Integrated project Engineering Technology

2017-2018

AUTOMATE THE PRODUCTION OF FLOOR PANELS

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Specialization Bridging programme for Master of Electromechanical Engineering Technology

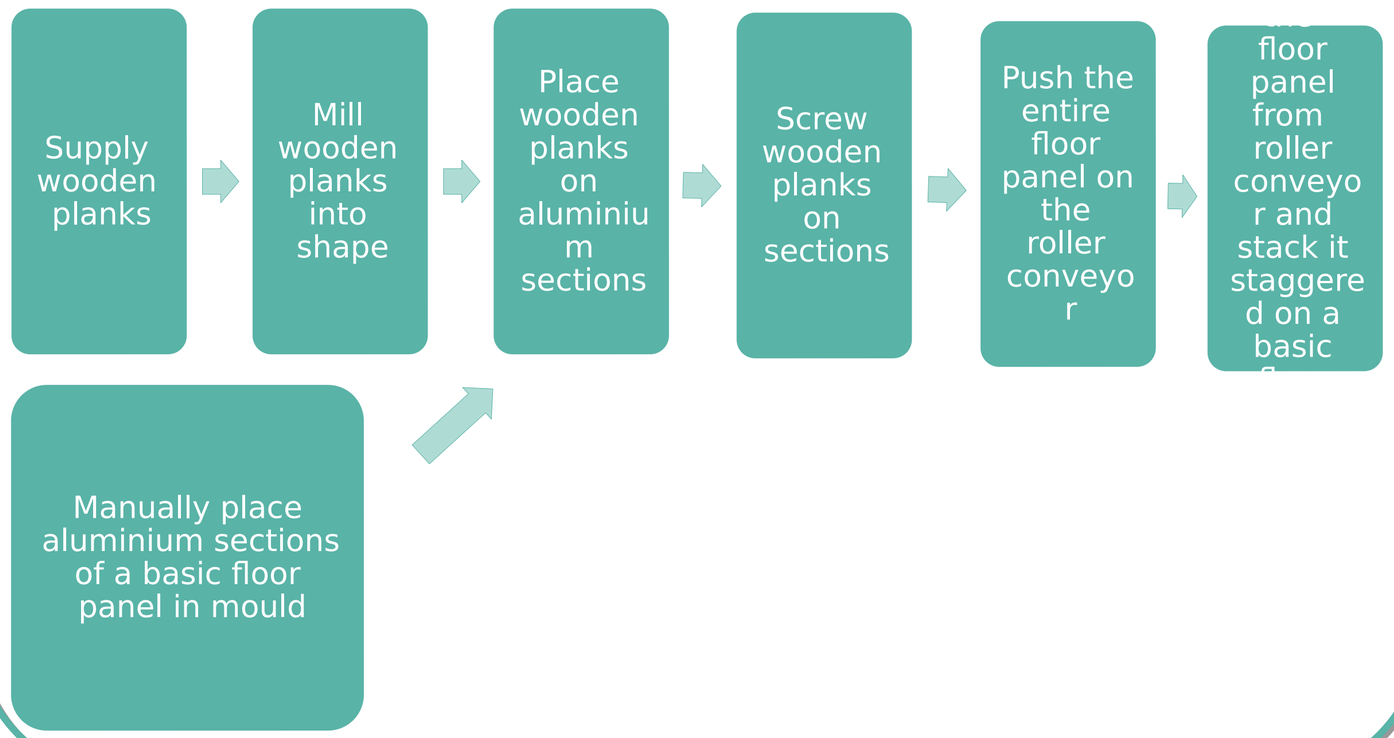
Situation:

Veldeman is a company specialized in the covering of locations with sail. Floor panels are attached within that sail.

Problem Statement:

The manual production of floor panels is heavy and monotonous. The sheltered workshop does not want to execute that work in the future to adjust the workload.

