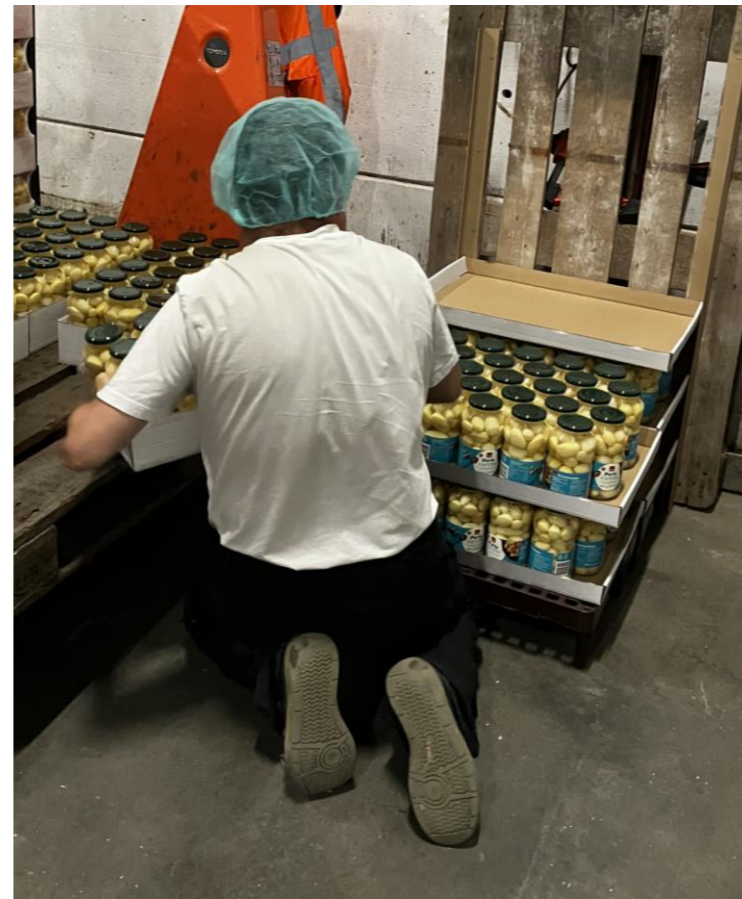


## Design of an elevator to improve the working posture of workers when stacking pots

Timon De Vos

Bridging programme for Master of Electromechanical Engineering Technology

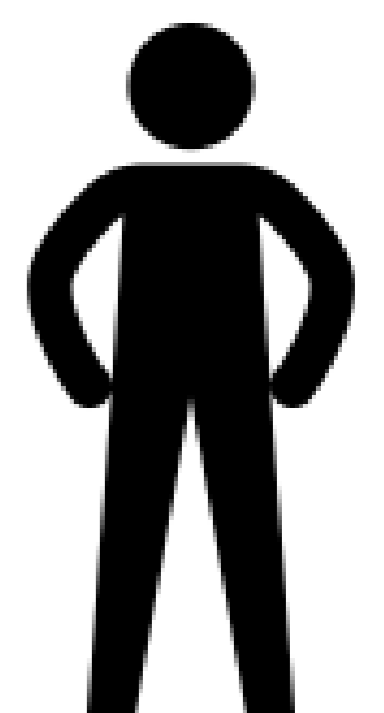
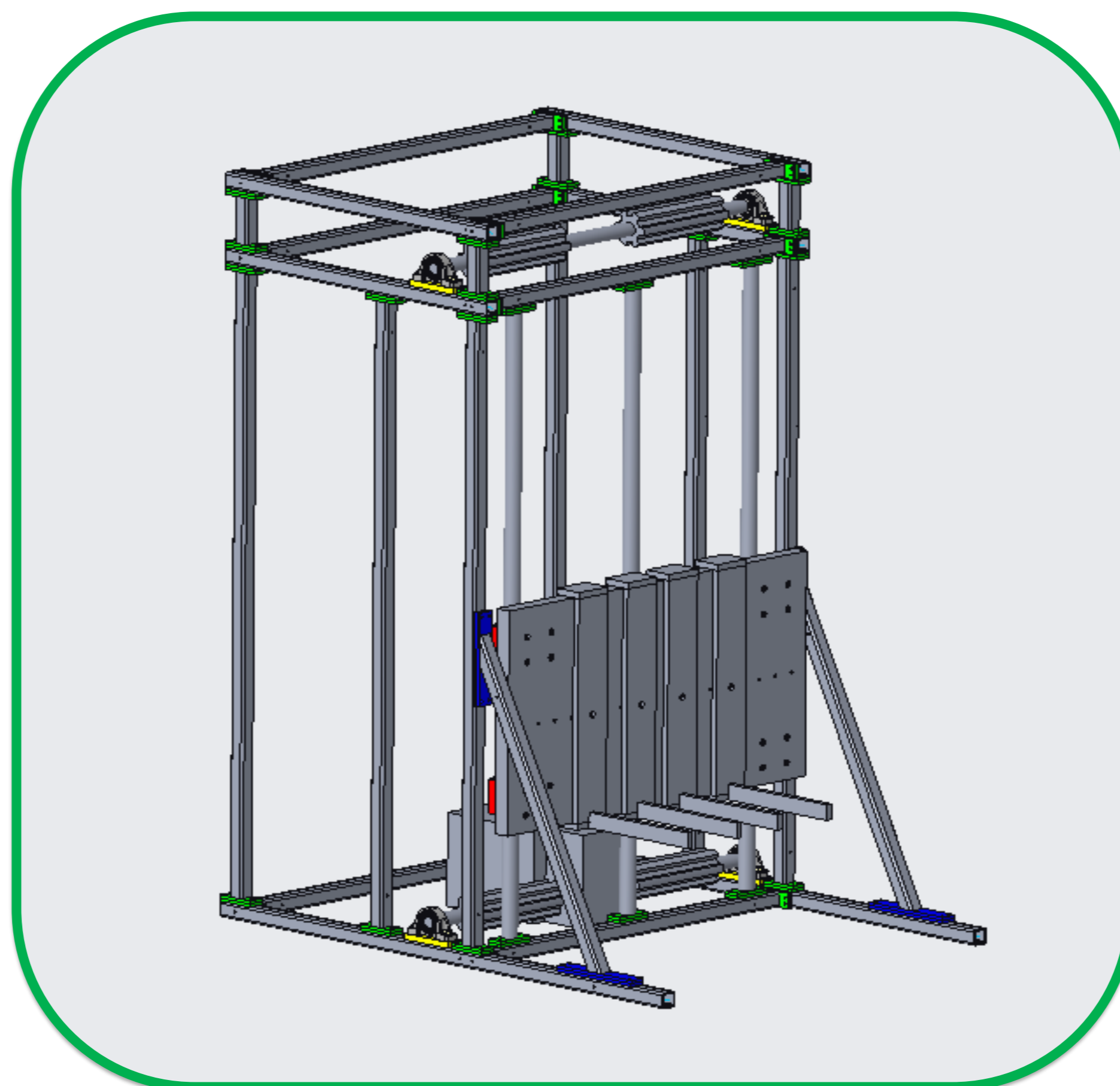
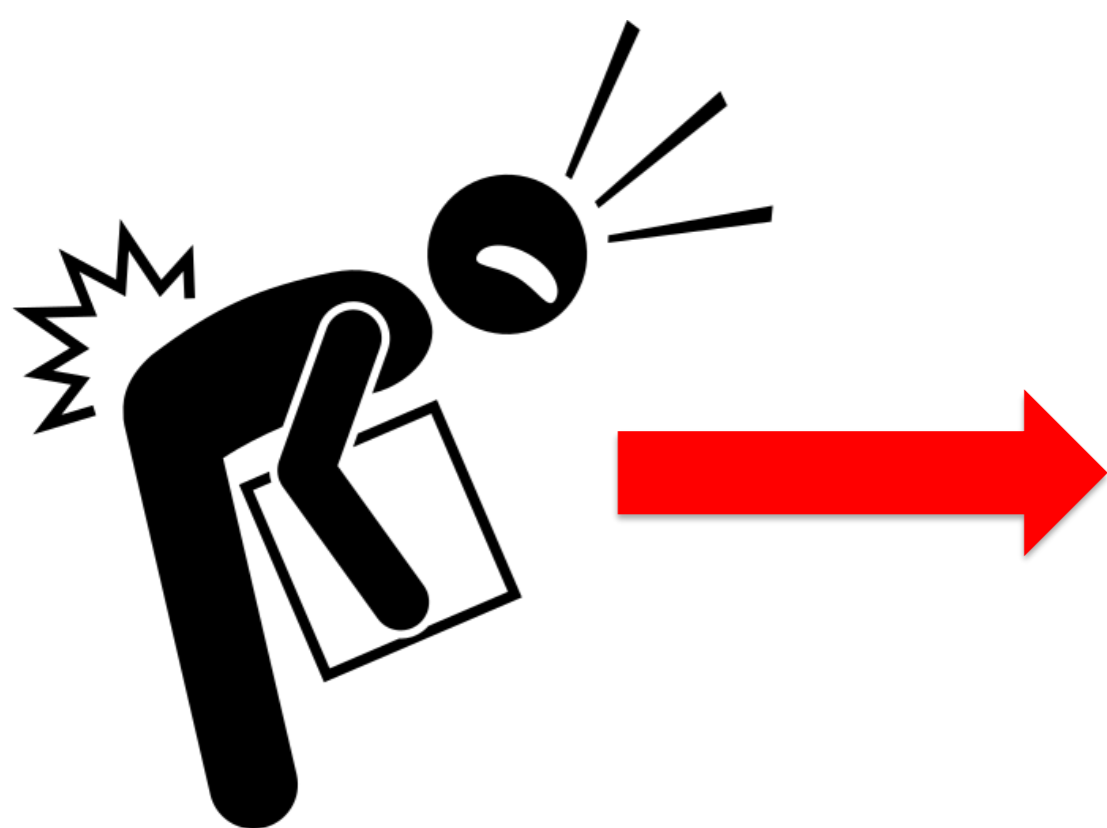


