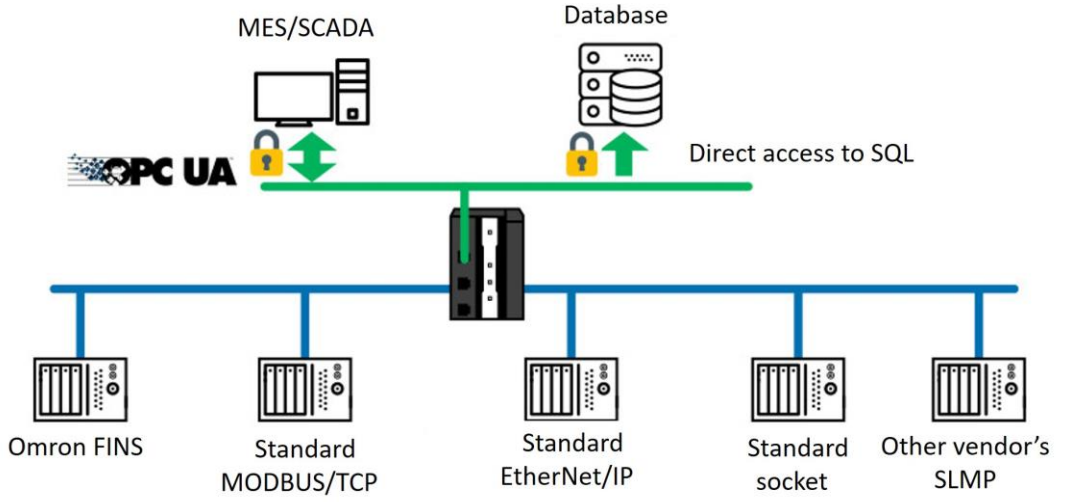


# Integration of NX1 into existing machines



NX1 is used for not only new machines but also existing machines to improve their functionality.  
Omron's engineer visits you to propose the best solution for your application.  
This document introduces examples of our solutions.



# Solution 1: Add traceability

## Verification and traceability of all automotive parts

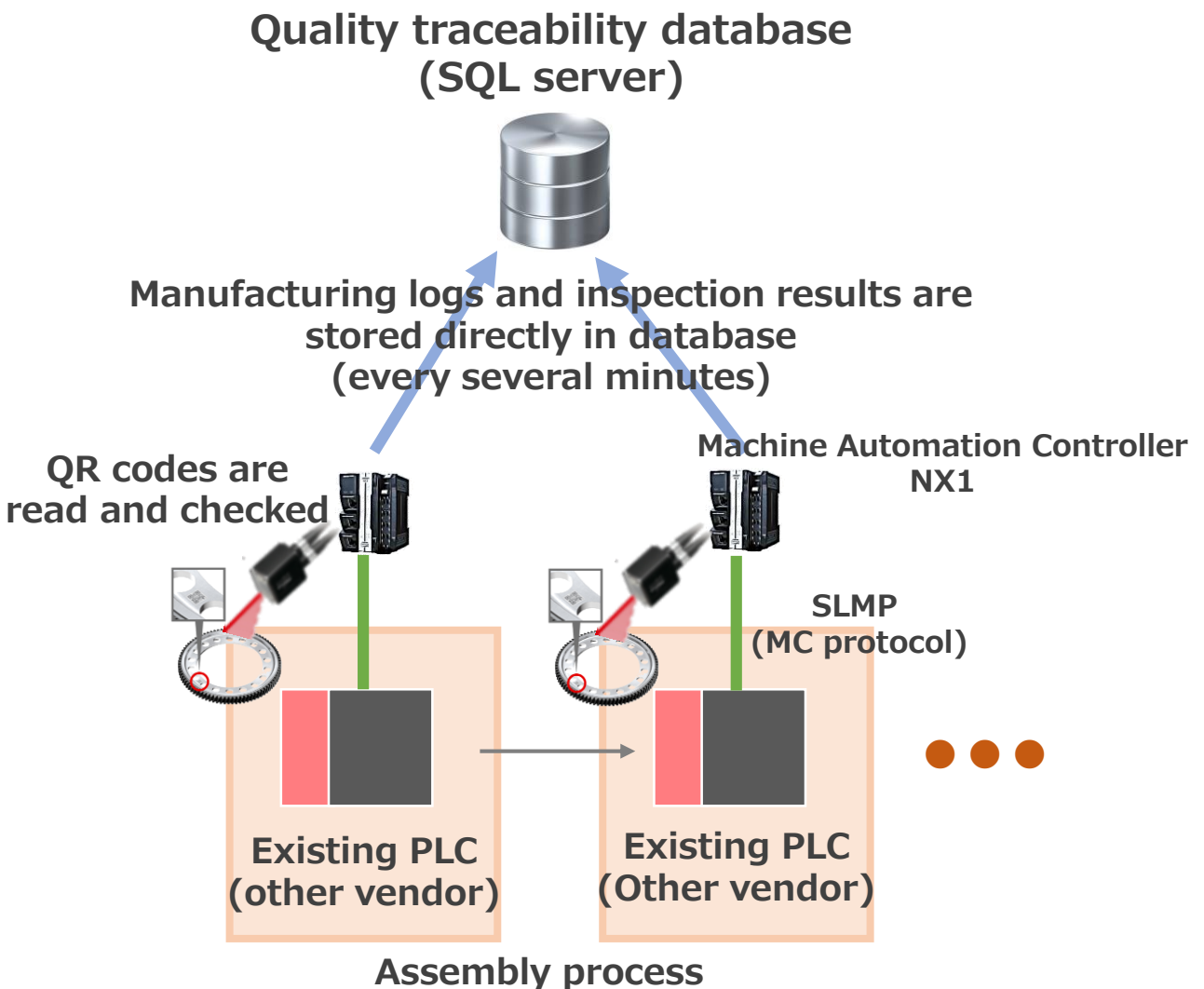
A traceability system is retrofitted to the automotive parts assembly process where traceability of all parts is not implemented. In order to implement quality traceability by collecting all manufacturing logs and inspection results in every production cycle (several minutes), the QR codes on parts are checked against data in the higher-level database at high speeds, and NX1 is connected to the existing PLC.

### ● Key points

1. Omron offers the controller for **verification and traceability of all parts** and **technical services** for installation.
2. NX1 can be **easily connected** to the existing PLC and controller for traceability.  
(Library conforming to CC-Link IE Field SLMP is used.)

### ● Benefit (voice of customer)

Omron provided the solution and specific way to easily **retrofit the existing process** with the system for verification and traceability of all parts. To build a machine that **integrates control and information** will be the next step.



# Solution 2: Add safety

## Conformance of existing robots to safety standards

A safety system is retrofitted to the existing welding robot which does not comply with safety standards. NX1 is connected to the existing PLC that controls the welding line to collect operating information from the safety system.

