

# Ars Automation

## Application notes

### Streamlining Efficiency: Advanced Parts Feeding in Injection Molding Piece Assembly



#### Industry insights

In a dynamic manufacturing landscape, the challenges of maintaining economic competitiveness and industry sustainability are ever-present. Auray Plast, a leader in the production of plastic injection parts, in collaboration with Effitech, undertook an ambitious project to automate its production line using advanced robotic technology. The aim was to optimize the logistical flow of various components, improve the organization of production, and manage inventory around the machine with a keen eye on workstation ergonomics and accessibility.

#### Handled parts

The production challenge Auray Plast faced involved managing four distinct plastic components, each with a unique shape that presented considerable difficulties in visual identification and proper orientation. These components required an advanced approach to ensure they were accurately recognized and aligned for the assembly process, overcoming the intricacies of their designs.



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### The configuration

To centralize the operations of de-bulking, quality inspection, precision cutting, assembly, and strapping within a single production line, Auray Plast initiated an integration of state-of-the-art automation technology. The objective was to create a unified system that could handle the complexity of these tasks efficiently. To achieve this, the company installed four six-axis Fanuc robots, each equipped with advanced vision systems for detailed component recognition. Complementing this setup, three FlexiBowl® 800 feeders in standard operational mode were chosen for their high capacity, ensuring a continuous supply of parts and maintaining the high volume of the production cycle. Comprehensive training sessions were conducted to upskill the workforce on the new machine programming, ensuring that all operators were proficient in leveraging the technology. Auray Plast operates the machinery at 50% capacity, providing ample opportunity for the company to take on external projects and extend their assembly services.



## FlexiBowl® 800

### Traditional Operating Mode

### Results

The results of the integration were multifaceted and highly positive. Productivity saw a significant increase, with the assembly rate jumping from 300 to 400 pieces per hour. There was also a marked improvement in the quality of output, reflecting the sophisticated capabilities of the automated system. Operators experienced enhanced work comfort, and there was a notable reduction in musculoskeletal disorders, a testament to the ergonomic improvements implemented within the production line. A critical aspect of the project was addressing ergonomic concerns associated with manual labor, such as repetitive strain injuries. In parallel, adjustments to containers and components were made to reduce manual handling and ease the machine loading process, further streamlining operations.

### Key points



Plastic Industry



Assembly Process



FlexiBowl® 800



Fanuc Robots



Increased Productivity