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Wood Added Value Enabler

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Caractérisation des propriétés de plusieurs essences de l'avenir
et prototypes de produits innovants –
Charakterisierung der Eigenschaften verschiedener Essenzen der Zukunft
und Prototyping innovativer Produkte

Tom Mortelmans & Rémi Sennepin



Crittbois
expertise, innovations et solutions

Characterization of the properties of some species of the future and prototype of innovative products

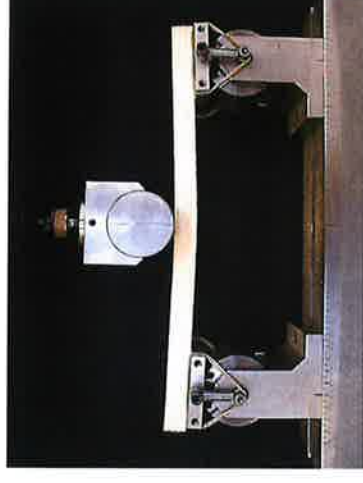
Mechanical tests

- Compression
- Traction
- Static bending
- Local lift

Determination of the volumetric mass

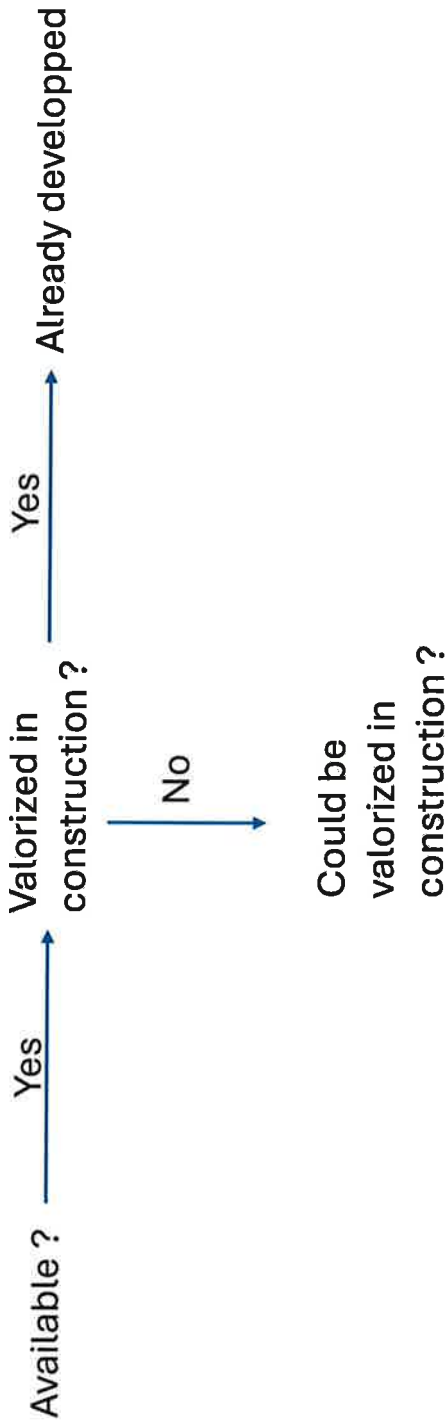
For species of the future

- Birch (*Betula spp*)
- Red oak (*Quercus rubra*)
- Hornbeam (*Carpinus spp*)
- (Alder (*Alnus glutinosa*) or black locust (*Robinia pseudoacacia*))





