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INFRARED HEATING: AN ALTERNATIVE TO SOAKING?

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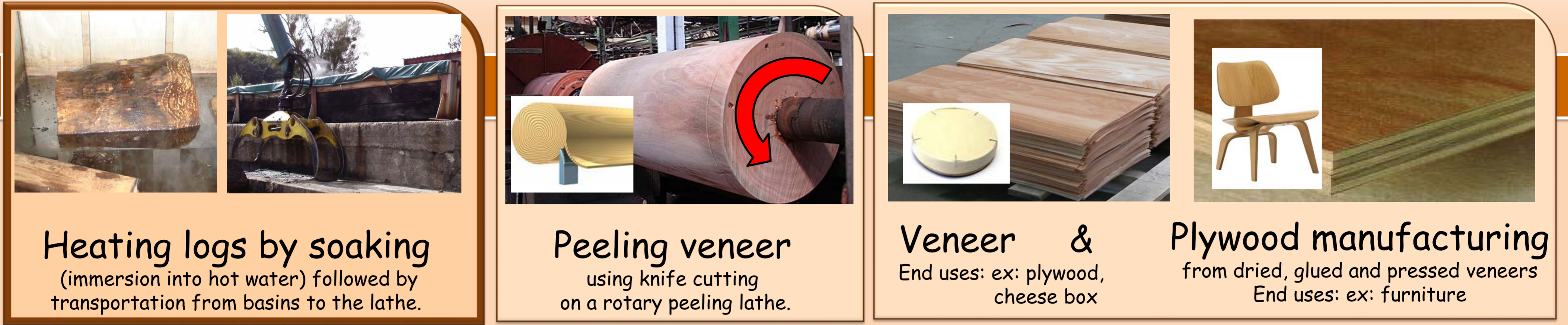
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INFRARED HEATING: AN ALTERNATIVE TO SOAKING?

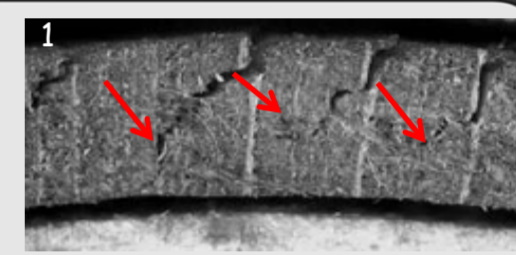
THÈSE EN SCIENCES DU BOIS: LA CHAUFFE INFRAROUGE, UNE ALTERNATIVE À L'ÉTUVAGE ?

CURRENT VENEER MANUFACTURING PROCESS TO PRODUCE PLYWOOD

MODE DE FABRICATION ACTUEL DE PLACAGES POUR PRODUIRE DU CONTREPLAQUÉ



To soften wood prior to peeling it!
and increase its deformability under the cutting knife, lowering cutting efforts and improving veneer quality (reduced lathe checks formation).



Lathe checks formed under the action of the cutting knife.



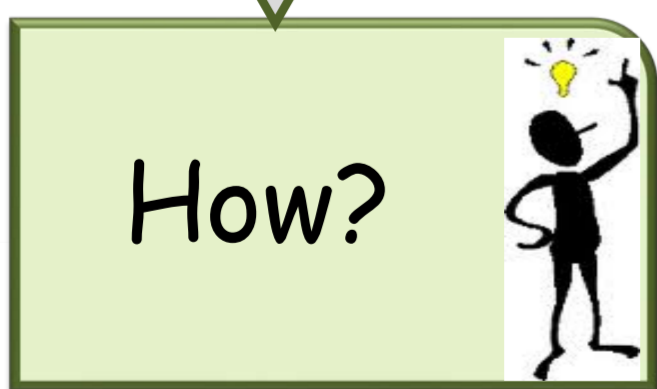
Soaking disadvantages

- Time-consuming
- Empirical
- Environmentally costly



Infrared advantages

- Penetrates into green wood
- Fast heating
- Possible in-line implementation
- Flexible energy distribution

