

KOSHIHARA LAB.

[Symbiosis of Forest and City -Timberize City as Recycling Resource]

Department of Human and Social Systems

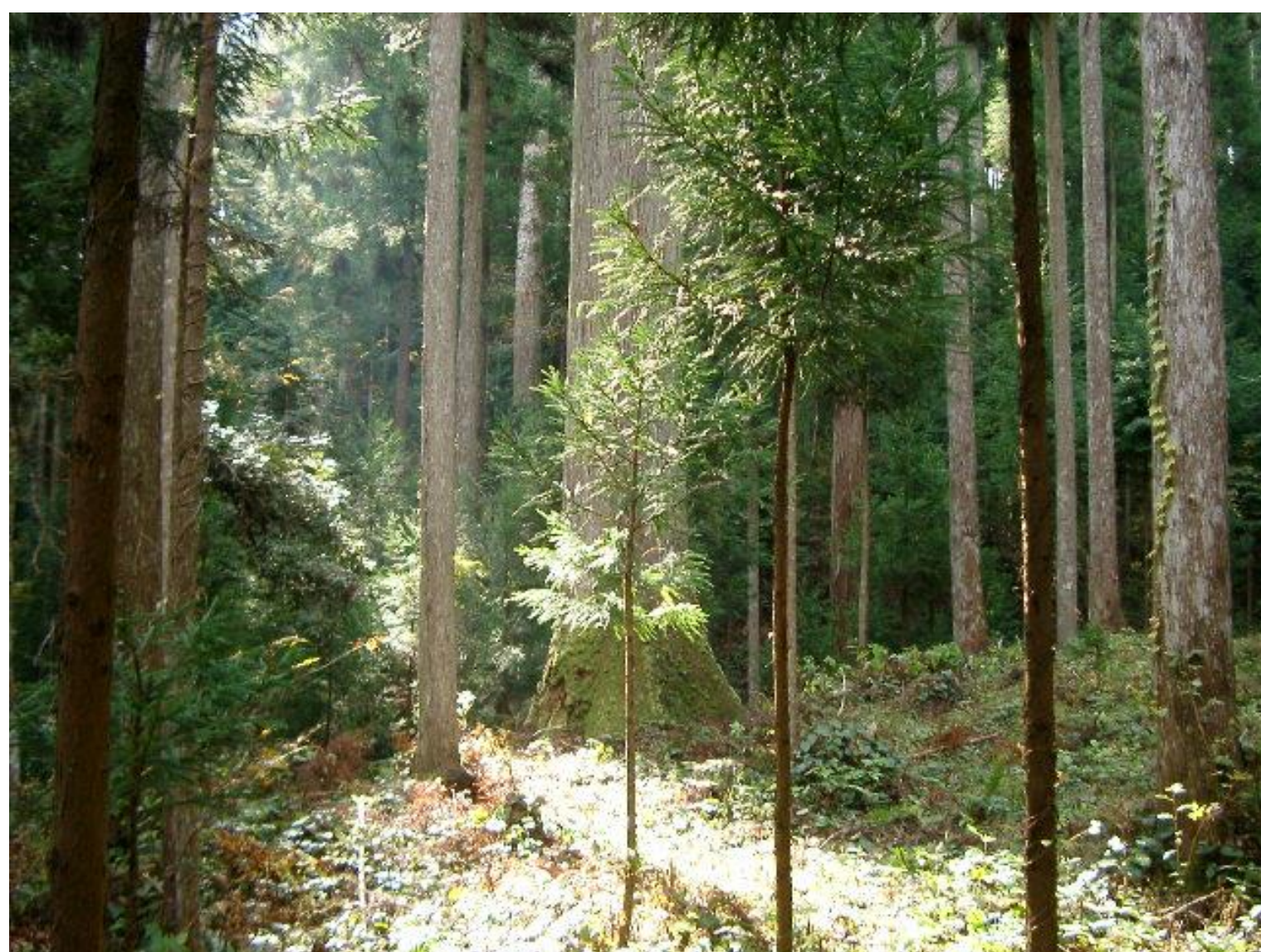
Wood Engineering

Department of Architecture

<http://wood.iis.u-tokyo.ac.jp/>

The Possibilities of timber buildings

Japan was blessed with forest resources and has long dated wooden culture, employing wood for buildings. Also, as timber is a renewable resource, it is important to utilize it in various forms along its lifecycle.



Utilization of small wood

Pieces of timber 3 meters long with cross-sections of 3.5 and 4 sun can be used as a column for wooden houses. Furthermore, cross-sections smaller than those can also be employed in various ways.

