

# HIGH TECH AUTOMATION



# MACHINE SOLUTIONS

## Automation increase production efficiency and competitiveness

Gibotech A/S develop, implement and provide maintenance on high tech automation- and machine solutions to a wide variety of industries and customers. With more than 30 years of experience we have created a strong position within the industry.

A milestone can be higher output of your production, reliability in the production flow, higher service level and usability. The end-goal is to achieve the full potential of your production- and machine facilities.

Automation investments may provide the following benefits:

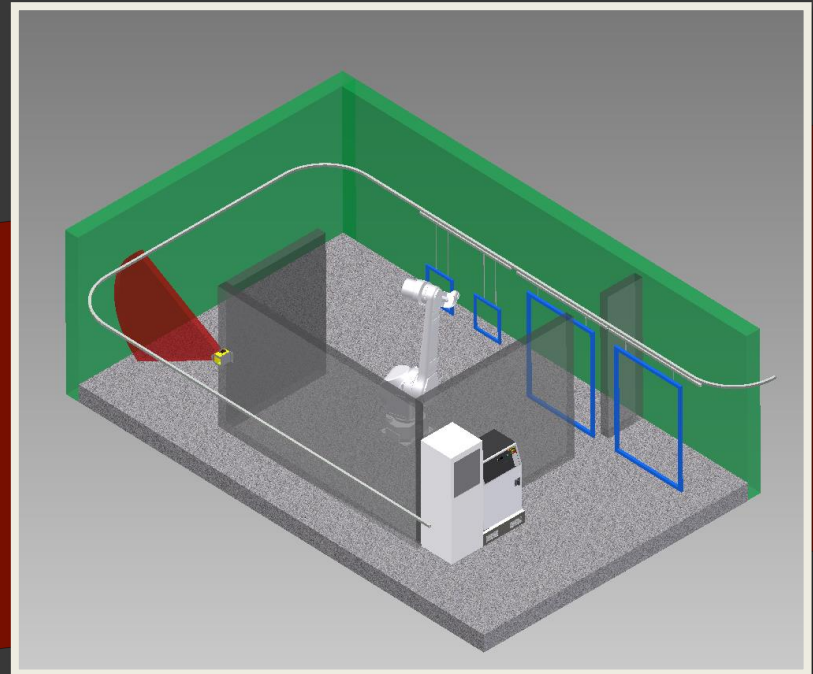
- Increasing your production
- Labor released for other tasks
- Increased competitiveness
- Better working environment for the employees

## Robot painting solution

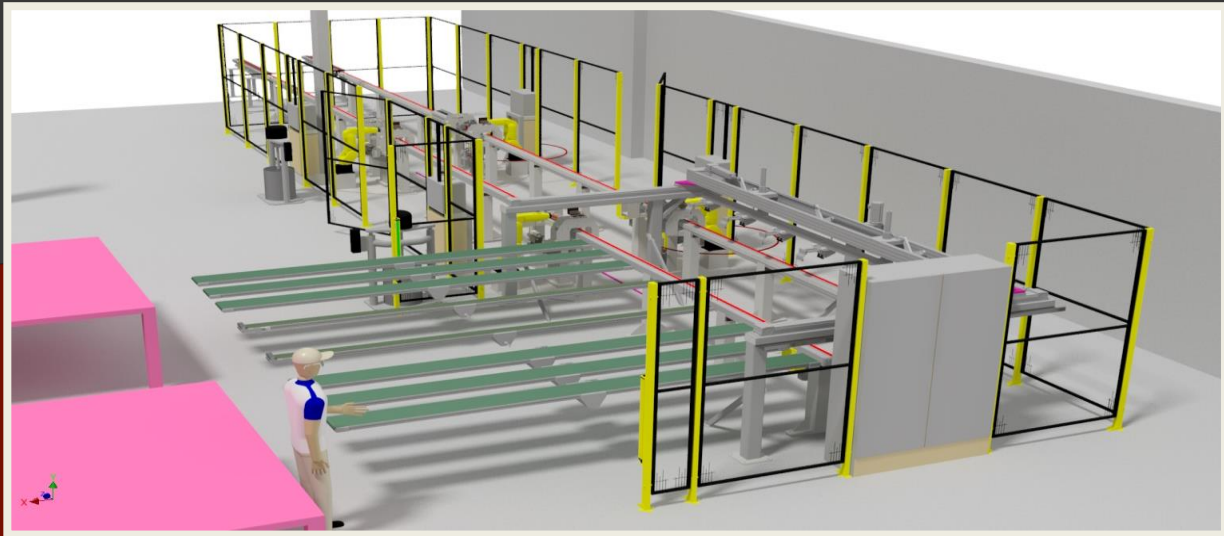
The basic scope of this system is to detect and scan the parts, calculate and optimize the robot paths and finally paint the items. This system is unaffected by special designs or customized products.

