GKS Packaging ‘rewrites’ the rule books and steps ahead of the competition with help from Rockwell Automation

Innovative machine builder creates new cleanliness standards for food-industry machines, with Rockwell Automation at the controls

Solutions
A Rockwell Automation solution was installed, which included:
- Allen-Bradley CompactLogix PAC
- Allen-Bradley PowerFlex Drives
- Allen-Bradley PanelView Plus HMI
- Allen-Bradley MPS Series stainless steel servo motors
- Allen-Bradley Kinetix servo drives
- In-depth support from a Global OEM Technical Consultant (GOTC) and an Embedded Engineer

Results
- GKS Packaging is now “ahead of the competition” according to leading competitor
- Embedded engineer helped create PackML compliant PLC programme meaning little or no additional programming is needed for applications at large, blue-chip customers
- Stainless Steel components suited to wash down environment
- Rockwell Automation equipment already in deployed in many multinational companies

Background
GKS Packaging is an innovative machine builder, with its engineering, production, assembly and service taking place in its factory in Son, the Netherlands. Its approach to innovation was reinforced at 2011’s Interpack Show, with the unveiling of a new machine concept which, according to Ivo Geukes, owner of GKS Packaging “has rewritten the rule books for VFFS machines”.

The company, which specialises in “no nonsense” flexible packaging solutions for all businesses, from small companies to large industrial packers, was formed in 1999 by a father-and-son team in a garage. In its early days it examined the market for packaging machines to discover what was really required and which trends had an effect on this market. GKS then generated a basic requirements list for a new-generation of vertical form, fill and seal (VFFS) machines and started developing its first prototype... what would soon become the GKS Easypack.

After a long testing period and feedback from the market, it introduced the GKS Easypack EP200 at Macropak 2000. From that moment on, GKS saw an enormous growth in demand for its packaging concept. Today its product range comprises five standard packaging machines.
The company is represented worldwide through various partners and is present in a number of food and non-food markets. Some examples of products being packed on its machines include: organic vegetables, fresh-cut vegetables, “ready to cook” potato products, fresh and frozen meat products, pet foods, candy, candle lights and various hardware.

**Challenge**

“The new machine’s design started from a blank sheet of paper, with no restrictions on the design,” Geukes explains. “We needed it to be leading-edge so we knew we had to get the right suppliers on board. It was our quest for stainless steel components that lead us to Rockwell Automation, with its Allen-Bradley MPS Series servo motors. We also looked at what our major customers were using in terms of automation suppliers and once again this lead us back to Rockwell Automation.

“We put together a list of hardware and software needs for the new design,” Geukes elaborates, “and then fed these needs to the automation market. We then looked at hardware profiles and weighed them up against their price... and, once again, Rockwell Automation offered us the best match. Apex Dynamics, a Rockwell Automation Encompass Partner, was also able to supply us with stainless steel planetary reduction gear boxes – another vital element of our design.”

In addition the mechanical requirements, GKS Packaging also needed a good local software engineer, which Rockwell Automation had in its in-country CSM team. Indeed the company has engineers located in each country to support customers in projects such as this one – with machine development, support and emergency call out.

In the future, Geukes tells us that he will simply order ‘one box’ from Rockwell Automation... and it will contain all the automation components he needs for his new machine.

**Solution**

The new machine offers users an IP67/69K hygienic design: there are no trap points, no flat horizontal surfaces and the entire machine frame, parts and panels are made from stainless steel – but with some clever design tweaks to keep the overall weight down. What is more, all of the modules that normally festoon the outside of traditional VFFS machines are enclosed, including the electrical cabinet and film rollers. Complete internal and external wash down is also possible.

At the heart of this new machine concept is an Allen-Bradley CompactLogix Programmable Automation Controller (PAC), running programmes that use PackML standards and signals. The user interface is via an Allen-Bradley PanelView Plus HMI, which, Geukes tells us, has an interface modelled on the simplicity of the iPad.
The machine’s motion solution comprises four Allen-Bradley MPS Series stainless steel servo motors, one for the seal jaw mechanism, two for the film-transport belts and one for moving the entire printer assembly to its correct print position. Three Allen-Bradley Kinetix servo drives control the motors. Completing the primary components is an Allen-Bradley PowerFlex drive, connected by Ethernet to the PAC, which controls the drum drive used for the film roll.

Results

“We are a very pragmatic organisation,” explains Geukes. “Even though we are small and dynamic, the engineers from Rockwell Automation – a much larger company – adapted to our style very quickly. The support from Rockwell Automation in The Netherlands has been very good and we were given lots of help with component matching; we gave them the figures and calculations and they were able to match our needs. 3D models and drawings were also available, making the design element of the motion solution much easier.”

GKS Packaging also exploited the skills of an embedded engineer from Rockwell Automation. Armed with packaging industry experience, the embedded engineer helped GKS Packaging to create a PLC programme structure based on PackML standards. “Our focus is on the big companies, so the use of PackML standards is essential,” Geukes explains. “With a PackML program on board, we will be able to sell into the larger companies with little or no additional work on the PLC programmes.”

The embedded engineer spent a few weeks undertaking the programming and, during the process of building, GKS Packaging was able to start testing some of the soft modules. “The most important thing,” Geukes elaborates, “is that the engineer was very flexible. We had to work non-stop for Interpack and he fitted into our schedule – there was no 9 to 5 in the run up to the show.

“We have taken the time to make sure the machine is delivering 100%,” Geukes explains. “You can only make a first impression once, so we had to make sure the machine was exactly what we wanted. I didn’t want to build five ‘first machines’ and now our first customer will have it on trial for a couple of months.”

Probably the most positive feedback that GKS Packaging has received – due to all of its hard work and methodical approach – is that, at Interpack 2011, one of its biggest competitors admitted that GKS Packaging now has a measurable lead in the design stakes when it comes to VFFS machines.

GKS Packaging also used the services of a Rockwell Automation Global OEM Technical Consultant (GOTC) who was responsible for the mechanical aspects of the architecture and for tuning the servo motors. “Once a week he visited and spent anything from 30 minutes to several hours with us,” Geukes explains. “His job was to make sure that the machine worked at the hardware level. He took the time to teach our people how to set up the hardware and incorporate it into the design. He also made sure that we knew – in house – all the information we needed.

“Through Rockwell Automation we have also had the opportunity to get in touch with senior people at our potential customers,” Geukes concludes. “At a CPG Symposium in Bologna, organised by Rockwell Automation, there were a lot of big names... and we got involved. Networking through Rockwell Automation puts us in front of the most important people in the market and helps us to expand our market.”

Additional Information

www.rockwellautomation.com

The results mentioned above are specific to GKS Packaging’s use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers.