

## Omron Helps Life Sciences Company Extract Data from Legacy Controller

### A success story

Legacy equipment can pose significant challenges for manufacturers. On the one hand, it is equipment that – for the most part – functions well and gives operators the comfort of familiarity. On the other hand, it may be outdated and incapable of integrating with newer technologies. Omron recently helped a company enjoy the best of both worlds by incorporating new edge devices that allowed for better productivity tracking without requiring the legacy controller to be changed in any way.

Omron prides itself on an exceptional ability to take customers' unique needs into account and come up with creative, workable solutions around them. This success story showcases Omron's strategic approach to customizing products and platforms for a specific situation.

### The need

A global life sciences company known for its broad range of branded generic drugs, medical devices, diagnostic assays and nutrition products found that it was unable to collect much-needed data from an older programmable logic controller (PLC) that lacked Ethernet connectivity. This data was essential for process control

and Overall Equipment Effectiveness (OEE) tracking. In addition, senior management had key objectives tied to factory efficiency and required a means of determining baseline productivity levels and tracking improvements.

Although the PLC was more than 15 years old, neither its hardware nor its coding could be changed because it was FDA validated. This posed significant challenges for extracting the necessary data.

The life sciences company desperately needed to access the data in order to streamline production processes, maximize equipment throughput and improve overall quality. It turned to Omron for assistance with gathering the as-yet-inaccessible OEE and process control data from the old PLC.

### The strategy

Omron took a long-term approach to what – at first glance – appeared to be a short-term project. Instead of merely looking at the immediate need, Omron laid out an entire communications strategy that started with the individual machine and then travelled through a line level, a room level and ultimately to the global server.

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### Business Need

A global life sciences company was unable to collect important data from an older PLC that didn't have Ethernet connectivity. This data was essential for process control and OEE tracking.

### Unique Solution

Since the legacy PLC was an Omron C200HE with an RS232 port, Omron added one of its NX1P controllers as an edge device external to this machine. This made it possible to collect data from the PLC via FINS.

### Customer Benefits

Omron's solution gave the life sciences company access to much-needed data using its first-ever edge device. The company was also able to move machines around the world without losing track of their location or performance history.



At every step of the way, Omron made sure to fully satisfy the requirement that no changes be made to the hardware or code of the PLC. The goal was to find an affordable way to extract data from the legacy equipment without altering its operating state or changing it in any way.

## The controller

Omron determined that its powerful, all-in-one machine automation controller known as the NX1P would be the ideal addition to the Ethernet-incompatible legacy machine. The NX1P is designed to manage advanced motion, networking, I/O and enabling IIoT solutions on the plant floor.

With integrated sequence and motion control, battery-free operation and up to eight axes of control via EtherCAT in a compact casing, the controller served as an excellent entry-level model on which to start building the new data flow network.

## The platform

Omron developed a networking strategy on top of the NX1P using its Sysmac platform with custom-developed Dynamic Host Configuration Protocol (DHCP) capabilities. Sysmac is a robust and fully integrated machine automation platform that uses a single connection and single software. End users can take advantage of its complete machine control capabilities to seamlessly scale up their machinery in

accordance with specific application needs.

## The solution

As it turned out, the older PLC was an Omron C200HE with an RS232 port. By adding the NX1P as an edge device external to this machine, it became possible to collect data via FINS (Factory Interface Network Service) without any modifications to the existing machine or the PLC program.

If the older PLC had not been an Omron unit, an alternate solution would have involved monitoring the I/O or any available communication protocols and turning this information into CIP (Common Industrial Protocol) data that would flow up through the data network

## The outcome

Thanks to Omron's creative solution, the life sciences company soon had its first edge device running smoothly and collecting data. In addition, the company gained the ability to move machines around to different parts of the globe while keeping track of their current location and performance history.

Omron's strategy is to always keep the customer's unique needs in mind while thinking in terms of future needs as well. This strategy paid off significantly for the life sciences company, which now has a future-proof means of extracting data from a legacy PLC using a complete yet affordable communications system.

Omron Automation is a global automation partner that creates, manufactures and services fully integrated automation solutions. We provide controls, vision, safety, motion and robotics for the automotive, semiconductor, food/beverage, packaging, pharmaceutical and infrastructure industries.

For over 80 years, Omron has helped industrial businesses maximize potential by solving problems creatively. Currently headed by President Yoshihito Yamada, our company is 36,000 employees strong—providing products and services in more than 110 countries worldwide.

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