The system is made of 3 main parts:

- 3D Scanner – scans every single item and determines the type and size
- The transportation system for the items (conveyors)
- The painting robot



## System for automatic sealing of profiles

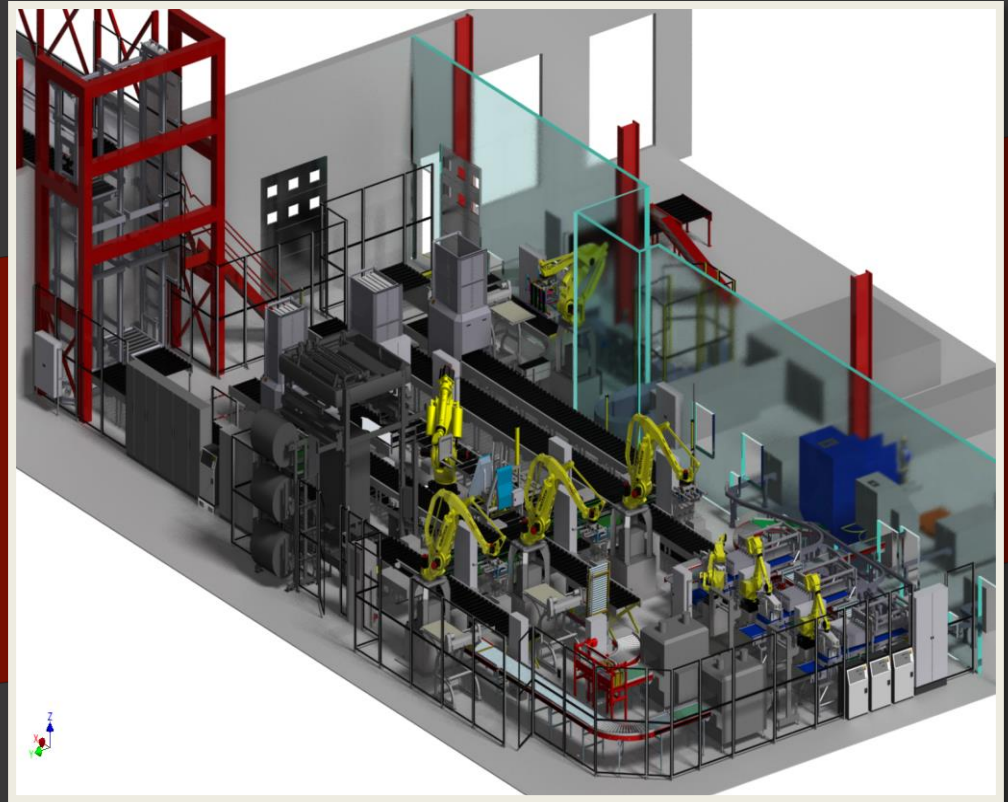


System for full-automatic sealing of PUR/Aluminum-profiles. Based on transport/conveyor belts, fixation points, detection of the specific product type and automatic sealing at the end of the profiles with FANUC robots. The four robots apply two different sealing products.

