

COMPLETE INDUSTRIAL AUTOMATION SOLUTION DELIVERS IMPROVED PACKAGING SPEEDS FOR VERTICAL FORM, FILL & SEAL MACHINES

Customer Profile

The customer is a well-known manufacturer of a wide range of high performance packaging machines. Operating from a state-of-the-art production facility in the north of India, the company is known for its manufacturing prowess, and has built up a significant pan-Indian installed base of machines. A wide range of packaging machines are currently in production, including weigh filler machines; vertical form, fill & seal machines; auger filler machines; and powder packing machines.

The Challenge

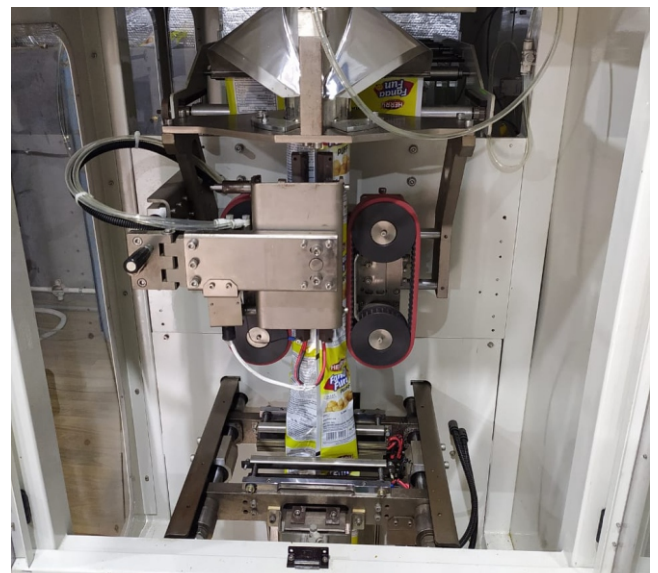
The customer's machines have a reputation for high efficiency and high speed, as well as ease-of-use and robust construction. To maintain this reputation for being ahead of the curve in their markets, they are always looking for ways to improve their machines' performance. As part of these ongoing efforts, the company's in-house engineering team was looking for ways to improve the output of its range of 3-axes vertical form, fill & seal machines. These machines are used to pack products in plastic bags made from polyethylene or polypropylene laminate film.

The specific goal was to achieve a speed of up to 100 bags-per-minute without material, and up to 80 bags-per-minute with material. This would require highly accurate paper pulling capabilities, close synchronization of all axes, and rapid switching of digital outputs through a 360° cycle; all set through an advanced HMI.

To achieve all this, a new automation solution was required.

The Solution

Global industrial automation company Inovance was called in to provide a complete solution package. Inovance was chosen because of the deep packaging machinery expertise of its automation engineering team. The solution included IS620P high performance servo drives and MS1H1 servo motors to control the pullers, sealers and unwinders; as well as MD310 compact vector AC drives to control the disk convertors and MD200 compact, general purpose AC drives to control the conveyor motors.

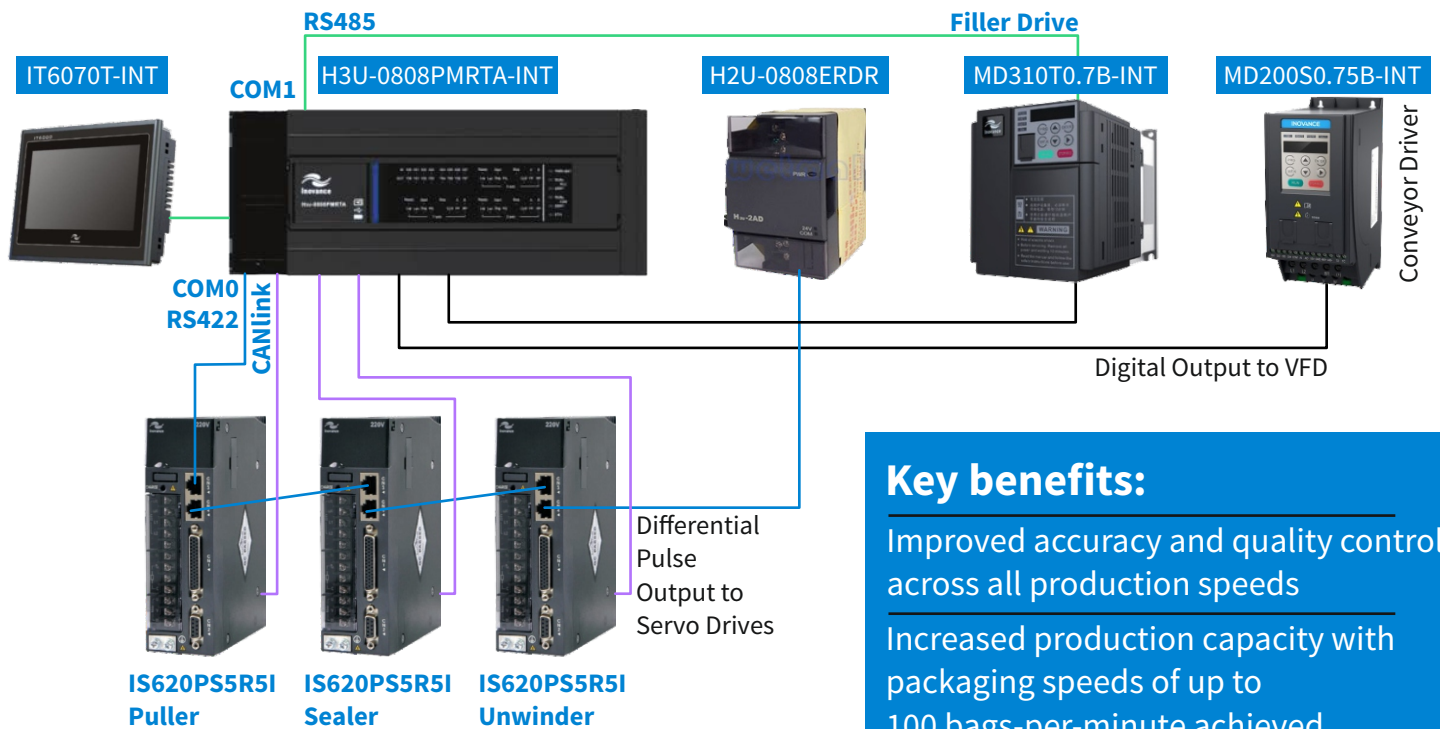


The Solution

The drives are controlled by high performance H3U and general purpose H2U PLCs; while the IT6070 HMI offers a smart control interface, allowing operational parameters to be changed dynamically. Additionally, several of Inovance's smart automation software packages were deployed, including: AutoShop PLC software, InoTouchEditor HMI software and InoServoShop servo software.



System Architecture



Key benefits:

- Improved accuracy and quality control across all production speeds
- Increased production capacity with packaging speeds of up to 100 bags-per-minute achieved
- Improved profitability for end users

The Benefits

Inovance's automation solution delivered significant improvements to the customer's vertical form, fill & seal machines. Accuracy and quality control were improved across all production speeds. What's more, production capacity was significantly improved because the desired packaging speeds (up to 100 bags-per-minute without material; and up to 80 bags-per-minute with material) were achieved using Inovance's high performance automation solution.

The result was improved profits for the end users of all machines.