

Hardwood And High-Tech: Observations From Industry

Freiburg, January 31st 2025



Hardwood: Perfect For Digitalization And AI ?

Hardwood Value-Chain Is An Information Problem

Forest owners



Diverse offerings

Primary breakdown



Distribution



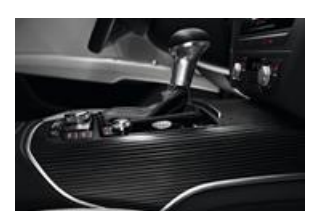
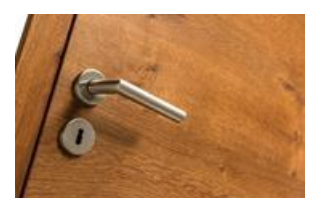
Standardization

Thus, extremely low yield from tree to product

Processing & assembly



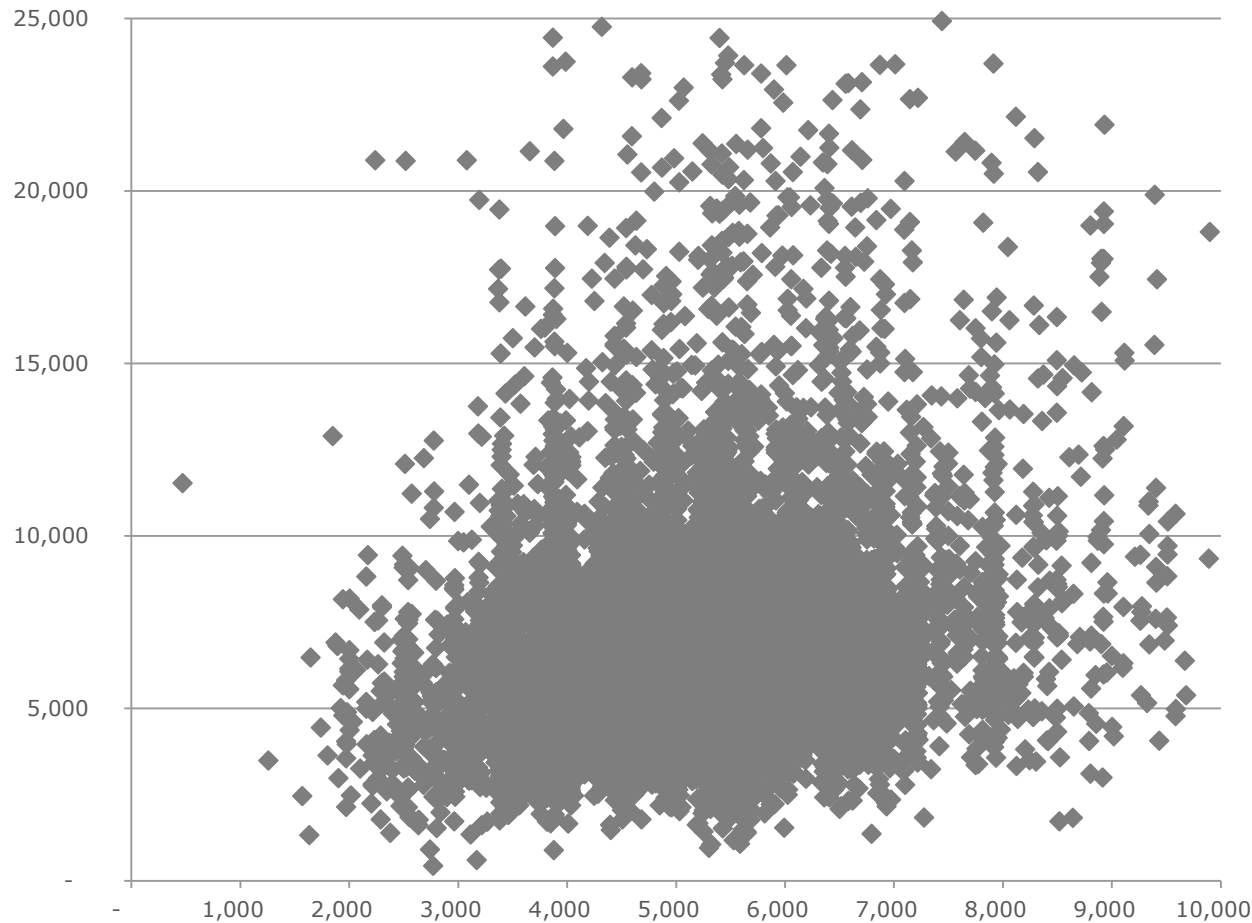
End uses



Diverse needs

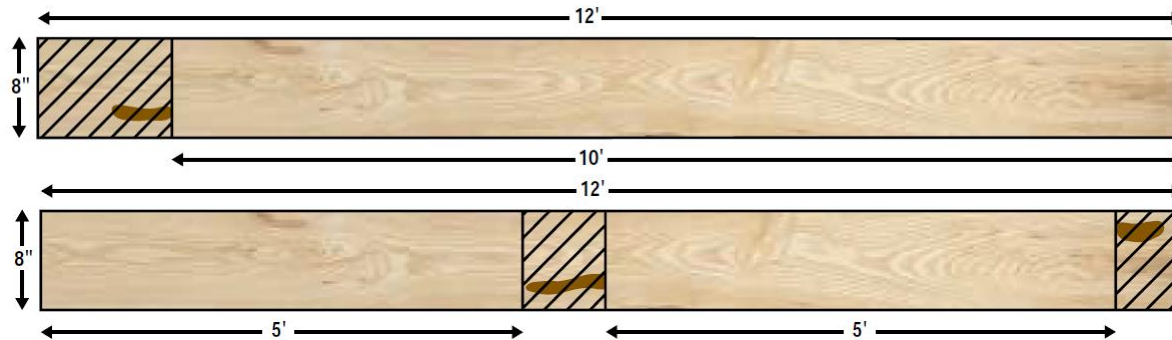
