

## Project example chocolate-coated puffed rice



"Sun Rice" chocolate-coated puffed rice articles are a popular product on confectionery shelves in Germany's shops and supermarkets. To safeguard the enduring success of the product, Rubezahl Schokoladen GmbH has invested in a high-performance packaging line. The remit for IPS: To ensure packaging at high speeds with an error tolerance of practically zero.

Chocolate-coated puffed rice bites and bars have to be flow wrapped in flowpacks. An additional variation for the bite-sized treats is positioning in trays. To ensure flexible adjustment to varying demand, a quick format changeover has to be possible.

The central core of the System is a Schubert picker line comprising five TLM sub-machines, which transport the products at speeds of up to 58 metres per minute. Insertion of products at these speeds requires robots with a wide operating range. This is one of the outstanding features of leading-edge Schubert robot technology.

An image processing system detects the position and orientation of the products. Seven TLM F44 robot units (14 arms) gradually pick up the products and place them in accordance with the program in the infeed chain

of the Fuji flow wrapper or into plastic trays. The trays are fed by two dual-axis robots into the last TLM sub-machine in the line.

The finish packaged bites and bars are forwarded to a transfer conveyor for the subsequent packaging processes. Upstream from the final flow packaging line, a Heliflex storage system from DMA acts as a buffer for the filled trays.

The highly flexible packaging system permits one product to be packaged simultaneously using two different methods. Depending on the production plan, the machine operator chooses one of the flow wrapping programs or the tray program at the control terminal, as well as changing the tools at the robot arms where necessary.

The performance data per minute: 1,600 puffed rice bites are packaged by the line in trays and 1,200 are flow wrapped. The bars are flow wrapped at a rate of 550 per minute. This type of performance coupled with the outstanding flexibility offered by this line are certainly unique anywhere in the world, and are exclusive to IPS/Schubert.

1.



The "bites" are picked off from the conveyor using the "single pick" technique. Information on the position and orientation of the individual products has previously been transmitted to the robot arms by the scanner.

2.

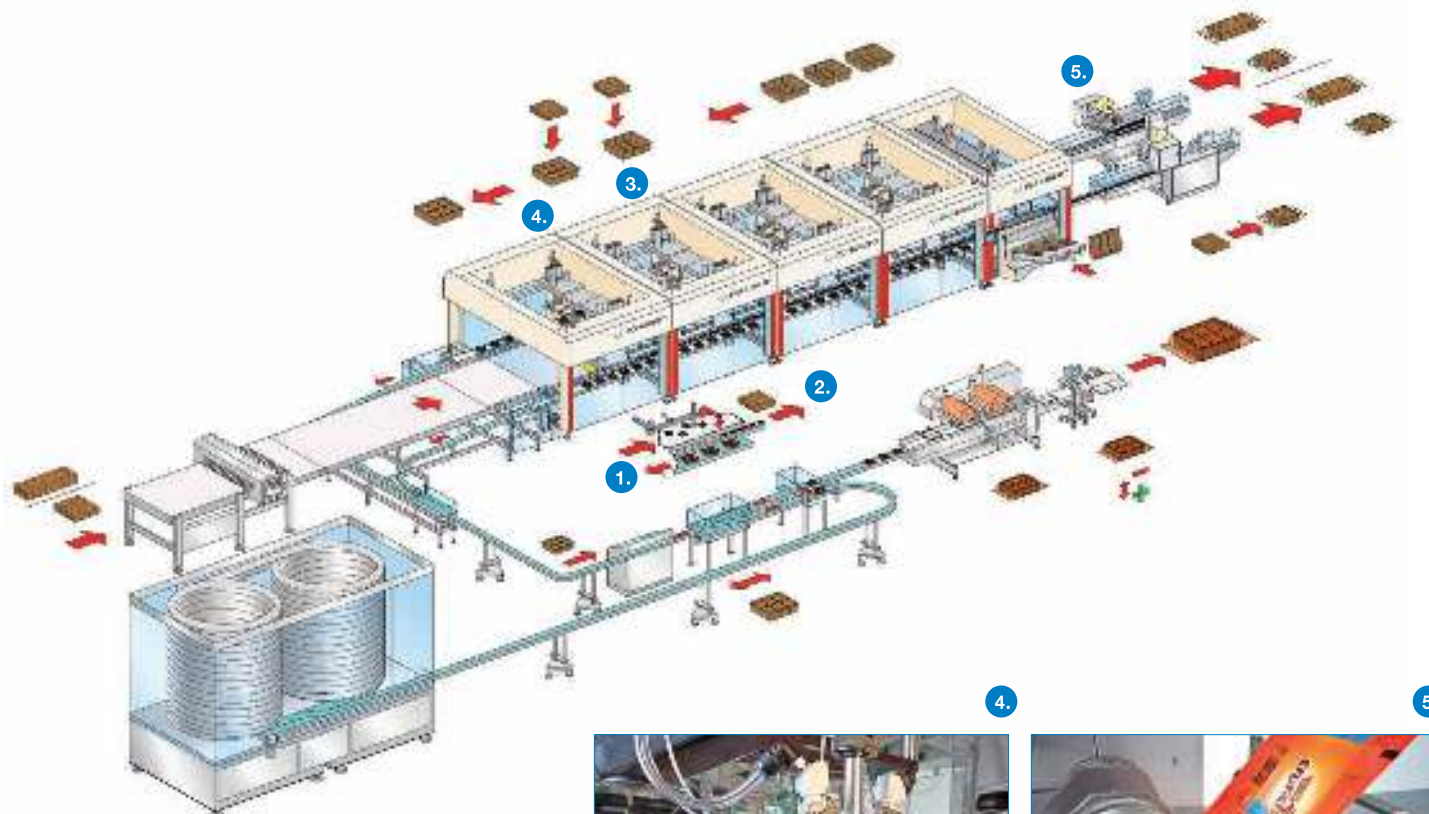


The "bars" are only picked if the surface of the relevant products and the length and width are within the defined tolerance range.

3.



Using the TLM F44 "double pick" technique increases the possible picker output per arm...



...and simplifies insertion of the product pairs where the internal tray dimensions are tight. The infeed chain of the Fuji flow wrapping machine is located between the product and tray conveyor.



The products are inserted in the continuous transport chain at speeds of up to 60 m/min, from where they run directly into the flow wrapping machine (type FW-3400).