

# NX1P2 – Compact Machine Automation Controller

## Advanced control in Compact Shape controller

### Information

Ethernet base open protocol for data sharing; connectivity to higher communication layer machine to machine communication

**EtherNet/IP™**

### Fast, Precise Control

Control and motion fully synchronized up to 2 ms cycle time with jitter of 1 us

### Easy maintenance

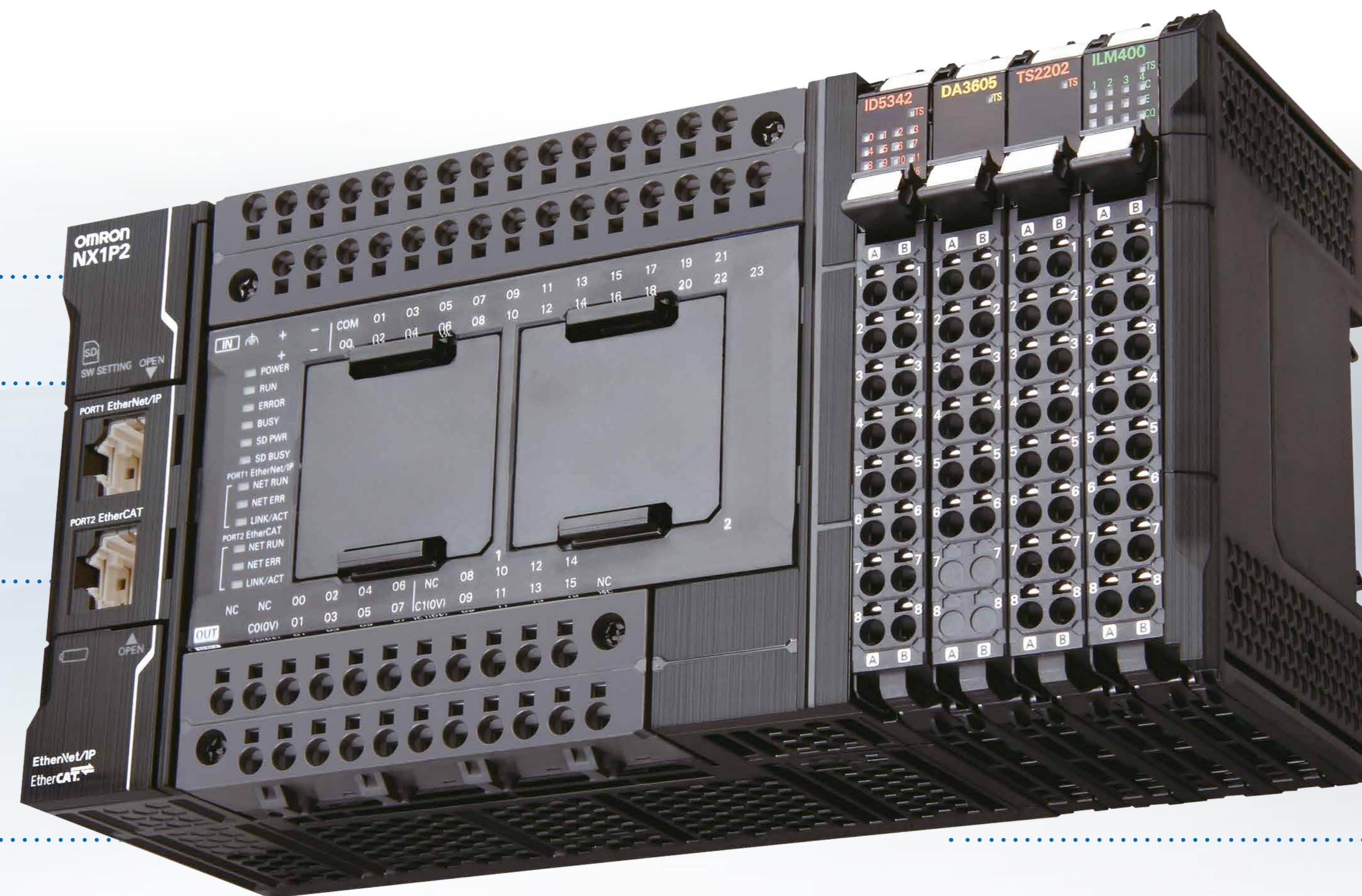
Battery free operation; SD memory card for System backup and restore; Complete system backup: Project, network configuration and slaves parameter



