Umbra Packaging s.r.l., located in Petrignano di Assisi, Umbria, Italy, specialises in the design, development and construction of packaging line plants for loose granular and powder products into bags of all types and materials in any size, including “Big Bag” size filling.

In addition to filling lines, it also supplies weighing, shrink wrapping and palletising machines, indeed it can deliver complete turnkey system, to satisfy varied customer needs. Applications for its machine include the packaging of cat litter, cereal, seeds, pet food, fertilisers, flour, milk powder, cement and powdered yeast for the food & beverage, agricultural, brewing, mining, construction, chemical, pharmaceutical and homewares markets.

The company constantly invests in its R&D department in order to customise and develop new technology based round real customer needs so it can deliver the most innovative solutions time after time and plant after plant.
In order to best serve its customers and deliver the maximum flexibility, the company recently migrated from a mixture of automation providers over to a fully integrated control and automation solution from Rockwell Automation.

One machine that has benefitted from this new automation solution is the company’s UP1000 Pro a granule packaging machine typically used for the packaging of granulated products such as pet food and cat litter. Key features of the UP1000 Pro include a gravitational electronic weighing system, a multi-positioning bag compartment and a bag filling system which does not deform the gussets.

The machine has been designed to be easy to inspect and clean, with strategically sited access doors giving easy access to all internal elements that are in contact with the product being filled.

Machine control is delivered either by an Allen-Bradley® ControlLogix® programmable automation controller (PAC) or an Allen-Bradley CompactLogix™ PAC, depending on the size of machine, with access to packaging ‘recipes’ being delivered by an Allen-Bradley PanelView™ HMI. All motion axes – including bag transfer, bag centralising, rotation, opening, filling, alignment and conveyance – are controlled by Allen-Bradley Kinetix® 5700 servo drives.

The company’s special filling system tackles many of the issues faced when handling granular or powdered products. Its innovative bag-closure system ensures a tight seal around the neck of the back to prevent cross contamination and the expulsion of dust or powder and the filling itself is undertaken using a vertical screw, which fills from the bottom up preventing unwanted aeration of the product.

The machine can work with all major bag materials and liners used in the market today, including paper, plastic and poly woven and can deploy all popular closure mechanisms including sewn, crepe paper, bending, pinch top, top slider, punched handle, external handle and welded zipper. All format, product, weight and material changeovers are handled in a matter of seconds, with no additional mechanical adjustment.

According to Michele Carloni, Commercial Director at Umbra Packaging s.r.l.: “We used to use a mixture of automation suppliers, but the Allen-Bradley solution from Rockwell Automation gives us real value in terms of its integration no only on a single machine, but across a full line – something we could not do so easily before.

“We are certainly seeing reduced programming efforts and wiring is more straightforward with a single supplier,” he adds. “Troubleshooting, testing and validation are also more straightforward, while our customers enjoy easier maintenance, reduced training times, enhanced machine & personnel safety and quicker installation and start up-times.

“The Rockwell Automation team in Italy supports us really well in the development of new technology,” he concludes. “The whole package of people and products is one step ahead of what we were using before.”

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