No Correlation Between Log Cost And Sliced Veneer Value

Sample: North American Slicing Species

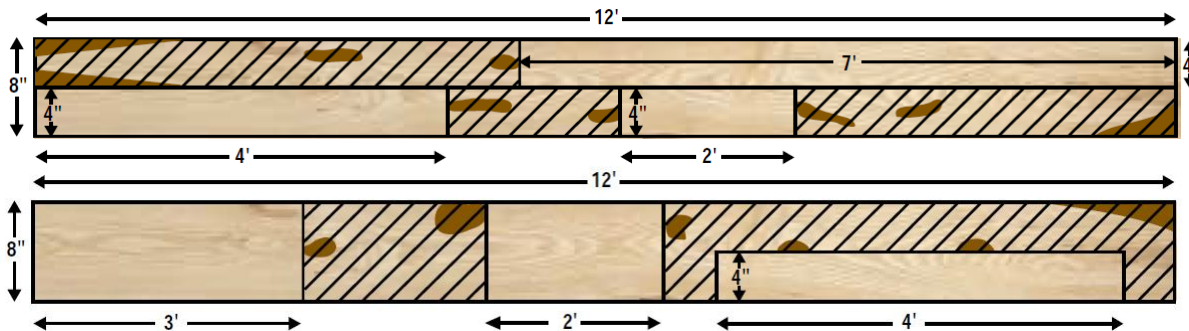


Current Industry Standard Puts The Same Value On These Two Boards....

... Although Their Use Is Completely Different



"FAS"



"2 Common"

Digital Selling Sliced Wood B2B

Picture Quality Is Crucial



Emerging Technologies In All Key Areas

Forest owners



**Primary
breakdown**



Distribution



**Processing &
assembly**



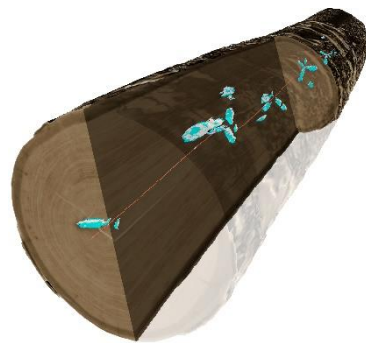
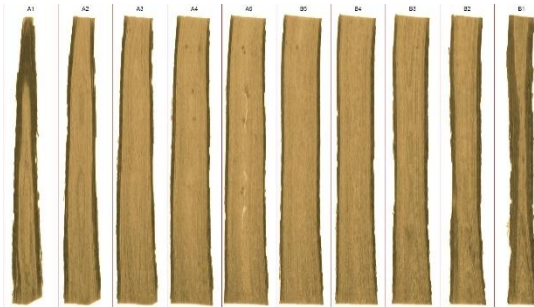
End uses



