

ROBOTICS

The fast lane



When BDMO automated the final stage of its production process for Vivabox packaging, the production speed went up 20–35 percent.

The package is an important part of a product; after all, it's usually the first thing that prospective buyers see. Vivabox gift packages are distinctive, and in Belgium consumers know that they contain quality products. The packages have become so successful – they number about half a million per year – that they have become a brand in their own right.

Vivabox is one of packaging producer BDMO's largest product lines at its factory in Meulebeke, a town in the Flanders, Belgium. The manufacturing process of the actual box and its lid involves several stages, all of which are automated on various product lines. For example, the carton has to be cut, scored, folded and taped. After that, the relevant printed cover is applied. Until recently, the last part of the process was not automated. It involved inserting a thermoplastic tray, and different trays are used to hold different gifts. For example, one may be used to hold four miniature bottles of malt whisky, while another might hold coffee sachets, two cups and saucers.

These thermoplastic trays were inserted by hand because they are relatively thin – they flex, and the fit has to be tight. Up to that point of the process, automation produces 1,000 boxes every hour. That meant that up to seven people were needed to keep up with the flow of boxes, one every three seconds. Could the insertion of the tray also be automated? That was the question BDMO put to Viscon, a local systems integrator after Daniel Callewaert, BDMO's Maintenance Manager, saw a roadside video wall that promoted their robotics and transport automation expertise.

BDMO requested offers from Viscon and a competitor. Viscon's winning offer proposed a 'pick-and-place' system that could handle 1,200 trays an hour. The tight fit problem was resolved by using the 6-axis functionality of ABB's IRB 120 robot; it inserts the tray at an angle before pushing it firmly down to the base and onto spots of glue. The resulting solution now runs 16 hours a day in



two shifts, and the personnel head count has gone down from seven to three. Needless to say, the cost savings have been significant. The solution was fine-tuned after the initial trial, and this boosted the placement rate to 1,400 trays, thereby adding additional reserve capacity. Pieter Debucquoy, BD-MO's Maintenance Coordinator, says, "The earlier production speed of 1,000 Vivaboxes was determined by the manual insertion process. The robotic solution gave us an immediate 20 percent boost, and after the finetuning we have the possibility to add an additional 15 percent." Ironically, the preceding part of the process has become the new bottleneck.

Looking ahead, BDMO will use robots to automate other production processes; for example, inserting one finished box inside another in order to reduce shipping costs.

Benefits

- Runs 16 hours per day
- Less than half the workers
- needed (three people instead of seven)
- 35% increase in productivity potential

BDMO (Bruggeman & Desouter)

- BDMO produces more than 10 million packages a year.
- The company's main production plant is in Meulebeke, Belgium, with sales offices in the US and Europe. Since acquiring Montreuil Offset, BDMO has an additional production facility in France that focuses on multimedia packaging.
- BDMO has 55 full-time staff at its Meulebeke facility. The company employs part-time workers during peak periods.
- The company manufactures a wide range of high-quality packages as well as creative packing solutions.
- For more information, visit www.bdmob.com and www.vivabox.be.