### Production Line

EtherCAT master with support up to 16 EtherCAT nodes  
Motion control up to 4 axes

**EtherCAT®**



### Flexible configuration

Up to 2 option boards for a flexible configuration

### NX I/O technology

Local or remote I/O units configuration  
Deterministic I/O response with nanosecond resolution  
High-speed and time-stamp units  
Complete I/O family: Analog/digital, temperature control, pulse output, encoder input

### Vertical applications

Technological solutions for temperature control, Weighting system, Condition monitoring, integrated safety, IO-Link master

### Reduce programming time

Sysmac libraries, Scalable solution in Sysmac Machine automation controller family



# Product Highlight

## One software to get things done...



One integrated environment software means one user interface for developing logic, motion, HMI, safety, drives, vision, information..

## IEC 61131-3 / PLC Open



Programming in line with international standards, easy reuse of engineering and reduced learning curve

## Vertical integration

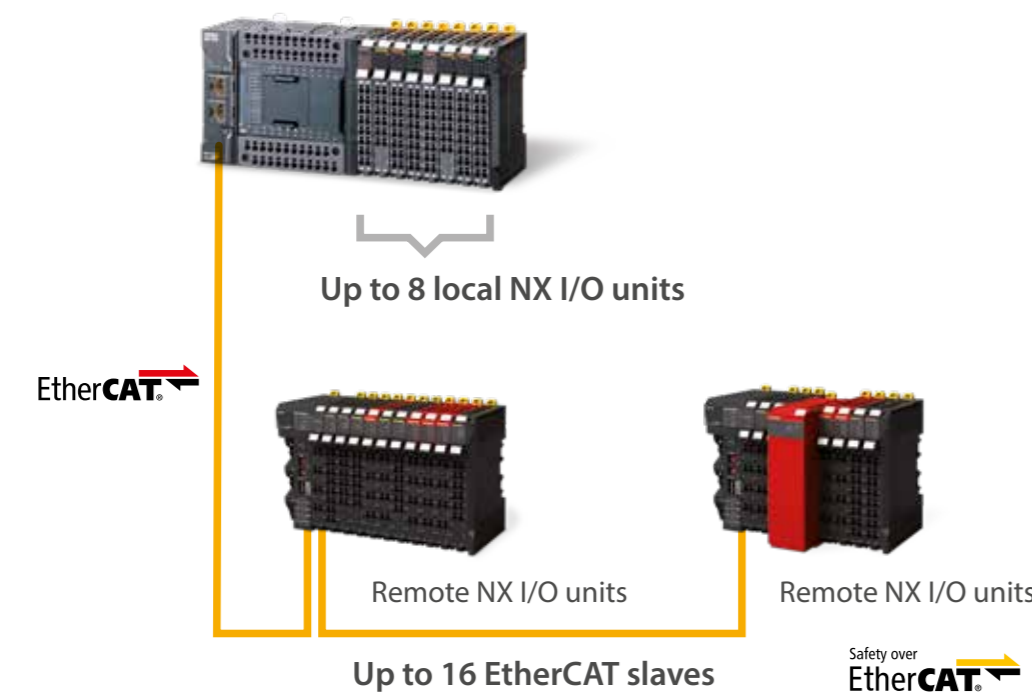
EtherNet/IP™

EtherCAT®

IO-Link

Future-oriented network support

## Flexible configuration



Same I/O's are used for local and remote. Motion control, safety and data are shared in same synchronous network.