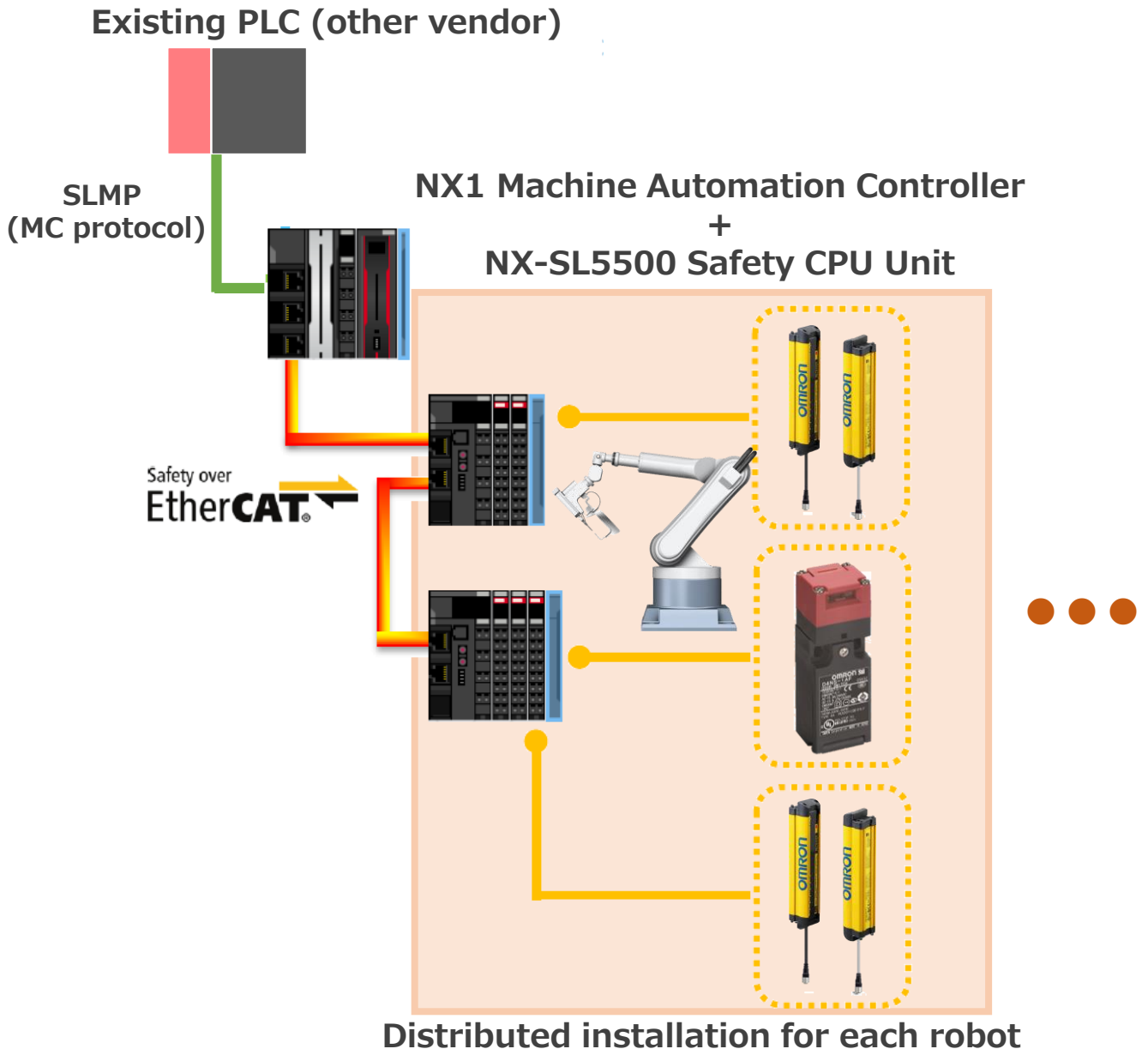
### ● Key points

1. Omron offers **technical services and safety components** to comply with safety standards.
2. NX1 can be **easily connected** to the existing PLC and controller for the safety system.  
(Library conforming to CC-Link IE Field SLMP is used.)

### ● Benefit (voice of customer)

We didn't have experience of safety control. Thanks to technical services and safety system based on Omron's experience in the safety field, our existing robot system **conforms to safety standards without changing the system**.

To build a machine that **integrates control and safety** will be our next step.



# Solution 3: Add IoT

## Operation monitoring of existing machine tools

The existing non-IoT machine tool is connected to the controller with OPC UA connectivity via digital I/O to collect operating information of the machine.