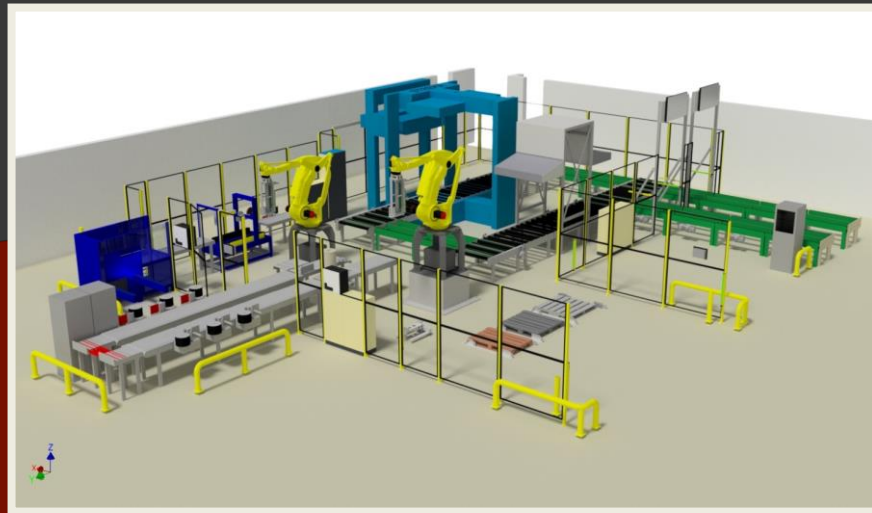
## Advanced palletizing solution

Large palletizing facility that can handle both whole-, half- and quarter pallets. The core of the system is 8 industrial robots working together.

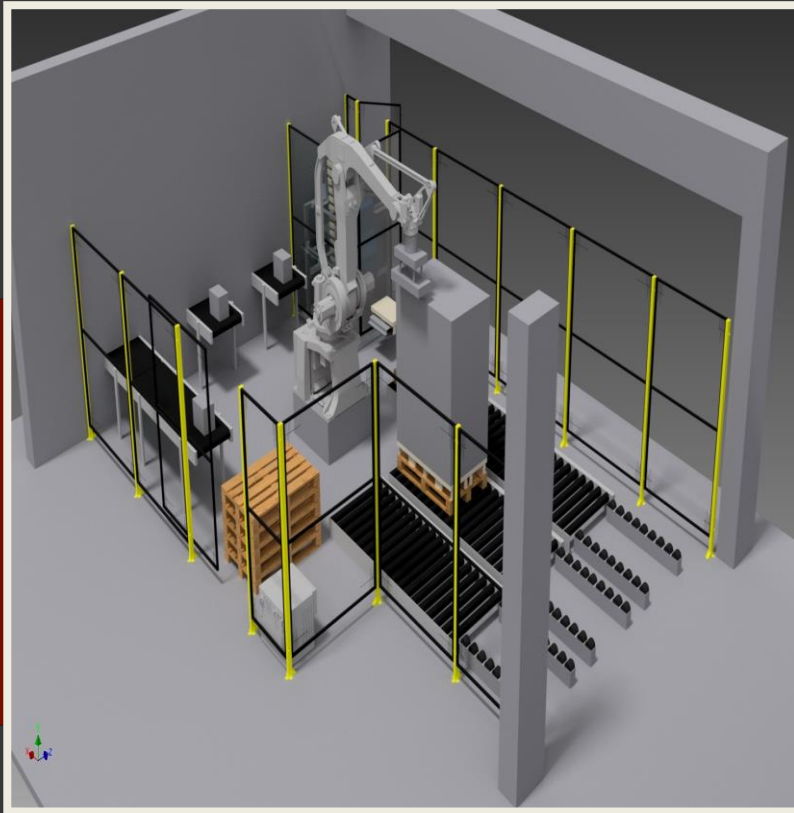
The products are packed into boxes, wrapped and if necessary transported through a shrinking line before going to the internal storage system.



