

**CASE STUDY**

## Plastics Industry

**Company: Tampoprint**

**Application: Handle vests for the toy citizens in the Playmobil family**

### Dressed with success

RNA were contacted with a request to handle vests for the toy citizens in the Playmobil family, it was both a fun and challenging task to take on. The request came from the company Tampoprint who have a long and successful cooperation with Playmobil. Tampoprint supply machines for printing and have many printing machines in production in the Playmobil factories world wide. Tampoprint have proven to be an innovative partner to Playmobil over the years, presenting many new ideas and concepts that has developed the production process.

### Challenge

The reason why this particular application has been difficult to automate is down to the large number of component variants. As in real life the toy people in the Playmobil family have a diversified taste and different outfits depending on if they should play their lives as firemen, pirates or school teachers. The request from Tampoprint was to feed approximately 15 different types of small plastic vests of every type available with 10 different colours, into a Tampoprint machine. Thus, the opportunity to optimize the use of vision guided robots to handle the vests becomes very attractive.

### Solution

To handle the small vests the design utilised a feeding system and a robot combined with a specially developed vision system for robot guidance.

The vision system gives eyes to the robot that can “see” and pick almost any product. A buffer is simply filled with components and then separated and fed onto a camera conveyor using vibratory linear feeders. The camera then identifies the position of the component including rotation and picks directly from the conveyor with accurate high precision.

Components that are lying in a difficult pick position or on top of each other will be recycled back to



the buffer zone. The system is a very compact standard in design and construction well proven solution developed for this type of task. For larger components or applications with faster cycle time RNA can offer alternative standard machines, each of which is developed to match almost any specification. In the Playmobil application the vision

### Key features & benefits

- Short lead times, short payback periods, and future proof
- Compact standard design. Very easy to install and has a short commissioning time
- Switching between products and batch runs is software controlled and very fast, with no mechanical adjustments
- Low noise level and is equipped with an RNA stepper feeder, to provide a stand-alone system with integral bulk storage

guided robotic system handles 1200 vests per minute to the printing machine.

Another clear advantage of the system is the simplicity to teach in new components. RNA delivered the system with 5 components fully programmed and tested; remaining components in the range were programmed in house by the customer in 15 minutes!

The flexibility of the RNA system offers new opportunities to automate the feeding of components into Tampoprint machines.