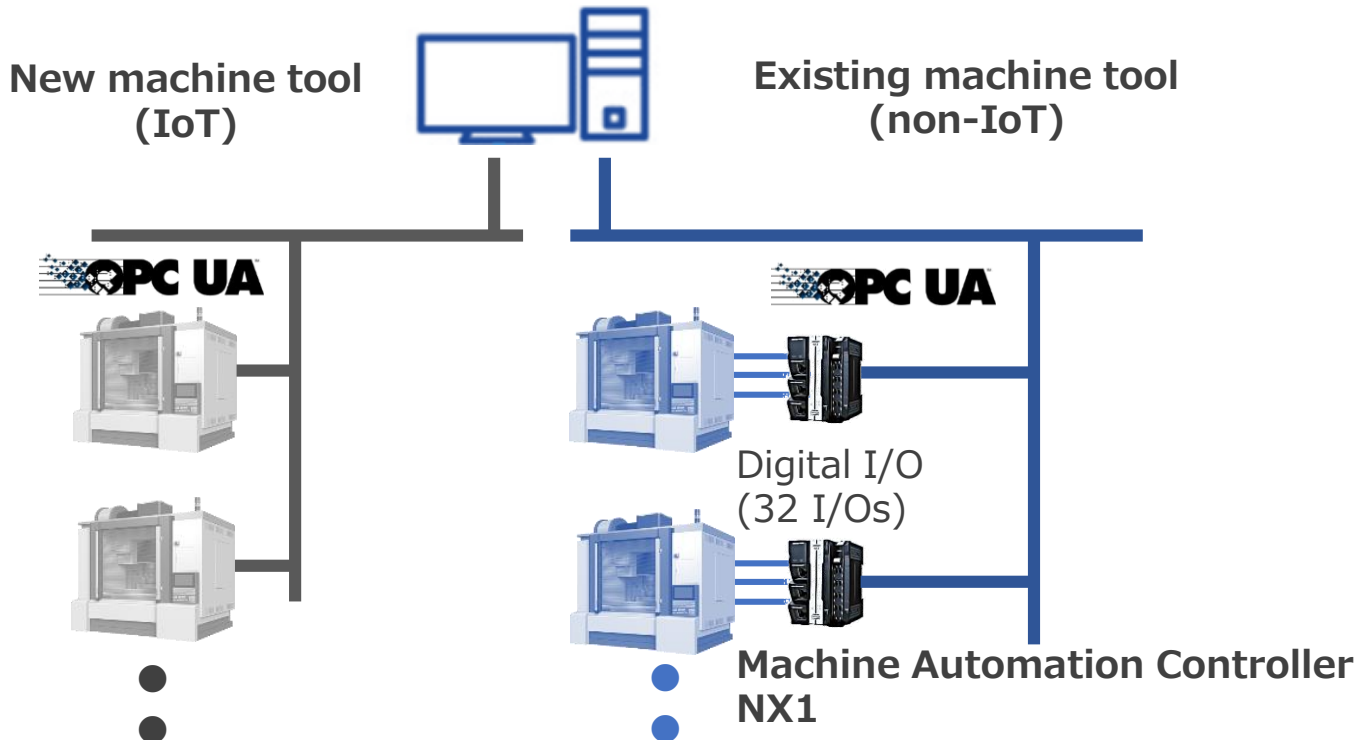
### ● Key points

1. OPC UA is a **standard technology that will be used for the medium to long term.**
  - OPC UA is recommended for the communication technology for industrie 4.0.
  - A new machine tool from an overseas vendor is equipped with OPC UA as standard.
2. The **compact design** facilitates retrofitting to many existing machines.
3. Its **scalability** facilitates adding sensors and I/O after installation.

### ● Benefit (voice of customer)

We are sure that measuring production lead time of each product and operating time of each machine will lead to a **more accurate production plan** and **shorter lead time.**

We aim to further improve production plan accuracy by linking with order information using additional bar code readers, and to save energy by measuring power and temperature.



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