Species of the future : definition



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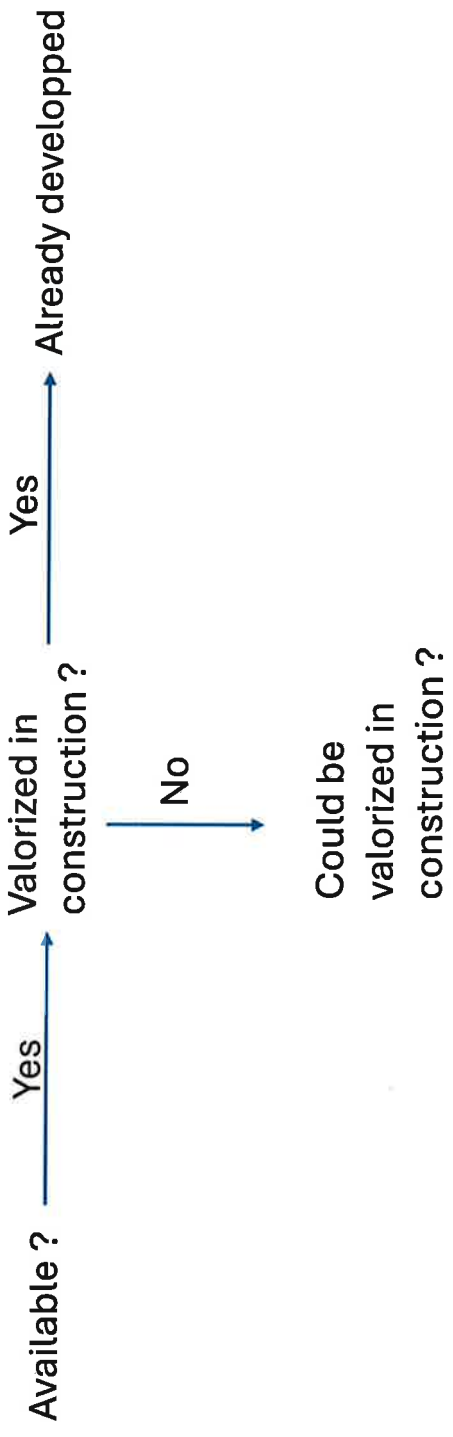
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Species of the future : definition



Another layer : does it have potentially a future ?



The resource



Small and big diameter (10 cm to 50 cm) and various species

Potential birch marked (BE)

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Prototype of innovative products



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Prototypes : Beam made of mixed glulam hardwood



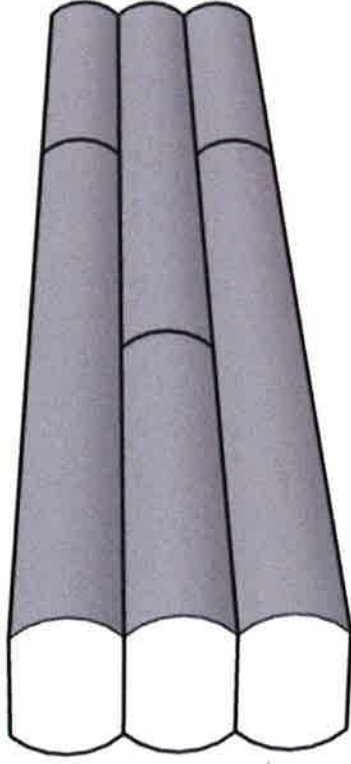
Red part : red oak (*Quercus rubra*),
hornbeam (*Carpinus betulus*), alder (*Alnus glutinosa*), ash (*Fraxinus*),...

Yellow part: birch (*Betula*), poplar (*Populus*), ..



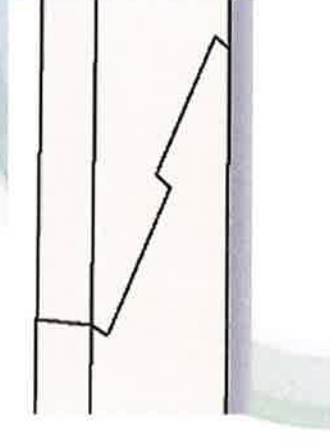
Prototype of innovative products

Prototype : Stacked, squared, and end-jointed round timber beam



Pole of diameter ~15cm
Section about 150x400 mm
Length of 5m for the tests

Specie : birch (*Betula spp*), ash (*Fraxinus*),
alder (*Alnus glutinosa*), ..



A way to valorize small diameter round hardwood

Open to new prototypes

Some projects are developed in intern...

Other can be developed with you !



Roundwood truss from Wholetrees



Doweled « glulam » Pizzi et al. 2015