Success story

Off-the-shelf anti-sloshing solution speeds up yogurt packaging by 30%

Established in 1997, PACKINOV is a French company based in Béligneux near Lyon that specializes in the design and manufacture of packaging machinery for liquids, pastries, and solid products into rigid containers. The company produces both automated and semi-automated packaging machines that are suitable for use in the food processing, cosmetic, pharmaceutical and chemical industries.

PACKINOV sought to develop a new liquid filling machine with a much smaller footprint and greater cost-efficiency and decided to collaborate with Omron's local service department. Upon being assigned to work with PACKINOV engineers onsite to see where the machine's size and costs could be reduced, Omron Field Application Engineer Régis Couchoud began to look at the components and materials to identify possible gains. "Then it occurred to me that Omron's vibration suppression technology could reduce the machine's cost of ownership by making it more productive," says Couchoud.

PACKINOV not only got the expertise it expected, but also enjoyed a mini-revolution in machine performance in the form of a 30% increase in packaging speed.

Business need

French packaging company PACKINOV sought to reduce the cost and footprint of its new yogurt packaging machine.

Unique solution

Omron optimized the machine's anti-sloshing mechanism with vibration control technology designed around the Omron Sysmac integrated platform.

Customer benefits

The new machine sped up packaging by 30% and even won an award at the 2016 CFIA Show in Rennes, France.

The solution
Powerful anti-sloshing technology

The need

In the food and beverage packaging industry, avoiding spillage is critical. Finding ways to minimize sloshing in liquid-filling activities is highly desirable, since less sloshing makes it possible to move unsealed products more quickly without spilling the liquid inside. However, an anti-sloshing approach requires the deployment of vibration suppression, which in turn demands experience in software and control technology. Even when successful, the acceleration profile is usually good for just one recipe or liquid type.

PACKINOV wanted its solution to be much more versatile, so that its anti-sloshing mechanism would work well for a variety of recipes and liquid types. This would enable a single machine to package several different liquid products.

The technology

To optimize the anti-sloshing mechanism, Omron's engineer downloaded the free Function Block, input some of the liquid's parameters, and uploaded several recipes and liquid types. An Omron NA Series HMI enables end-user operators to easily change recipes with the touch of a few on-screen buttons.

The vibration control technology is designed around the Omron Sysmac integrated platform, which uses one connection, one software and one machine controller. This means that only one network is necessary for all machine functions including motion, safety, vision, robotics, and sensing. Even better, since all the components and subsystems are automatically recognized by the single software environment, no addressing is necessary, and all parameters can be easily shared to reduce development time to an absolute minimum.

The outcome

According to Jean-Philippe Varenne, PACKINOV's CEO, the company was pleasantly surprised by how effective the Omron solution was. "Although we didn't ask for it, Omron's Field Application Engineer pro-actively made our machine a lot faster and a lot more valuable – overnight," says Varenne.

The resulting yogurt packaging machine, RMD Nano, is fully optimized in terms of size and cost-efficiency according to the original request, and it even went on to win some awards. The machine's increased packaging speed, which was made possible by the Omron anti-sloshing technique, was one of the reasons why it won the "Most innovative packaging machine" category at the 2016 CFIA Show in Rennes, France.