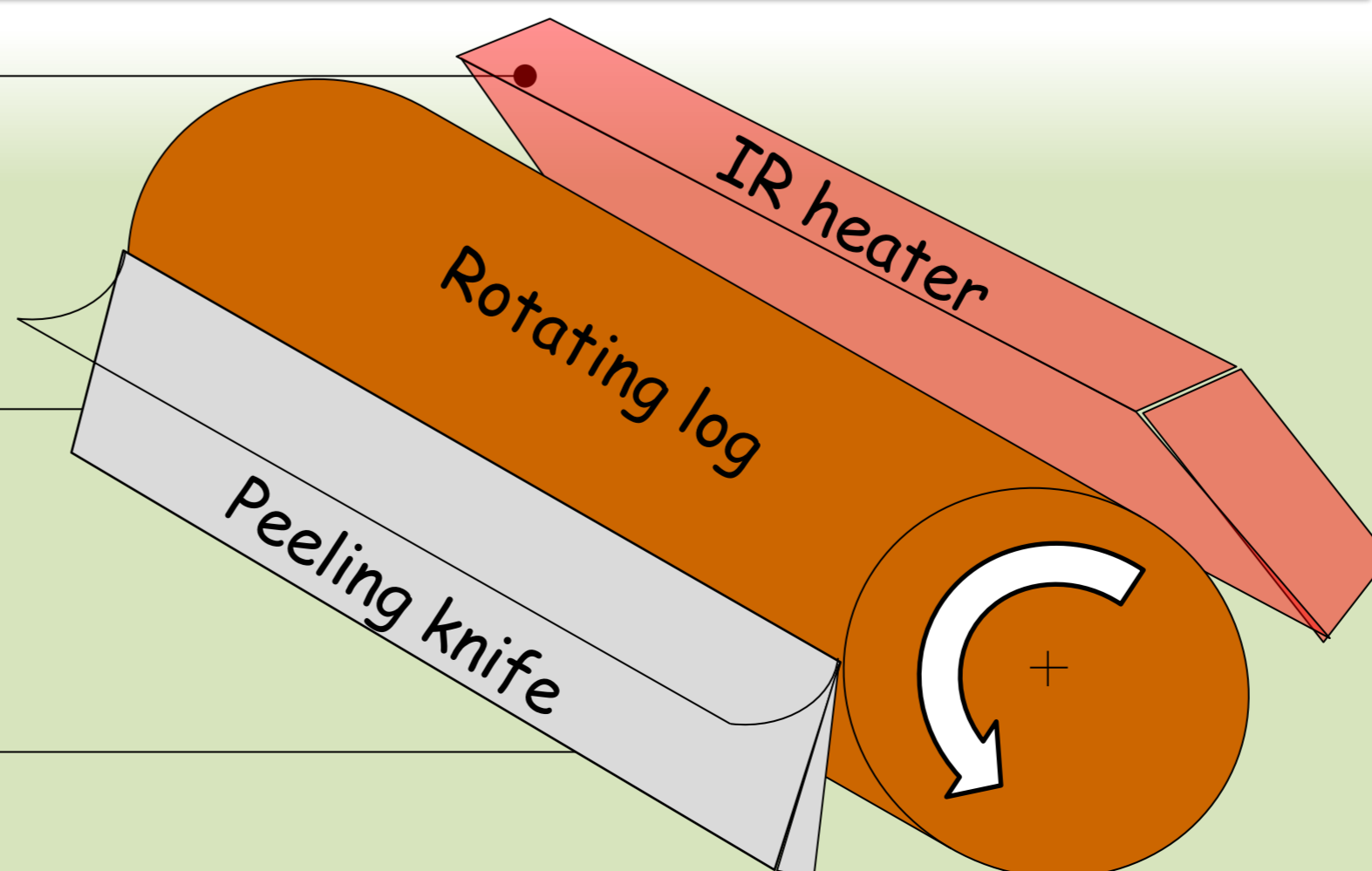


Developing in-line Infrared heating system
the goal of this PhD is to build up a prototype of IR heating system on the lathe and compare veneer quality and cutting efforts compared with the soaking method.

Infrared heater

embedded in the peeling lathe

heating wood while rotating



Thèse en co-tutelle internationale France-Finlande



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1. Palubicki B. et al. (2010), A method of lathe checks measurement: Smof device and its software. European Journal of Wood and Wood Products.
2. Marchal R. et al. (2004), Technical feasibility of an embedded wood heating device on the slicer or the peeling lathe.