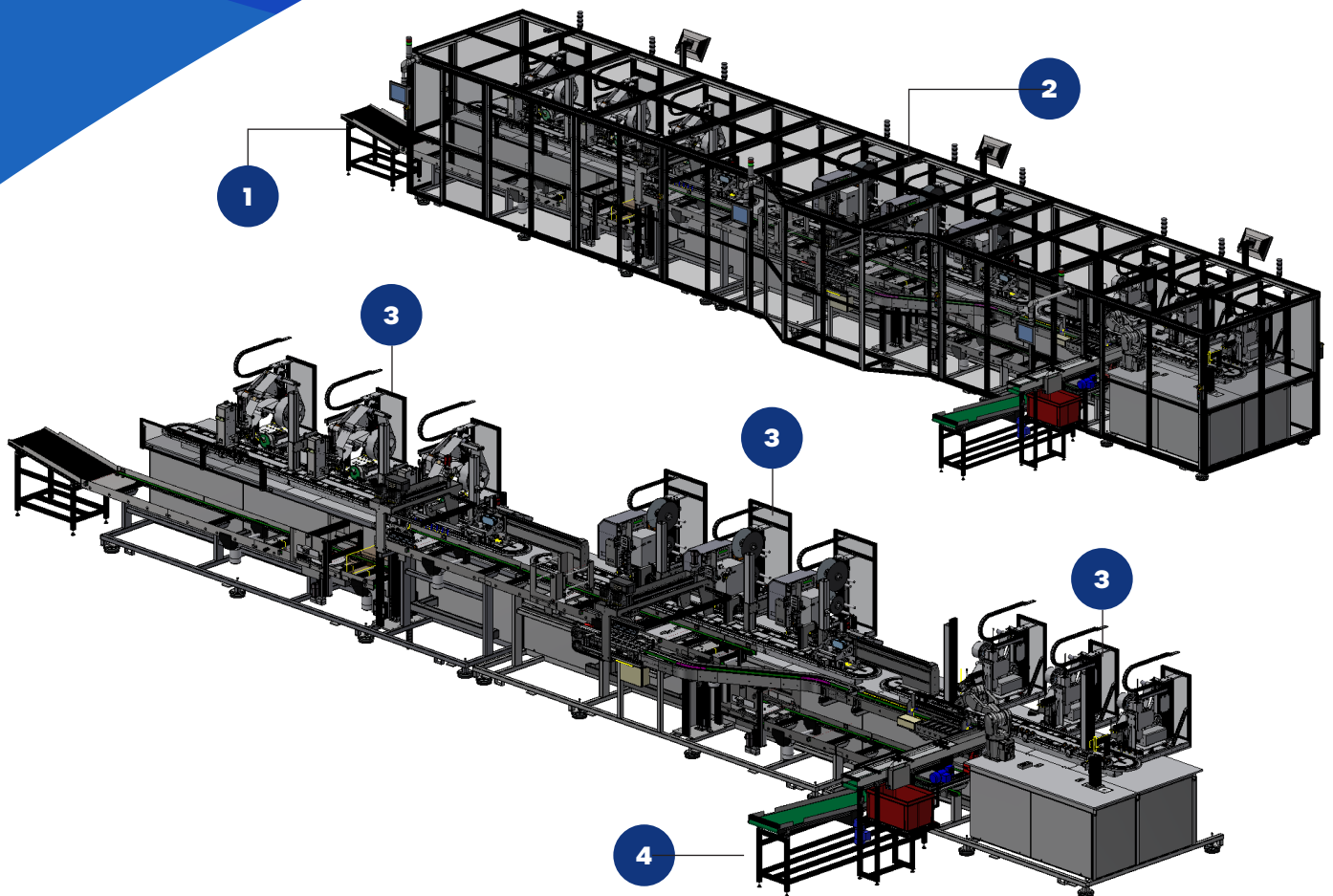


Accurate labelling of Medical Devices



1 Unlabelled device tray infeed and auto loading onto machine Beckhoff XTS

2 Easy access around 14m long machine processing 100 device/minute

3 Nine Label station for 3 different labels. Placement accuracy of 0.1mm

4 Auto unloading of devices into the input trays, with auto reject of failed devices

Accurate labelling of Medical Devices

Stringent quality regulations, traceability and GAMP standards are some of the challenges faced by medical device manufacturers. SP Automation & Robotics works with medical device manufacturers to provide bespoke, high quality and accurate solutions. A project from a world leader in the medical device industry required a process to accurately label medical devices to within a tolerance of +/- 0.1mm with a throughput of 100 parts per minute. In addition full traceability of the devices through the machine was required, from initial input loading by reading individual 2D bar codes on the device and checking each individual label prior to applying to the device.

The Challenge

The main objective was to provide a fully automatic labelling system that could apply labels at a rate of 100 parts minute with an accuracy of +/- 0.1mm.

Standard labelling techniques were considered, however the accuracy required on the device labels could not be achieved using existing off the shelf technology.

- 100% tracking each device
- 100% tracking of each label
- Wrap around label with no overlap
- Folding of complex information label
- Placement of round label on round device to ensure concentric placement
- Label placement to within +/-0.1 mm

The Solution

A labelling system was designed to place the canister cap, body and bung Labels on to the devices as it indexes through a series of operation stations. The system was based around 3 Beckhoff XTS system tooled to carry and locate devices, with nine labelling heads (3 for each label) positioned along the 14m machine length. To compensate for inherent inaccuracies using standard label heads, the machine had to dynamically position each device to suit the label along the length of the machine. To overcome the inaccuracies of the position of the label on the reel, each label was inspected as it was transferred to an SP designed application head. A camera below then inspected the label position on the head and adjusted the theta position. The Beckhoff XTS system was then used to position the device for accurate linear placement. Prior to being applied, each labels 2d barcode was inspected.

At the end of the line, a six axis robot was used to unload devices into a collator system that's was then used to transfer the devices for final loading into trays.

Features & Benefits

- Removing inaccuracies from standard label machine
- Serialisation of device throughout the process
- Full inspection of devices
- Ability to change label reels without stopping the machine
- Full traceability of each device
- Dynamic re positioning of devices and labels
- Minimum downtime during label reel replacement



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

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