



# Manufacturing

## *Food and Beverage*

### *Gingerbread Icing Robot Cell*

**Client** Perryman's Bakery

**Location** North Adelaide, Australia

**Value** \$150,000

**Duration** June 2009

#### *Project Overview*

A niche robotic arm solution by SAGE Automation to dot the eyes, nose and bellybutton on gingerbread babies, has put the icing on the cake for Perryman's in South Australia

This simple, formerly manual task demonstrates that robots are now affordable and applicable in the SME domain. The most mundane, time-consuming tasks in the smallest of businesses can be transformed into a quantifiable profit maker.

Perryman's is now enjoying double production capacity and tackling the export market head on.

#### *Capabilities Demonstrated*

- Mechanical and electrical design, build and commission
- Robotics
- Vision System
- Touch screen Human Machine Interface
- Complete turn-key project solution



### *Project Highlights*

- The automation system integration resulted in significant production efficiencies, around double that of the task being conducted manually. The robot is currently icing 18,000 biscuits per day.
- This system is capable of being integrated into a more complex production line in the future and is flexible in design to be applied to other products. Importantly, it also meets all hygiene and safety requirements within the food production industry.

### *Project Challenges*

- A challenge in designing the solution was the biscuit's random placement on the bakers tray. The vision system utilised enabled the machine to identify the exact position of the biscuits, creating an accurate repositioning of the dispensing nozzle for each application.
- The abrasive nature of the icing resulted in faster wearing of the icing gun. This was overcome by replacing the off-the-shelf gun with a custom part, able to tolerate the abrasive icing and reduce the frequency of parts replacement.

***"The robot is quite remarkable, it eliminates the fatigue factor and has doubled our output"***

*Perryman's owner – Neil Perryman*

### *Project Outcomes*

- SAGE Automation conducted the mechanical design, build and commissioning, electrical design, build and commissioning and provided a complete turn-key project for Perryman's.
- The unique solution integrated a number of systems, including: Robot – ABBIRB140, Controller, Human Machine Interface, Vision – Cognex Insight 5401, Hygienic icing system and custom built dispersing nozzle.
- The project was named in the 2010 Top 20 SA Innovation Awards. The Judges verdict stated "Evens the playing field, delivering a solution which only large-scale manufacturers enjoyed to a small boutique bakery. Remarkable was the speed of development of just 12 weeks, certain to add considerable bottom line benefits to the customer".

SOUTH AUSTRALIA'S  
**TOP 20**  
INNOVATION  
AWARDS  
SINCE THE NEW MILLENNIUM