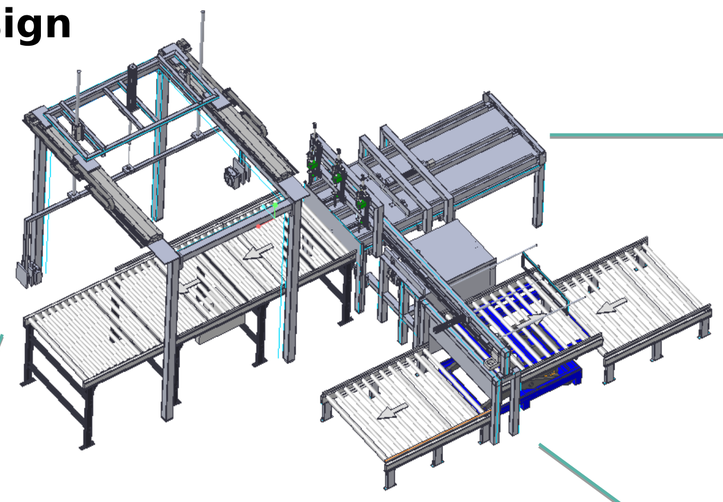
Procedure:

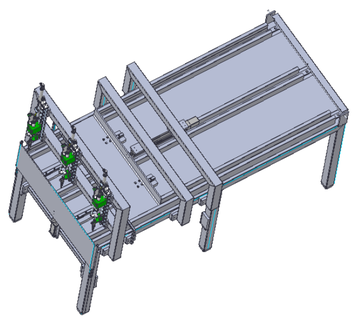


Requirements:

- The floor panels must be square 90° ± 0,083.
- 2497,5 mm ± 2 mm in length and 998 mm ± 2 mm in width.
- Lay the woorden planks automatically.
- Screw the wooden planks automatically.
- Stock or stack 8 finished floor panels.
- The wooden planks must connect with each other (no space).

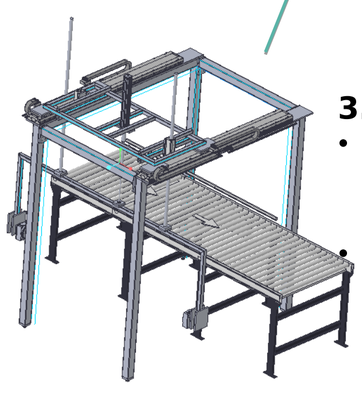
Mechanical Design





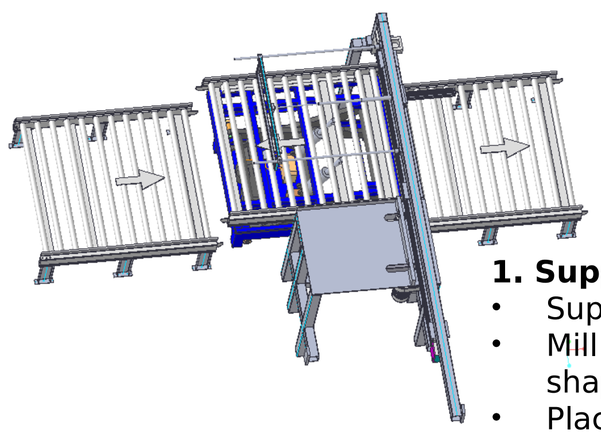
2. Processing

- Manually place aluminium sections
- Wooden planks go through the process
- Wooden planks slide along the stop
- Screw wooden planks on 6 places
- Supply next wooden planks through the process
- Slide wooden planks
- Screw back in 6 places
- Repeat that 19 times (21 wooden planks in total)
- Push the floor panel on the roller conveyor



3. Drain

- Remove the finished floor panel from the roller conveyor
- Stack the floor panels staggered on a basic floor panel next to the roller conveyor



1. Supply

- Supply wooden planks
- Mill wooden planks into shape
- Place wooden planks on aluminium sections

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