The use of CLT

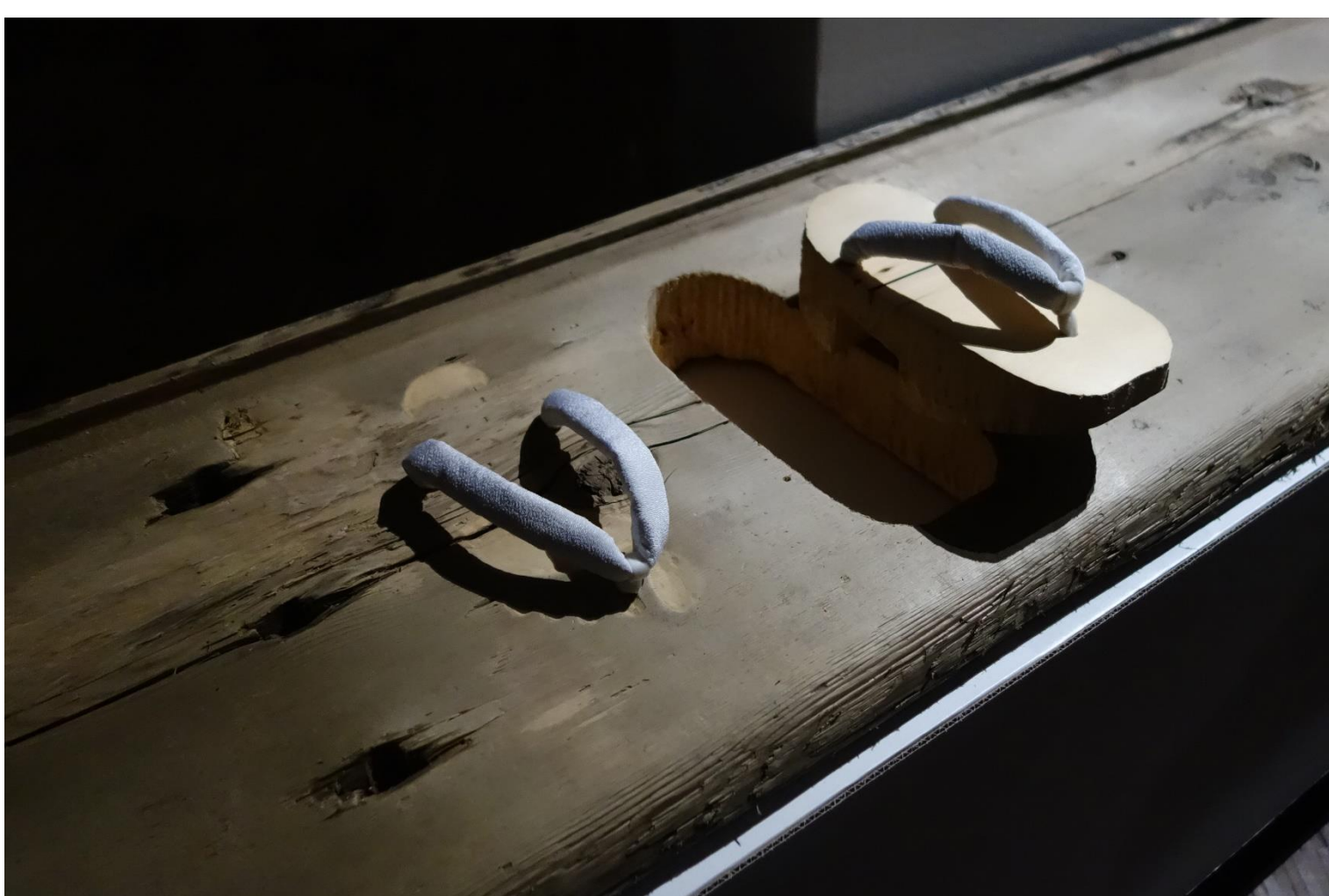
B-graded wooden logs that can not be used for solid sawn timber are re-engineered into a value-added timber-based planar product that makes effective use of the forest resources. CLT (Cross Laminated Timber), which is drawing attention in recent years, has widened timber application in construction ranging from small huts to large scale multi-storey buildings. Also, large solid CLT can be reused after being dismantled from a determined construction.



Small buildings made with CLT (2016 / CLTimmerize)

What once was a building

Timber material that was dismantled from constructions due to several different reasons shall also be used bearing the memories of its service years engraved on the surface.



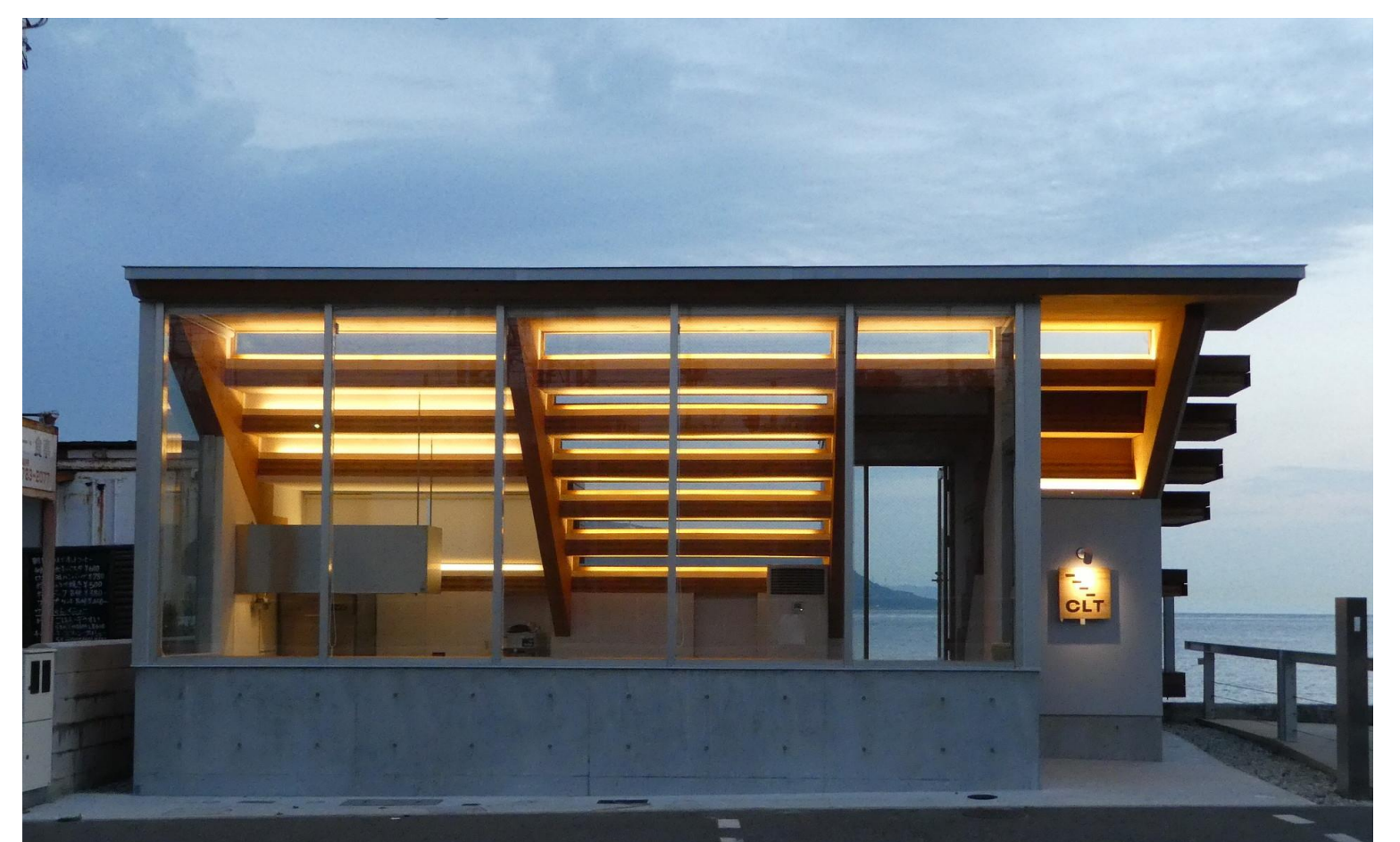
Deck of a Bridge - Component from Kintai Bridge -

This piece of wood composed the deck of Kintai Bridge, an arched wooden bridge located in Nishiki river, City of Iwakuni, Yamaguchi Prefecture. The piece was retrieved from the current bridge during "Heisei replacement project" in 2002-04. Then, Japanese traditional wooden clogs were made out of the former deck board. The Japanese term of "wooden skin" expresses that wood has an outer skin, likewise human beings; nonetheless, the skin of the wooden deck piece from Kintai bridge has been polished over 50 years and transformed from a bumpy to a smooth and shiny surface. By wearing the wooden clogs, one can feel with their barefoot the passage of time on the wood piece that countless people have stepped on for a long time.



Uroko Tent

The temporary tent used small diameter wood. To prevent it from being blown away by the wind, a membrane designed as a scale pattern was attached to the surfaces of the tent to direct the wind out. (2015 / Zaimokuza Coast)



Reuse of dismantled wood

A cafe was built reusing components with lesser damage, initially employed for shaking table tests. The cascade effect reusing timber materials in the lifecycle of wood-based products is relevant. (2016 / CLT Cafe)