## Advanced palletizing / depalletizing solution



Full automated palletizing solution, that recognizes and depalletizes pallets from the warehouse and afterwards reads labels, prints and applies new labels before palletizing on to customer specific pallets. The solution uses state-of-the-art FANUC robots and vision systems, and provides advanced scanning and a unique gripper which is able to handle many different customer specific products. Moreover, the solution contains a high tech software- and control system developed by the software team at Gibotech.



## Standard palletizing solution

Simple palletizing system. It consists of 3 in-feed conveyor belts, each of the 3 belts is handling different products at the same time. The robot is palletizing the specific product to the predetermined outgoing pallet conveyor.

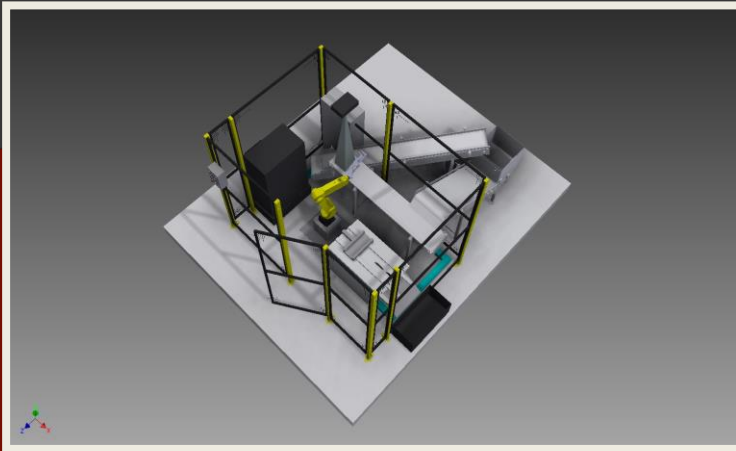
Both whole-, half- and quarter pallets can be handled in this system.

## Handling solution with integrated vision

Compact system to manage and separate the products, pick and place, as well as load a machine.

The system is based on 4 main parts:

- Separation of the parts by 3 conveyor belts running with different speed
- Integrated vision system to locate the separated parts
- Robot to pick and place the parts
- Saw unit to divide the parts



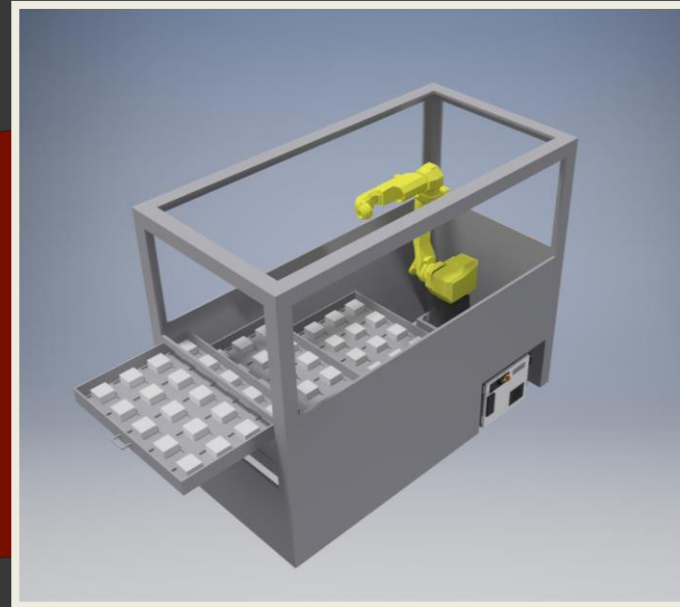


## Standard solution for machine loading/unloading

Modular solution made up of:

- Product magazine
- Table for fixation of products
- Safety cabinet
- Industrial robot

The robot is handling both the in- and outgoing products from the machine and provides a very cost-effective solution.



