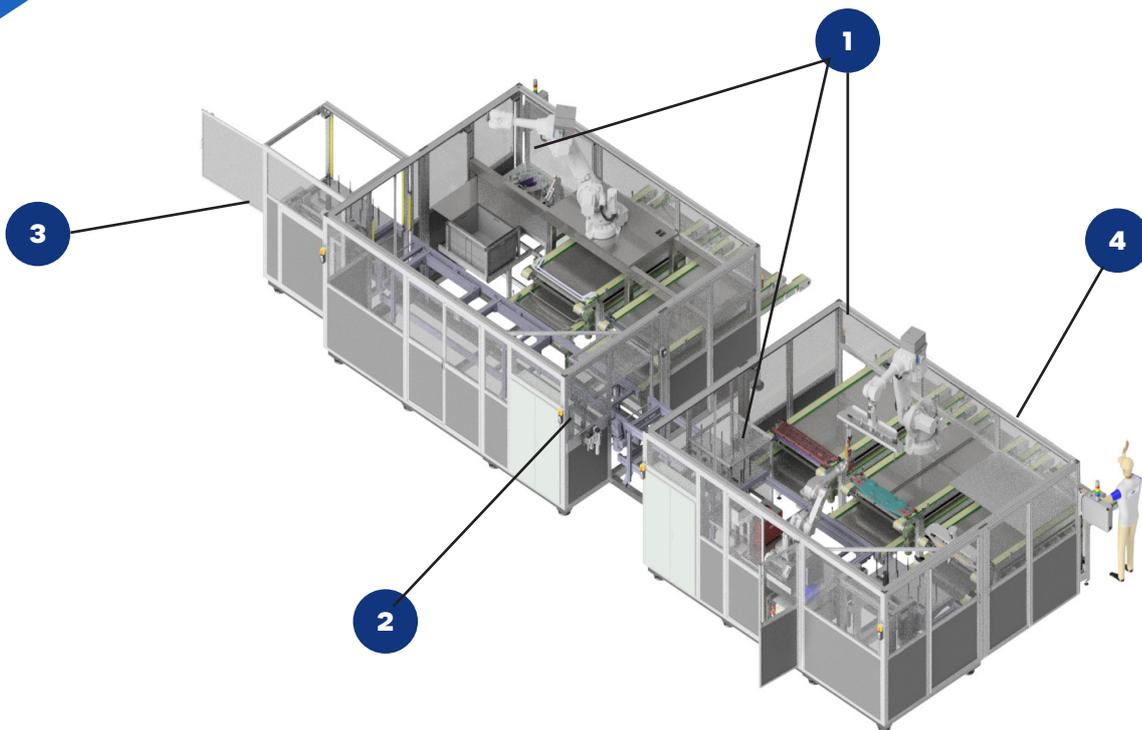


Automotive Assembly System



1 Three ABB six axis robots carrying out assembly, pick and place and screwing sequences

2 Coded pallet transfer systems used to transfer product between operational stations

3 In built filtering of liquid with the ability to monitor blockages using load cells

4 Component infeed conveyor, tooled to suit assembly components up to 1.2 in length

Automotive Assembly System

A client in the automotive industry required a system that would fully assemble a large plastic multi part assembly system. The system was required to carry out screwing, push and clipping of parts along with the application of decorative decals. The final product required careful handling due to its high gloss finish.

The Challenge

To design and manufacture a complete assembly system that would assemble a multipart automotive assembly. The final solution was to cater for various types of processing from clipping assembly, screwing, taping along with the application of decorative decals.

Due to the flexing nature of many of the components, careful consideration had to be taken for the component in feeds. This was to ensure the parts could be presented into the machine in a uniform and consistent manner.

The final solution also required to take into account future proofing for potential product changes.

The client also required the final assembly to be laser marked for to allow for complete traceability.

The Solution

At over 16m long, the final solution was based around a pallet transfer system. Each pallet was tooled with multi locations to ensure the assembly being processed was suitably supported for loading and assembly sequences.

Infeed conveyors with tooled carriers were used to transfer the components into the assembly cells. Once the assembly had been completed, it was removed from the system, and stored in specially designed stillages.

Along the length of the machine, three ABB multi axis robots were used to carry out multiple operations. These included loading components on to the pallet carriers, assembly of the product, screwing of the assembly and also operations involving the removal of tape.

Dedicated modules were also including to allow for the accurate positions of decorative and brand decals.

Final and completed assemblies were also laser marked at the end of the process.

Features & Benefits

- Large pallet handling system to convey sub assemblies and assemblies between stations
- Multi axis robots carrying out assembly, decorative decal application, screwing and pick & place
- Infeed conveyors with tooled carriers to accurately support long and flexible plastic components
- Tape handling systems to remove protective tape on certain components
- Complete product inspection throughout the process for assembly as well as inspection of damage
- Final Laser marking of assembly for traceability



For more information or to discuss your bespoke solution get in touch.

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