Reality: CT Does Not Work For Hardwood (Yet)

Danzer Operated A CT Scanner For Over A Decade

CT Scanning Of Logs



Detection of Characteristics insufficient

- Trade-off between invest, throughput and resolution
- Characteristics for decorative properties cannot be classified by density

Sliced Veneer: CT is not granular enough (industrially) or cannot be detected

- Important parameters determined in manufacturing, not by raw material

Lumber: Industrial implementation not possible

- Existing sawmill equipment not precise enough to execute better cutting solutions

Reality: Customer-Specific Mass Production Conceivable

No More Standardization Needed

Surface Scanners and Optimization



Danzer developed its own scanner

- Similarity-based recognition of defects
- Optimization algorithms to cut *each* flooring lamella into customer-specific formats and qualities
- Based on current order book and optimized *value*

The break-thru:

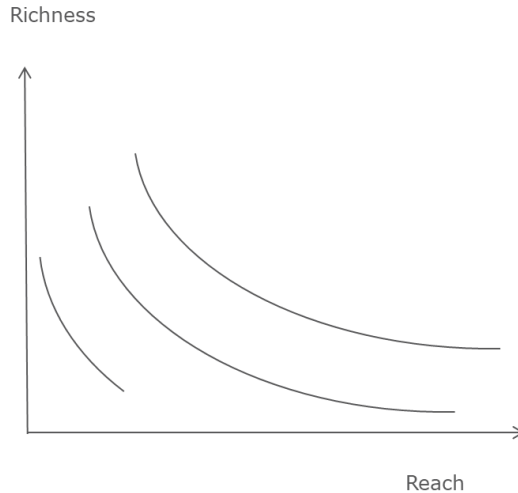
- A human operator gets worse with more and more specs while formatting
- A machine gets better and better



Reality: Hardwood Has Properties Digital Cannot Provide

Digital Sales Channel Is A Challenge

Digital Sales Channel



Tactile Properties are a key feature of hardwood products

- Cannot be conveyed digitally (not even VR-based)

Visual richness suffers

- Light reflection and “depth” and richness of look cannot be seen

Emotions are difficult to convey

- Hardwood products are not bought often by households
- Purchasing experience is part of the value proposition

Maybe in highly standardized products, digital sales are conceivable?

Reality: Specific Break-Throughs, No Value-Chain Solution

No More Need For Standardized Intermediate Product

Forest owners

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breakdown

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End uses



Diverse offerings

Highly fragmented at all value chain steps



Standardization

*Thus, extremely
low yield from
tree to product*



Diverse needs

How You Too Can Support the Wood 4 Real Coalition

The Wood 4 Real Coalition exists because it is necessary to avoid misleading EU consumers. We want the EU to require that products which do not contain real wood - in the product or on its surface - should not use the term “wood,” or the name of a specie of wood, in their product descriptions or labels without clear disclosure of the contents of the core and surface.

The Coalition works with the consulting firm, FTI Consulting in Brussels to push for language in directives and regulations and in the transposition guidance materials.

To show your commitment, please complete the form below, then email it to Wood4Real@fticonsulting.com and fill in your means of support. We will follow-up with details shortly.

Kindly yours,

The Wood4Real Team

www.wood4real.com

Wood4Real@fticonsulting.com



Wood 4 Real Coalition Support Form

I (your name here) with (company or organization name) wish to show my support for The Wood 4 Real Coalition by:

(mark all that apply with "X")

☐ becoming an (choose "individual" or "association") member of The Coalition, include our logo on the list of supporters, receive monthly emails, participate in periodic updates

☐ a regular financial contribution of (enter amount) per month to be invoiced to: (enter contact name, physical address, and email)

☐ a one-time financial contribution of (enter amount) to be invoiced to: (enter contact name, physical address, and email)

☐ offering in-kind support (such as: phone calls, letters of support, social media advocacy) in the form of: (your suggestion here)

☐ our logo is attached for use on (choose: wood4real.com, promotional material for government representatives, presentations)

☐ I have the following questions: _____

☐ I would like someone to call me to discuss opportunities to support Wood 4 Real (your contact information here)

(Your Signature)