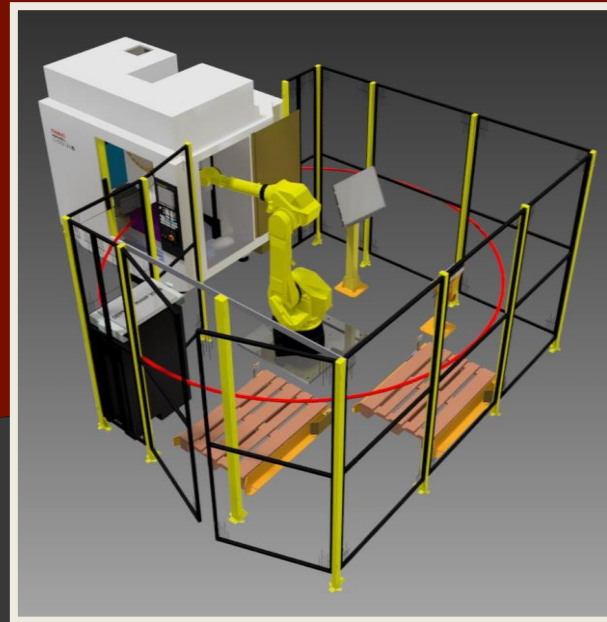
## Customized machine loading/unloading

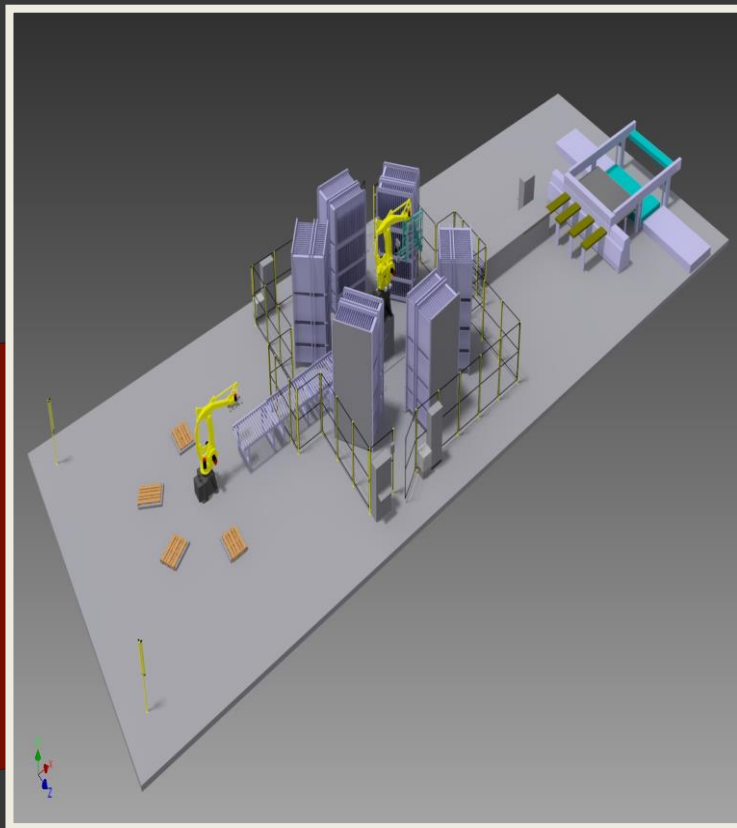
The work of the robot in this facility is fully optimized. It ensures the raw material is in the correct position, dust- and chip free. When the raw material is machined the robot picks it with the special designed two-sided gripper and at the same time places new raw material into the machine.

The robot's tasks are:

- Removing dust
- Feeding the machine
- Palletizing
- Removing loose chips
- Taking out machined products

Every task may be customized for the specific project.





## Storage solution

The basic scope of this system is to manage the parts produced from a panel saw, cut-to-size parts and to store them into an area where they can be retrieved based on demand.

