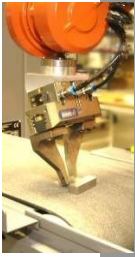


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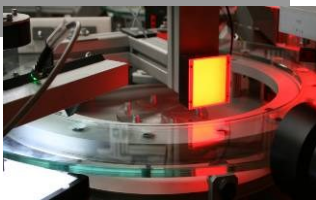
ADVANCED AUTOMATION

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Pick to Pack Automated System

A world's leading safety barrier manufacturer approached RNA to help them with automating the picking process of their accessory packs. RNA designed and developed a feeding and packaging system that could automatically count and pack various plastic products, stepping up from manual packing to meet the rapidly rising market demand.

The system was required to automatically sort and count a range of 14 plastic components and feed/place them into a bagging and labeling machine. Once the pack is complete it is then conveyed and dropped into a pallet box.

RNA drew upon its extensive experience to provide the customer with the best engineered and most cost effective solution.

The challenge

In designing the system a number of challenges were highlighted:

- ⇒ 14 variants of components
- ⇒ 16 pack types containing different components
- ⇒ Future-proof; The system needed to be extendable at a later date to add further products.
- ⇒ Each feed system to be capable of being removed from the main conveyor via pluggable, quick release connections

Solution

The variants of components and the loading speed require 13 bowl feeders & 2 hopper feeders, a central conveyor system and an automatic bagging machine. The components are loaded by operators into bulk hoppers, then discharged from the feeders and are placed into pockets on the central transfer conveyor. The components at this point are positioned ready for the entry into the bagging machine. The central transfer conveyor is designed to be adjustable to suit all component variants.

When starting up the system, the operator selects from the HMI the pack type required and the number of packs to be made. The feeding systems then count and position the components ready for transfer to the conveyor system. The feeders are positioned so the best loading sequence for the bagger can be adopted. The bagging machine automatically sizes the bag to suit the menu of components and once filled then seals and applies the appropriate label to suit.

Siemens Simatic PLC and human machine interface (HMI) are integrated to fully control the whole system. This enables the customer to pick a specific recipe and quantity of accessory packs, via



Key features & benefits

- Fast programming and intuitive operability through Siemens Simatic
- Designed to be extendable at a later date when more accessory packs are required; Future-proof
- Provides the flexibility to assemble 16 different pack types
- Provides cost-saving benefits such as labour cost savings, elimination of costs in injury claims, elimination of costs in lost production time
- Provides additional incremental benefits such as reduced downtime, improved quality control.

All of these benefits deliver a short pay back period and impressive return on investment

the HMI, and rely on them getting the correct number of components in each bag.

With a custom graphical interface teach system, reprogramming a new component takes just a few minutes, providing the system with future proof automation.

The system is automation-friendly, providing a complete automation solution allowing both high throughput and flexibility.

Faster than even the most experienced hand-packer, the system removes the human counting error from the packaging process and improves quality control and consistency.

How to order your RNA spare parts

- ▶ RNA online enquiry form
- ▶ Contact RNA spare parts sales department - **David Chumber** on +44 (0)1217 492566 ext.116
- ▶ (For US customers) Contact RNA North America agent:

Palace Packaging Machines
 Contact info: 610-873-7252
palace@unscramblers.com

How More Robots Actually Equal **More Jobs**

Robotic technology is no longer a futuristic pipe dream seen only in sci-fi movies. Robots are literally everywhere in our modern day world, some unseen and some obvious including everything from robotic hovers to automated machinery, but what does that mean for the average worker?

The previous century has seen massive growth in manufacturing during the industrial revolution where hundreds of thousands of men and women have enjoyed employment in busy factories. But as the production lines become ever more automated, it begs the question; what will happen to all these jobs?

