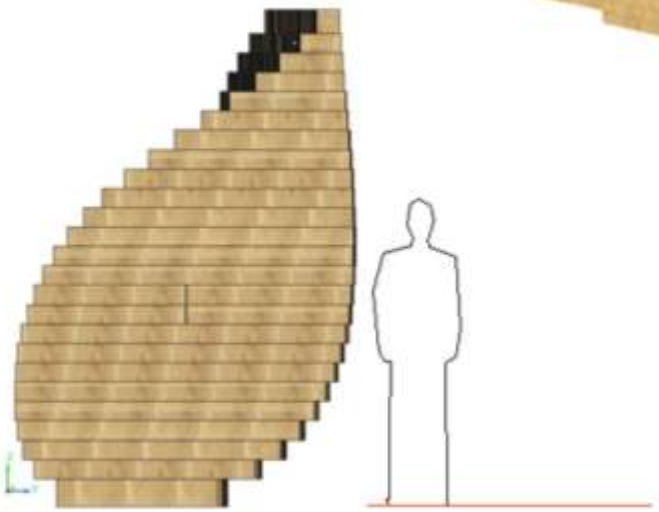
Turbine blades in laminated timber



Length: 10 m
Height: 3,0 m
Width: 1,8 m



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Turbine blades in laminated timber

Benefits of wood:

- Wood submerged in salt water is a very durable material.
- Wood is an environmentally friendly material (renewable, binds CO_2), and will therefore help to further enhance the environmental profile of the project.
- The use of wood avoids fatigue, which is a major challenge when using composite, steel or other metals.
- Milling pine gives a smooth surface with little friction.
- Its saturated weight is approximately equal to the weight of water.
- At end-of-life, or if a blade should be permanently damaged, the remaining material can be used for heating the production plant, thus avoiding difficult or costly disposal.

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Production

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Tidal power plant

-anchored in Gimsøystraumen

VERDENS HØYESTE TREHUS

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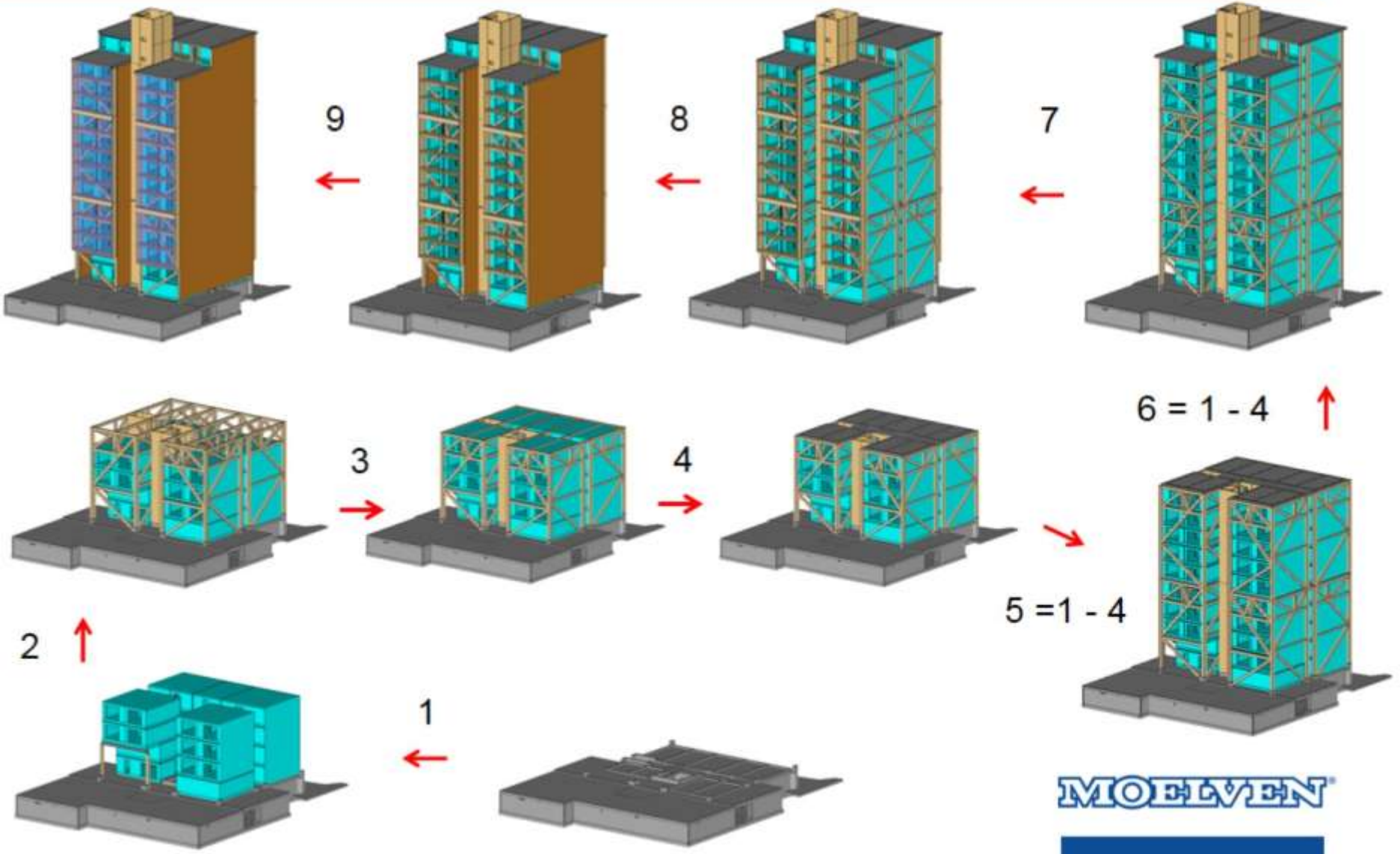
Mounting of Glulam, Modules and CLT



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Fagverk til «TREET»

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New Mjøsbru in Timber ?

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New Mjøsbru in Timber ?

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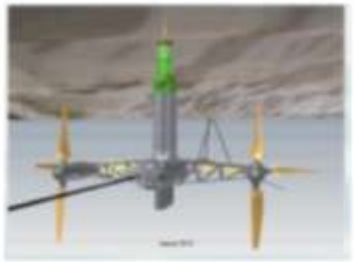
Thank you for your attention !



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