The system is made of 4 main parts:

- Panel handling after cutting and loading in to storage system
- Automatic panel storage system – robot 1
- Automatic unloading according to defined order – robot 1
- Automatic stacking and order retrieval – robot 2

5-axis CNC machining centers including conveyor system for fast load and unload of jigs and parts. The machinery is set up very quickly in accordance with the CAD-drawings and specifications of the customer. This high flexibility and efficiency makes the processing of even small orders possible at competitive prices.

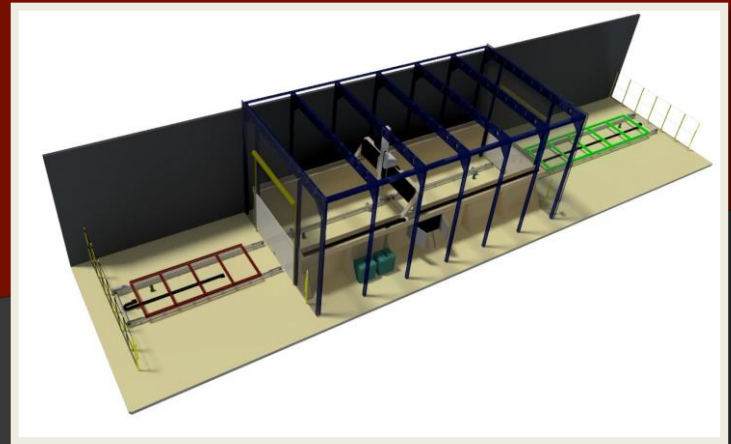
The axis strokes of this CNC machine (scalable):

X = 12500 mm

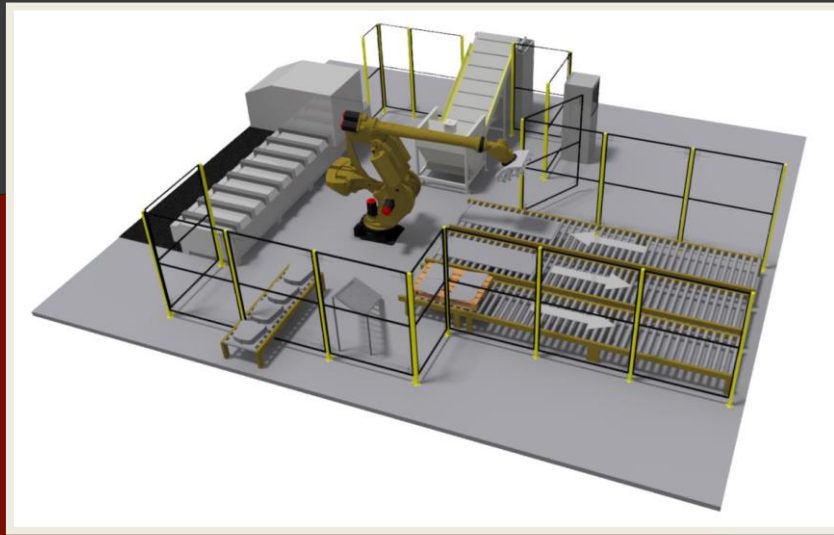
Y = 4250 mm

Z = 2000 mm

The chain conveyor optimizes the production by minimizing the waiting time between in- and out-feed of material



