

Industry: **Manufacturing**
Products: **Control Systems, HMI, Terminals**

Enhancing quality control processes for air conditioning manufacturer

When Mitsubishi Electric Air Conditioning Europe wanted to maximise quality and productivity in its manual assembly cells – it employed the latest Guided Operator Solutions from its sister company Mitsubishi Electric, Factory Automation.

The challenge:
Enhance quality control processes by reducing the opportunity for picking mistakes

Several different products are constructed in the semi-automated assembly cells on the production line. Due to the complex nature of the products the operators faced a considerable challenge that could lead to picking mistakes. This often led to re-work of products, which significantly reduced the efficiency of the assembly process. In addition, there was a desire to increase productivity by helping workers quickly adapt to new assembly processes.

The solution:
Guided Operator Solutions

A pick-to-light system with visual indicators on the parts bins was combined with light curtains and touch switches for pick confirmation. Mechanised doors that opened in sequence were also used to create a physical barrier to prevent wrong parts from being selected.

The variety of operator guidance devices ensured that a wide range of picking scenarios could be accommodated and tested. Each assembly station was then equipped with the most effective solution, improving quality, while also making the operator more productive and the production line more efficient.

The installation built for the air conditioning plant was commissioned around Mitsubishi Electric MELSEC Q series modular PLCs and GOT2000 HMI operator terminals, all connected over a dedicated network. The HMI screens replace a system of complex product cards that were previously used for work instructions. The screens allow for dynamic instructions and prompts to be added to a pick sequence that ensures the correct parts are selected.

The result:
A significant increase in the quality control process

The installation has had an immediate impact on the



"The success of the project has been dramatic. Compared to the original process, we have seen a huge enhancement in the quality control process, picking accuracy, assembly speed and consistency. We are passionate about making improvements and the benefits of this technology are now really showing their worth."

Audrey Smith
Production Section Manager
Mitsubishi Electric Air Conditioning

assembly cells. Picking has not only become inherently more reliable and error-free, but also much faster. Quality and overall productivity have both shown a marked improvement. Importantly, the application has also addressed the operator training challenge at the plant. It has reduced the resources required for training, whilst actually improving the time taken to learn each process.

Watch the video case study to learn more about Mitsubishi Electric's Guided Operator Solutions:
<https://eu3a.mitsubishielectric.com/fa/en/news/content?id=2887>