Accella AI

USE CASE

WOOD SURFACE INSPECTION

CUSTOMER

Leading European Construction Company

NEED

- Detect wood boards with imperfections, e.g. knots, splits, cracks
- Score quality of boards
- Differentiate boards between A, B and scrap categories

OUTCOMES

- Every board automatically receives a defect score
- Scoring allows customer to bin boards into different quality categories for different uses
- Reduces scrap
- Assures only highest quality boards are used for critical applications, e.g. construction of dams
- Reduces manual QC

CHALLENGES

- Automated way of inspecting wooden boards to eliminate those with structural weaknesses needed
- Defects can be hard to spot with traditional solutions due to the heterogeneity of the wood and challenging illumination
- Elimination of time- and resource consuming manual inspection

PROCESS

- Internal experts provide images of OK vs NOK wooden boards
- The ML algorithms is trained based on these samples to assign a defect score to each board

SOLUTION

- Collection of 1,000s of images and defect classification
- Use of image library to train an OK/NOK model and a defect classification model
- After deployment: built-in reclassification tool is used for continuous training of the model to improve accuracy further