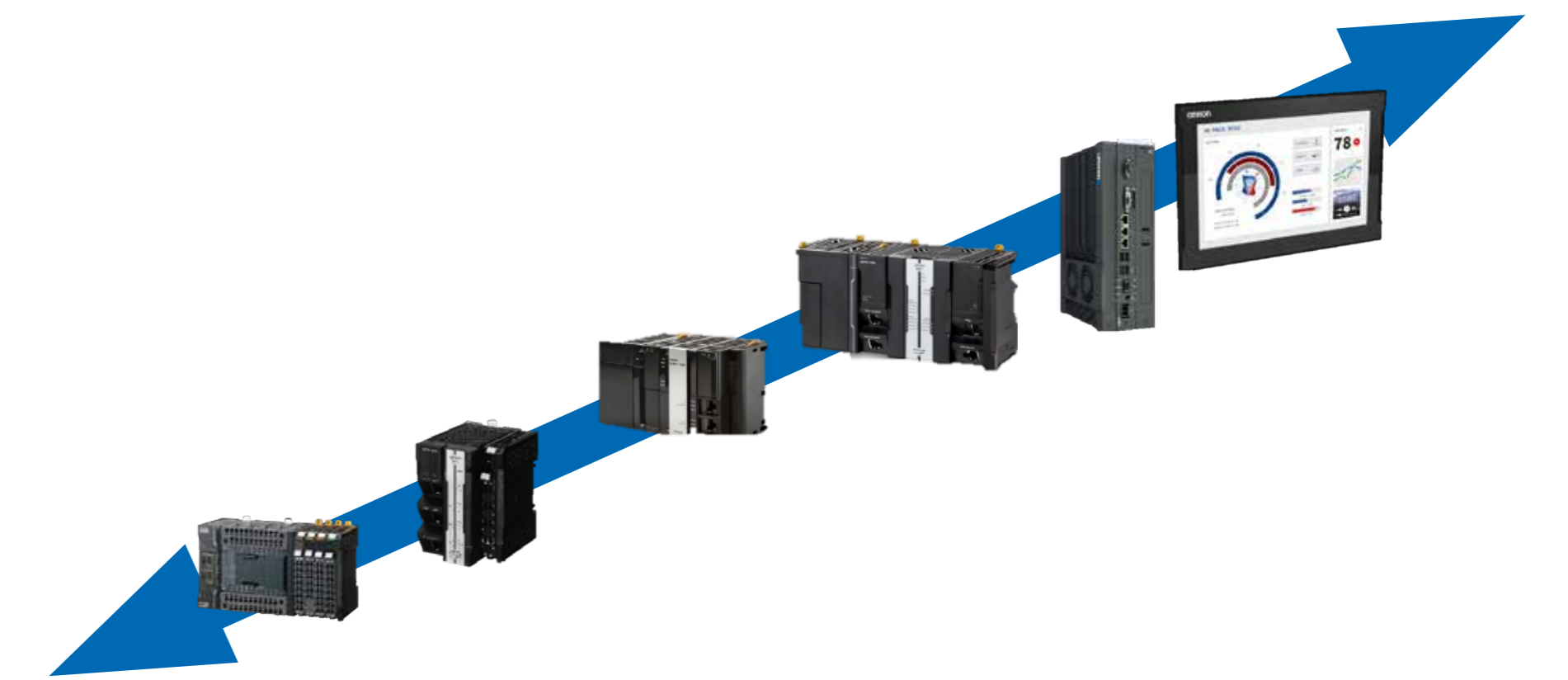
## Value for Panel design



Corresponding to our shared value design of the panel concept for the product specifications

