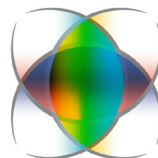




## PROCESS OPTIMISATION FOR WOODWORKING



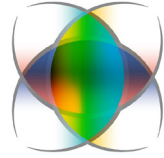
Using photonic-based process monitoring to optimise  
the process in furniture manufacturing

Use Case for Woodworking



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# PROCESS OPTIMISATION FOR WOODWORKING



## Using photonic-based process monitoring to optimise the process in furniture manufacturing

MULTIPLE will implement its technologies in a woodworking process to manufacture furniture to enable an early reaction to problems in specific parts, detecting defects as they appear and taking corrective measures (e.g. reworking, reclassification), before the component undergoes further processing. Parameters that will be monitored include humidity, density and the elasticity of the raw input material both before and during the processes as well as defect detection and colour inspection of the finished product. The system will collect data from different furniture components to build a reference bank using the Data Warehouse. An adaptive close-loop control will be implemented for adjusting the operation using the HSI vision system and estimated parameters (i.e. uniform glue distribution, localised defects, and wrong border colour) to automatically adjust the machine. The edge device will be integrated with PLC of the machine. As a result, the main optimisation goals in this wood working use case will be enabling one-size batch with zero defect, maximising the reuse of residue, and minimum delivering times, in order to minimise cost and meet the main trends of the market, driven by online retail channels and online exposure.



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