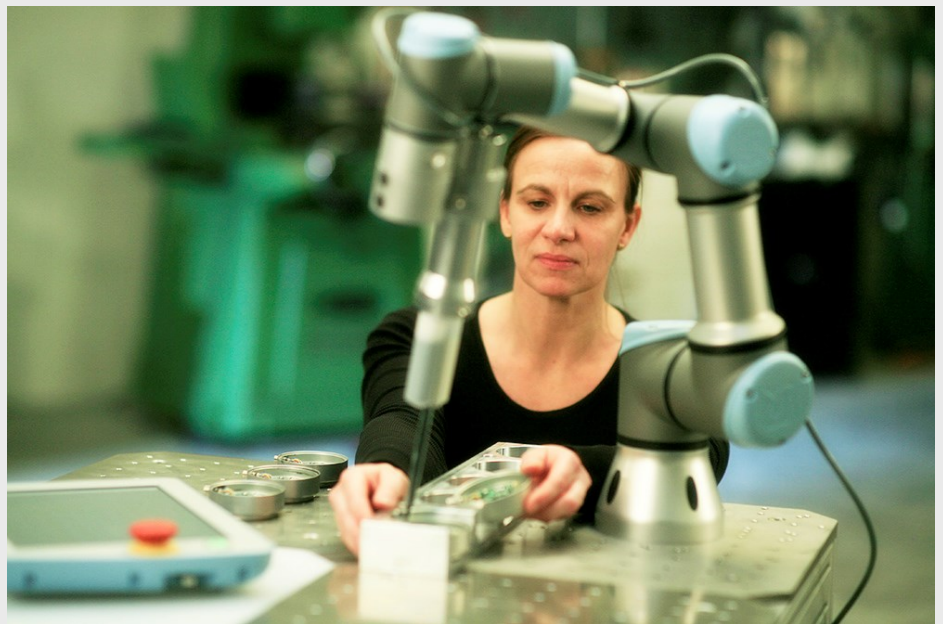
The investment into robotics is designed to make a company or organization more efficient and productive. More importantly, it can improve safety for employees who are working in potentially hazardous materials or environments, making the investment seemingly a win-win situation for both employer and employee. Yet many workers now fear for their jobs as hundreds of factories right across the globe switch from manual labour to automated processes.

It is true that some jobs will no longer be necessary as robots replace manual repetitive tasks that were time consuming and laborious. However to say that humans workers are to be fully replaced by robots is

simply not the case, and in fact research suggests that if anything the use of robotic technology will actually create more jobs in the workplace as employees work alongside their robotic counterparts.

Although the robot itself may indeed replace individuals on the production line, each machine or system will require a trained operator who can ensure its smooth running and maintenance. The increased volume of robotic technology across the industrial scene will no doubt require equally as many, if not more, skilled workers who not only understand the production line process well but also have knowledge and insight into the intricate working of the new robotic engineering that now control the factory floor.

The opportunity for manual workers to improve their education and business prospects on the job can only ever be a positive and much needed boost to our unstable economy. Robotic engineers and computer programmers are now a sought after commodity in the business world, therefore the introduction of robotics has the potential to create a highly skilled workforce that can contribute to the stabilisation of our country in the global business world. With this in mind perhaps we shouldn't be too quick to jump to conclusions about the future of factory workers and as a result we may find ourselves embracing the robotic invasion and instead of fearing it as first thought.



Improve Productivity with **Poka-Yoke**

“Quality comes not from inspection but from improvement of the process.”

– *Edwards Deming*

RNA designed and built a bespoke workstation, applying Poka-Yoke (also called mistake proofing) requirements to prevent the human errors that result in product defects.

The workstation was dedicated to apply the correct label to correct product (two types). The task required a high concentration from the worker, and was the cause of many errors, since two types of products are too similar to each other, both in size and in colour.

The Poka-Yoke designed in the workstation

consisted of a Poka-Yoke clamp and a Poke Yoke vision sensor. If the product does not match the build requirements the clamps will remain locked and the HMI will request a supervisor to attend.

The Poka-Yoke designed workstation helps workers to be 'right first time', enhancing the quality and overall output of the process.



RNA design and build customised workstations to suit the individual needs of our customers.



Forward

If you have friends or colleagues you think would like to receive a copy of e-News,

subscribe their name and email address to us via rna@rnaautomation.com