Reduce wiring time with Push in plus technology

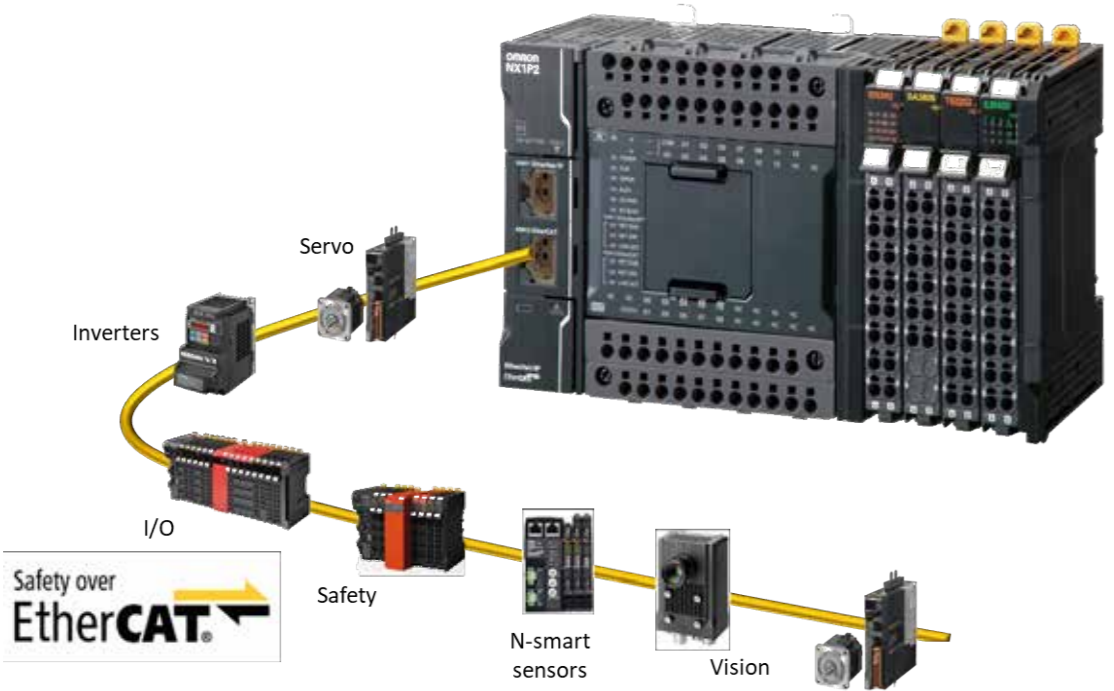
## Reuse of engineering



Immediate reuse of engineering across the large family of NJ/NX/NY series controllers