## Loading / unloading panels on CNC machines



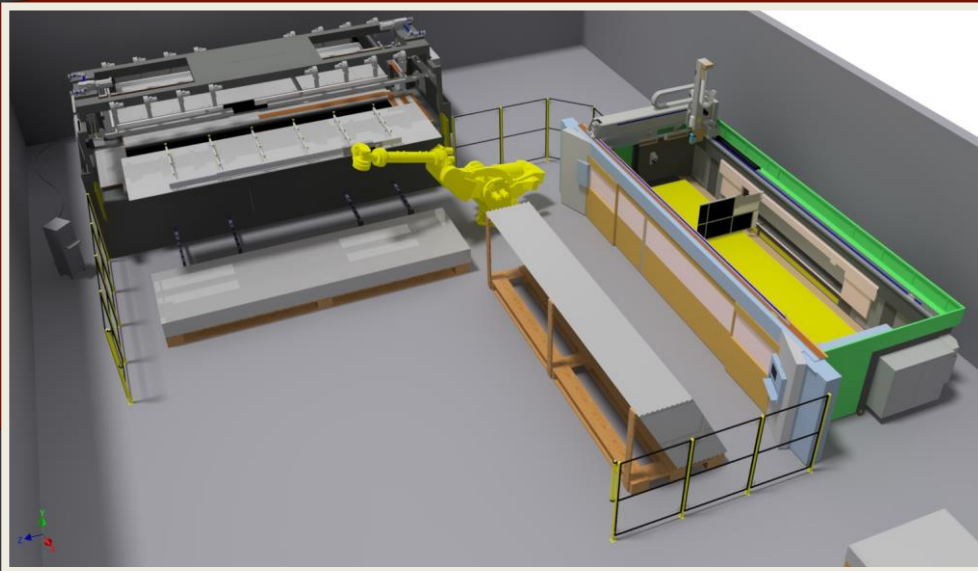
Efficient solution for handling operations related to CNC-machines. Panels are loaded on pallets on inlet conveyors and the robot picks the panels and moves to make a direct pre-cutting/roughing on a separate router. Afterwards the panels are loaded on the CNC-machine in order to make the finishing and other machining operations. Finished panels are stacked on pallets on outgoing conveyor.

## Robot automation with thermoforming- and CNC-machine

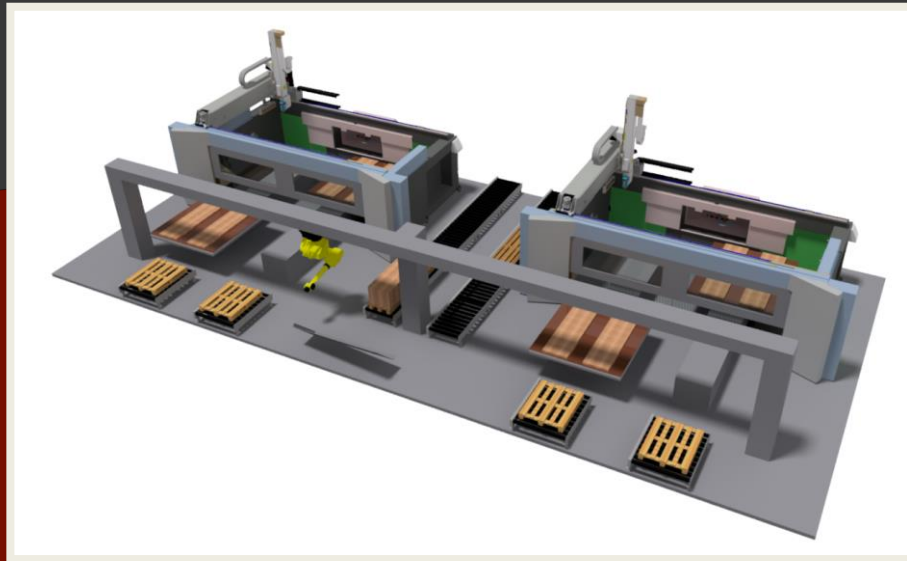
The basic scope of this system is to manage the panel loading and unloading in front of a thermoforming machine, and then further process of the panels in/out of a CNC-machine .

The system is made of 3 main parts:

- Thermoforming machine
- CNC machine
- Both machines handle panels with dimensions up to 8000 x 2500 mm
- Full automatic loading and unloading from the two machines
- Automatic palletizing – done by the robot



## CNC-machines operated by loading and unloading gantry robot



Fully automated processing in CNC-machines combined with fast gantry robot keeps the machines busy by keeping them loaded with raw material. The robot palletizes the finished products as well. The two tables at both machines reduce the waiting time for loading new material to process.



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