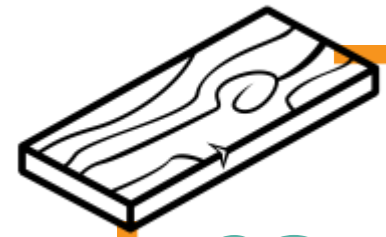


Automatic roof tile slat stacker with automatic infeed and outfeed

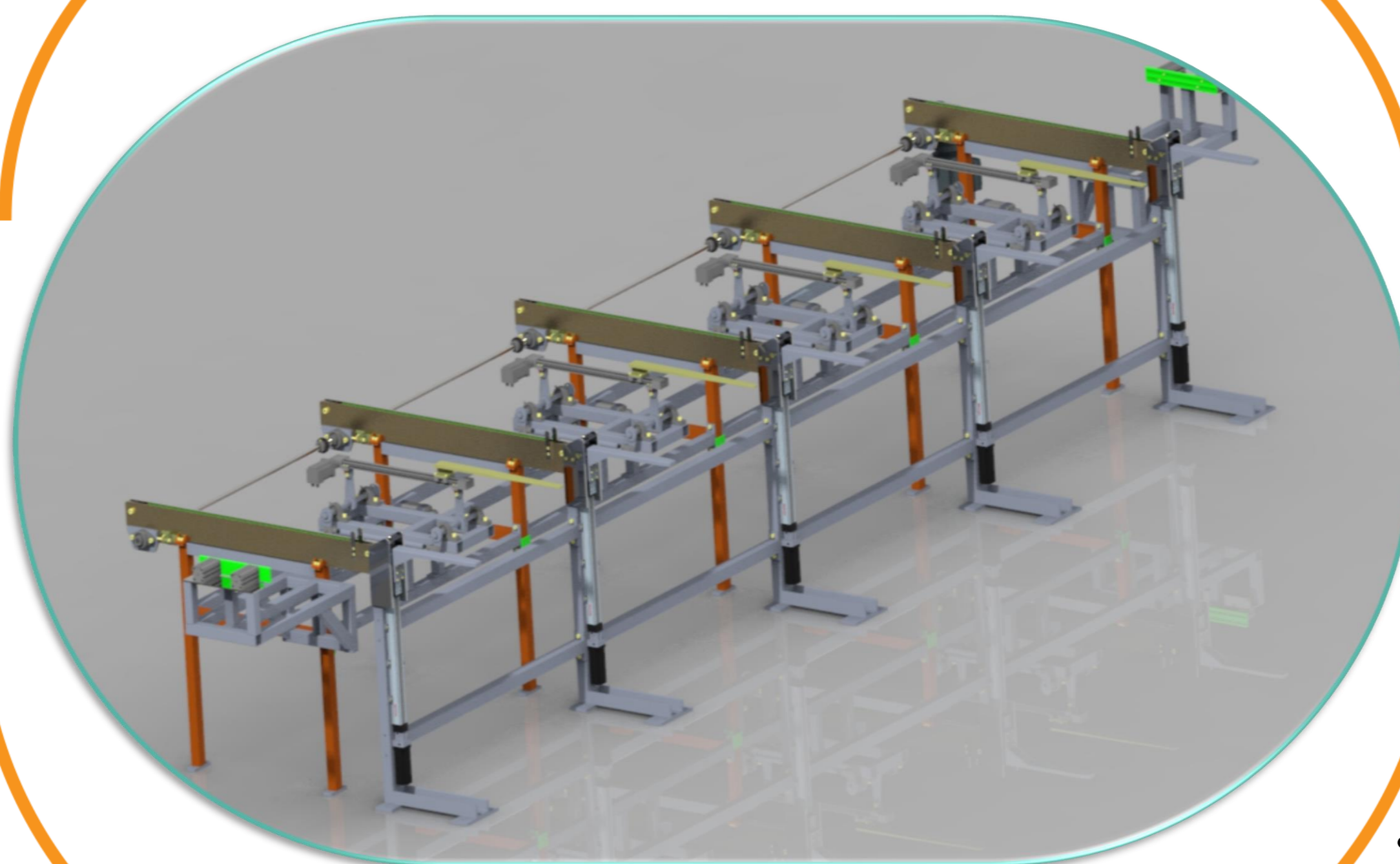
Nick Vanpol, Arno Colombie

Specialization Bridging programme for Master of Electromechanical Engineering Technology



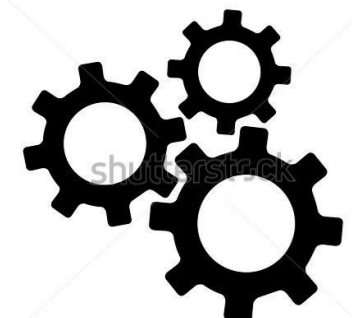
CGers

CGers Design Engineering Manufacturing is based in Belgium. This innovative company was founded by dHr. Segers as a design agency for industrial machinery. In 2008, CGers moved to the old mining site in Heusden-Zolder. The main activities of CGers focus on designing, making, assembling and testing machines and products. The integrated project focuses on a project for a sawmill.



Problem definition

The sawmill has a department where they send (rough) roof tile slats through a planer to provide these slats with a surface treatment. The automatic placement of the slats to the planer is already planned for the time being. But once the slats have passed the planer, they still have to be stacked manually by an operator. They would like to see this automated in the future. This brings us to the essence of my integrated project, the design of a slat stacker.



Principle

When the wooden slats leave the planing machine, they end up on a roller conveyor. They are transferred to a belt conveyor. Then the stacking begins. The slats are collected on another belt conveyor. Then they are lifted by a fork and put down again. This also happens with the next load of slats. After a few times the same movement of the fork there will be a stacked package of wooden slats.



Requirements

- 2 different types of wooden slats
- Electrical or pneumatic components
- Automatic in- and output
- Dimensions available 10 x 15 x 2,5 m (lxbxh)
- Dimensions gate 8 x 4,5 m
- Budget: 25 000 euro
- Lifespan: min 15 years
- Noise: Max 85 dB
- Follow speed planing machine (60m/min)
- safe according to the standard (2006/42/EG)

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