

# Ars Automation

## Application notes

### Case Study: Automated Feeding System for Multi-Parts Battery Assembly



#### Industry insights

In an era where technology is rapidly advancing, the electronics manufacturing sector, particularly the assembly of smartphone batteries, faces complex challenges. These batteries are a crucial component in consumer electronics, demanding not only high-quality assembly but also a quick turnaround to keep pace with the fast-moving consumer market. Manufacturers are therefore in pursuit of innovative automation solutions to stay competitive and satisfy the demanding standards of customers.

#### Handled parts

This case study investigates how an electronics manufacturer has upgraded its battery assembly process by integrating an advanced automated cell. The system is adept at handling eight diverse types of components necessary for the assembly of a battery, each varying in shape, material, and size, addressing the critical need for flexibility and precision in production.



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### The configuration

The manufacturing company has opted to integrate eight FlexiBowl® 500 feeders into its assembly line. The flexible feeders play a key role in separating and orienting each individual part, ensuring precise positioning and smooth flow of components throughout the manufacturing process. Their unique design enables them to gently feed eight different parts, minimizing the risk of damage and ensuring consistent orientation.

Complementing the FlexiBowl® 500 feeders is the FlexiVision vision system, an advanced machine vision solution that efficiently identifies and tracks each part. Upon recognition, the FlexiVision system relays precise coordinates to a six-axis Stäubli robot, ensuring accurate part picking and placement. The Stäubli robot, equipped with a Universal EOAT system, further enhances the company's automation capabilities. This versatile end-of-arm tooling system can be adeptly configured to handle a variety of product types, adding to the flexibility and adaptability of the production line.



## FlexiBowl® 500

### Traditional Operating Mode

### Results

By integrating this advanced automation line, the manufacturing company has significantly enhanced its assembly process. The combined operation of FlexiBowl® 500 feeders, the FlexiVision vision system, and the Stäubli robot, equipped with a Universal EOAT system, has streamlined production, achieving an impressive feed rate of 240 parts per minute. This high rate of operation has not only reduced errors but also increased overall efficiency. Such an investment in innovative automation solutions strategically positions the company to address the rapidly evolving demands of the electronics industry effectively.

### Key points



Electronics  
industry



Assembly  
Process



FlexiBowl®  
500



Stäubli  
Robot



240  
PPM