

Little cakes with big individuality

When a Dutch bakery decided to improve the way it decorated its popular petit fours, it had no idea that robots would increase capacity by as much as 1,000 percent.

> What could be more tempting than a piece of cake, delicately iced, with an elegant monogram in chocolate? Dutch baker De Bakker – the name translates literally to “The Baker” – is known for its specialty: high-quality petit fours comprising layers of cake, jam, butter cream and marzipan.

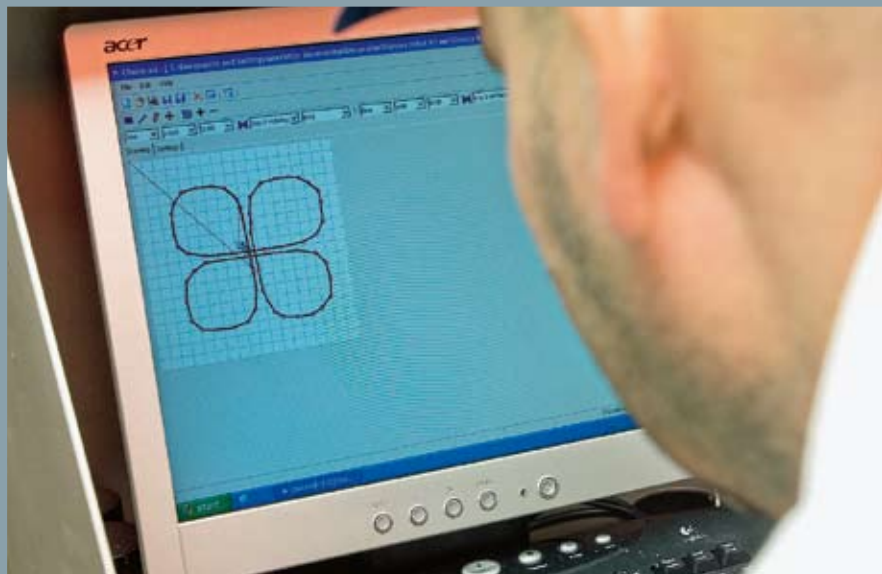
Production of such treats is no simple process, however. For instance, intermediate freezing is required: As layers are added the products need to be taken offline and placed in a freezer. In addition, the final product is also frozen. The results are relatively expensive, up-market cakes that are sold in select shops and consumed in restaurants and hotels.

Many of these retail outlets want their petit fours to have a distinctive decorative icing, often with their

logo. Until recently this personalization process was done manually, a time-consuming process that adds to the cost. It also limited the number of petit fours that De Bakker could produce each day to around 6,000 products using a staff of two.

The company needed a new solution that could help it increase its production of the popular cakes.

The answer was to turn to automation specialist Hacos, which proposed using robots and specialized software to perform the job. The result? A staggering production increase: 30,000 cakes can be produced daily using a single person. This represents a theoretical 1,000 percent increase in productivity: It's theoretical because it will take time for the company to ramp up its sales tenfold. The company expects to >



Each robot creates 16 designs simultaneously on the pastel-colored cakes as the second robot adds part of the design in a different color. There are 21 rows on each pallet.



achieve the demand needed to justify such numbers by marketing its products in Belgium, Germany and the United Kingdom. Still, Martin van Dijk, the owner of De Bakker, estimates that he will realize a return on investment within two years.

Van Dijk has ambitious expansion plans. “Right now the topping process is offline, but we are going to make it part of an integrated and automated production line and for that we need more space,” he says. “We’ve already leased additional space in the same building, and we shall be expanding in 2008.”

The cakes are made using a semi-automated process. Then they are frozen, sliced into three 1-centimeter layers and placed on the cutting machine to be cut to the required size. Cream, jam and butter cream are added, followed by a new layer of cake, more butter cream and marzipan, and then the pallets go into the freezer.

At this point, the fully automated part of the process starts. The rectangular product is cut into individual square units, which are separated, enrobed,

cooled and finally decorated. The cycle time is eight to 10 minutes.

The robots are used to add distinctive designs to the top of the cakes in one or two colors. Right now De Bakker has around 20 designs. Designs are changed two to three times a day. The graphics pad and Windows software developed by Hacos – dubbed Chococad – enables new designs to be created in a matter of minutes. The system will even replicate a signature.

As well as making a quantitative improvement in the production process, the use of ABB’s 6-axis robots also ensures a consistent, high quality.

Jan Selderslaghs, production manager for Hacos NV, says: “The choice to use an ABB robot solution was mainly driven by the fact that ABB is a world player in this field. This was especially important to ensure adequate and worldwide support. Moreover, ABB was able to deliver a compact and well-priced robot to fit in the Hacos unit design-depositing systems.” ☉

>FACTS

Taste tempter

- De Bakker is located in ‘S Hertogenbosch, at the southern end of the Netherlands
- It has five full-time and five part-time staff
- It was started 15 years ago as a regular bread bakery with three shops
- In 2005 the company changed direction to focus on the production of petit fours, initially undecorated (no logotype topping) for wholesalers
- It enjoyed considerable success. The demand for customized toppings with different colors came from the market, and this led to contact with Hacos at an exhibition
- www.petitfour.nl (In Dutch only)



Chocolate specialist

- Hacos, which was founded in 1954, is located in Malle, close to Antwerp, in the Netherlands. The focus market is the chocolate industry
- It has around 75 employees
- The company makes production machines and production lines for this industry
- Two years ago the company foresaw the need for a new automated decoration system that would reduce labor costs and enable distinctive personalization
- Hacos developed a prototype system for De Bakker for evaluation in late 2006. A fully integrated production system was put in place in early 2008
- www.hacos.com

Smart icing

Since automating the icing of its petit fours, De Bakker has achieved:

- A dramatic increase in productivity, from 6,000 cakes to a possible 30,000 cakes per day
- Maximum flexibility, as the design of the icing can be changed and new designs created in a matter of minutes
- A reduction in skilled employees needed for decoration. The new process requires only a single employee, versus two highly skilled employees in manual production
- A consistent high quality not possible with manual production

