Optimising packaging machines for ease of integration and advanced functionality

Today’s packaged goods manufacturers face challenges to reduce costs per package unit, on lines that need to be flexible and ready for the introduction of the latest packaging innovations. At the same time, production lines need to be more tightly integrated, with improved monitoring at a local IT level for both production and performance data.

The latest automation technologies deliver this high level of integration and enable monitoring of key performance indicators, allowing end users to address the challenges of modern production. At the same time they demonstrate how much easier it is for machine builders to develop new machines, or upgrade existing ones that realise all of this advanced functionality.

Ease of integration saves time and makes money

Mitsubishi Electric is demonstrating these technologies with the aid of a Proseal GT0 automatic in-line tray sealing system on its stand at the PPMA Show 2017 - with solutions that promote advanced functionality, simple integration and ease of programming. This delivers tangible benefits for machine builders and end users alike: machine builders stand to gain a competitive edge, while end users can increase productivity and flexibility.

Mitsubishi Electric will show how it helps machine builders to address the challenge of building this new breed of packaging machines with a full portfolio of integrated automation equipment, including GOT series HMIs for operator interaction, variable speed drives and servos for the demanding motion control requirements, control gear and iQ-platform PLCs for overall machine control. Adoption of a single, coherent automation platform ensures higher machine OEE (with faster throughput, faster product changeovers and less scrap), along with reduced total cost of ownership.
Making the most of machine functionality

The Proseal GT0 tray sealing machine was designed to cut costs and increase line speeds by processing over 45 packs per minute and does so using highly integrated ‘smart’ automation systems from Mitsubishi Electric. The machine meets requirements for rapid-tool, simple operation and ease of integration with other production line equipment. The high accuracy tool alignment system ensures consistently precise sealing and/or film cutting, while a servo-driven ‘setting-free’ automatic tray collation in-feed delivers increased performance. A pendant mounted colour touchscreen GOT Series HMI provides control for full double-sided operation, with menu-driven control offering step-by-step prompts, error and status displays and a useful batch counter function, as well as providing recipe-driven auto machine set-up for tool change.

The Proseal machine is typical of a new breed of packaging machinery that can make better use of automation technologies to address the need for open, efficient and flexible packaging automation, highlighting the increasing digitalisation of manufacturing with a defined path towards Industry 4.0.

The building blocks of machine enablement

While integration of automation technologies is simplified, a further challenge for machine builders lies in the programming of the advanced functionality that modern packaging machines require. For this market sector, Mitsubishi Electric has addressed this with a full library of software function blocks for functions such as form, fill and seal. Thus the burden of programming is removed from the machine builders, who instead need only to set parameters within the software blocks to implement key functions, significantly reducing machine development time.

Integration of machines into the wider production environment is a further key challenge, requiring machine builders to address connectivity beyond the machine. On the one hand, this means enabling data transfer from control level up to SCADA systems, as well as to higher level MES and IT systems. On the other and increasingly importantly, it means integrating machines into a multi-vendor environment.

Best use of the PackML standard

Mitsubishi Electric’s commitment to the PackML standard simplifies the entire journey and eliminates many of the costly extras of implementation. It makes it simple for machine builders to implement solutions that enable their end users to collect data within an open environment, and monitor KPIs locally on any display screen on the line. These include pre-defined HMI templates and ready-made function blocks to speed configuration.

Data can be easily transferred to SCADA systems – such as the Mitsubishi Electric Adroit Process Suite (MAPS) – and beyond to higher level MES and IT systems. This provides improved transparency and visibility of the production environment, enabling end users to increase productivity, quality and availability and drive down costs. Mitsubishi Electric will be demonstrating their PackML solution and SCADA integration at the show.

Aiming at a profitable future

We can see, then, that today’s automation technologies, typified by Mitsubishi Electric’s portfolio, enable machine builders to reduce development time,
drive up reusability, reduce debugging time and simplify training but they also enable machine builders to increase their competitive advantage by addressing the challenges facing their packaging customers. This includes simplification of the configuration and operation of systems, maximised uptime, increased production flexibility and ongoing cost savings, with increased visibility of productivity and availability data.

**About Mitsubishi Electric**

With over 95 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, water and waste water, transportation and building equipment.

With around 135,000 employees the company recorded consolidated group sales of 37.8 billion US Dollar* in the fiscal year ended March 31, 2017.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

Mitsubishi Electric Europe, Industrial Automation – UK Branch is located in Hatfield, United Kingdom. It is a part of the European Factory Automation Business Group based in Ratingen, Germany which in turn is part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of Industrial Automation – UK Branch is to manage sales, service and support across its network of local branches and distributors throughout the United Kingdom.

**Further Information:**

Website: [gb3a.mitsubishielectric.com](http://gb3a.mitsubishielectric.com/)
Website: [www.mitsubishielectric.com](http://www.mitsubishielectric.com/)
Email: automation@meuk.mee.com
Facebook: [www.facebook.com/MEUKAutomation](http://www.facebook.com/MEUKAutomation)
Twitter: [twitter.com/MEUKAutomation](http://twitter.com/MEUKAutomation)
YouTube: [youtube.com/user/MitsubishiFAEU](http://youtube.com/user/MitsubishiFAEU)