



Olavi TUPAMÄKI
Network Adviser
CEO
Villa Real Ltd/SA
olavi.tupamaki@villareal.fi

WOOD CONSTRUCTION – HISTORY OR THE FUTURE?

In the beginning, we had three construction materials, ie natural materials wood, stone and mud. Wood was widely used for buildings everywhere. The oldest existing wood buildings are soon 1000 years old. They are the admirable Norwegian stave churches, where the art of a Viking ship was utilised: Urnes dating back to 1050, Borgund 1150, never added or rebuilt, with a runic inscription “*Tor wrote these runes in the evening at the St. Olav’s Mass*”, referring to the first king of Norway, and many others. Also temples and palaces in China and Japan, dutifully maintained and reconstructed, are splendid examples of wood construction.

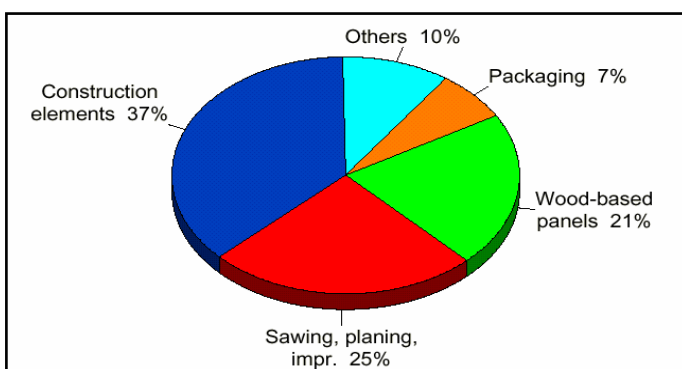
After the war, wood has lost much of its earlier position in Europe, even in the Nordic countries. In the EU today, the share of wood construction varies between zero to over 50% in Scotland.

While comparing the total wood product consumption in different parts of the world, big differences can be seen.

Wood Product Consumption	
Area	(kg/capita)
EU	100
Nordic Countries	200
USA & Canada	300

In the USA’s second largest metropolis, Los Angeles County, 96% of all buildings are wood-framed. In Europe consumption figures are low.

The total production value of the wood product industries without furniture in the EU is 60.4 billion EUR (1998) divided in different product groups as shown in the following pie chart. Some 80% of the total volumes are used in construction.



Wood is a renewable material. And, if used in buildings, it works also as a long-term CO₂ sink. Doubling wood product consumption in the whole EU to the level of the Nordic countries would mean an additional market of 60 billion EUR and a big opportunity to the European wood product industries, which mostly are SMEs.

To increase the use of wood, a lot of research, development, innovation, standardisation, education and other related activities are needed. While looking at the RTD projects completed during the past ten years, it can be said that projects are many but scattered, as shown in the following two tables (the search words "wood", "timber" and "forest" were used in this study).

European RTD Projects on Wood	
Framework	Number
EU RTD (1+2)	92
1 Ongoing	29
2 Completed	63
EUREKA (1+2)	25
COST (1+2)	11
Total	128

European RTD Projects on Wood	
Area of RTD	Share (%)
Manufacture, process	38
Products	23
Treatment, coating	18
Construction, renovation	11
Other	10
Total	100

Only a few of them are developing structural systems, information and communication technologies (ICT) and necessary models for the implementation processes.

A widely adopted **European open wood building concept** utilising sustainable industrialised technologies should be developed to offer citizens and society high quality housing and other buildings at affordable prices. Here a joint action by the wood product industries together with the actual construction industries is necessary. Then wood construction will be the future.

Olavi TUPAMÄKI
Network Adviser

Ilkka PÖYHÖNEN
Coordinator of Cluster 7