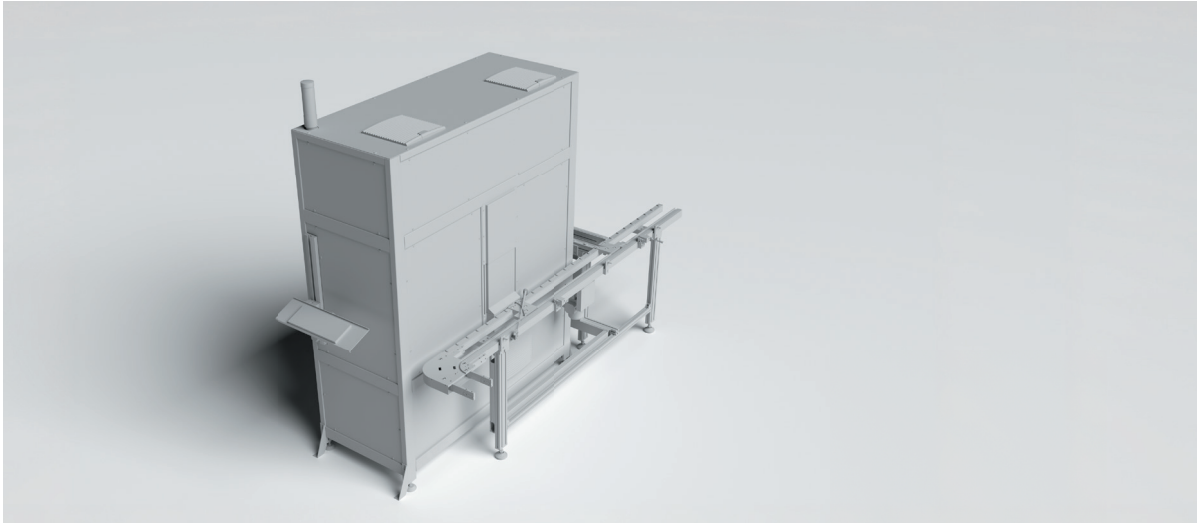


Laser marking



Task

The task is to transport products on workpiece carriers along a rotary system, which includes a station for product labeling. The system cycle time is 30 seconds, and the aim is for the operator to be able to easily create new labels. The system should then automatically implement a product change, with the products being recognized by RFID tags on the workpiece carriers.

Solution

An autonomous cell that can be integrated into the production line is planned. The RFID chips on the workpiece carriers are read in this rotary system and, if necessary, the workpiece carrier is removed from the rotary system. There are three lasers inside the system that are mounted on linear axes to process all three sides simultaneously. The lasers are positioned and the products laser marked as per the prescribed formula. The RFID chip is rewritten once the laser marking process is complete so that it can move on to the next station.

Result

The laser cell consists of three stations. The first station reads the RFID chip and prepares the label for the laser. The actual laser marking takes place at the second station. As soon as this laser process is complete, the workpiece carrier moves to the third station where the RFID chip is rewritten. Once laser marking is finished, the locks are opened and the workpiece carrier is fed back into the rotary system. A new workpiece carrier feeds simultaneously from the buffer into the laser cell. The cycle time varies between 20 and 25 seconds depending on the label. The system is operated by a 22-inch touchscreen and is completely enclosed to prevent laser radiation from escaping. Two webcams in the system allow the laser processing to be monitored via the touchscreen.

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