### Bewel

Bewel is an organization that employs people who are at a **distance from the labor market**. With 2,200 employees and eight branches, Bewel is one of the **largest employers in Limburg**. The assignment for this integrated project comes from the 'Greenyard' site in Bree. At this location, pots of potatoes are repackaged to create displays that are placed in stores.

### Problem definition

The main challenges lie in the **ergonomics** of moving and positioning the potato pots, as well as in the alignment of the trays on the mini-pallets. At the same time, the machine must be easy to move and flexible to accommodate changes in the product.



### Solution

What are the main things used?:

- A selfmade frame
- An electric motor.
- Two timing belts
- Ball guides

Why?:

- I used an electric motor because there are no pneumatic pipes on the site.
- The belts were used instead of chains because they work with food and they cannot have the oil getting on the food

### Principle

First the employees put the mini-pallets on the four forks, the forks make it so that the mini-pallets always have the same position. After this the employees put a cardboard tray in place and start stacking the pots. When it gets too high and gets uncomfortable they can lower the lift a bit so they can work on the best height for themselves. Once the mini-pallet is completely full they lower the lift to its lowest point and can take the mini-pallet away with a pallet truck.

Supervisors / Co-supervisors / Advisors: Ing. BIJNENS John  
 Prof. Dr. Ir. DAENEN Michael  
 Prof. Dr. Ing. KELLENS Karel