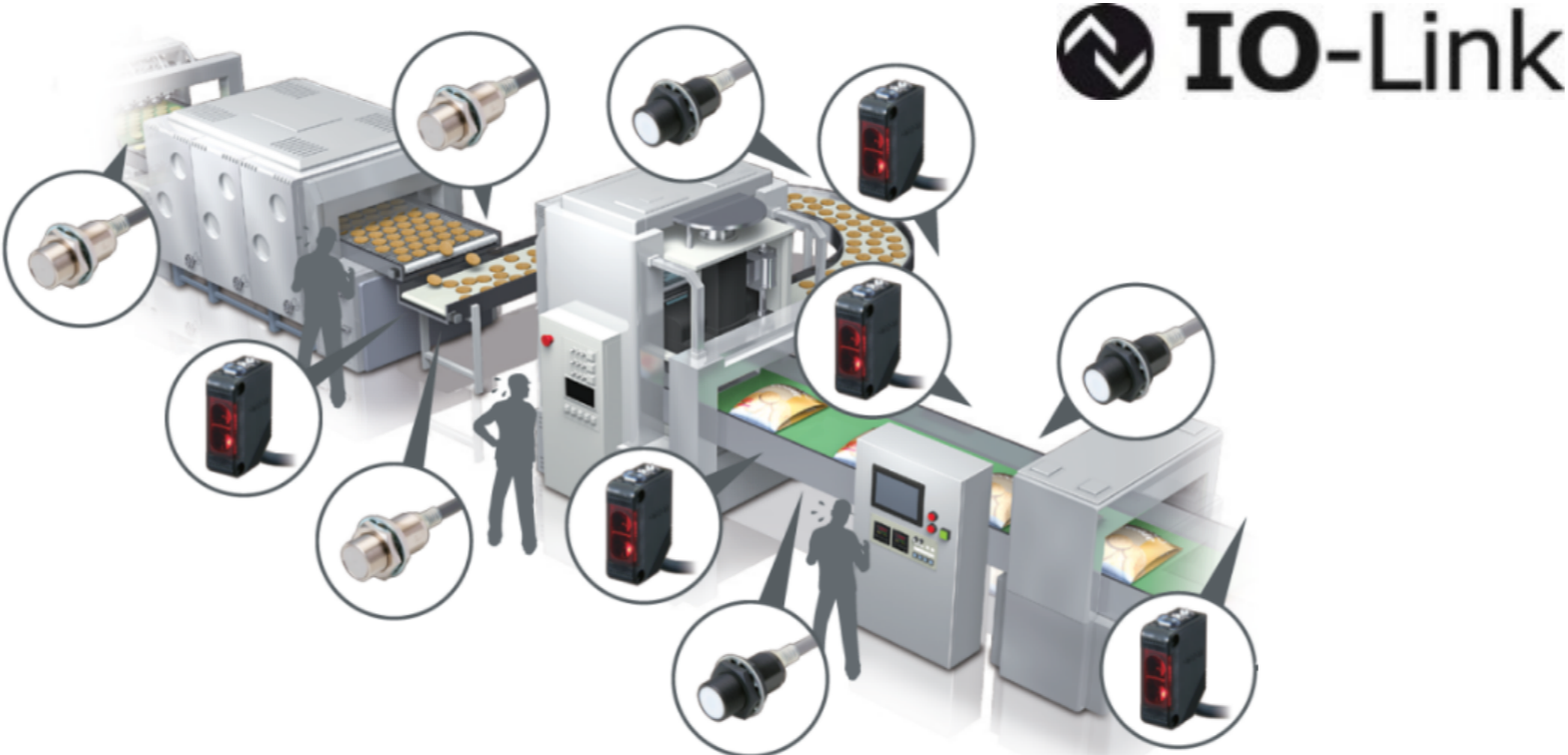
# Product Highlight

## Produce faster without compromising on quality



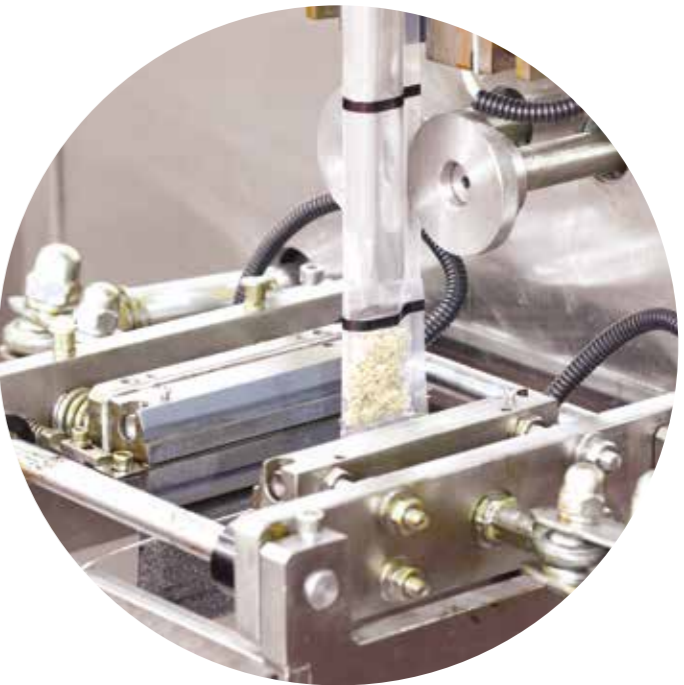
The NX1P integrates advanced motion control and sequence control and safety in a compact shape controller.

## Reduce change-over time



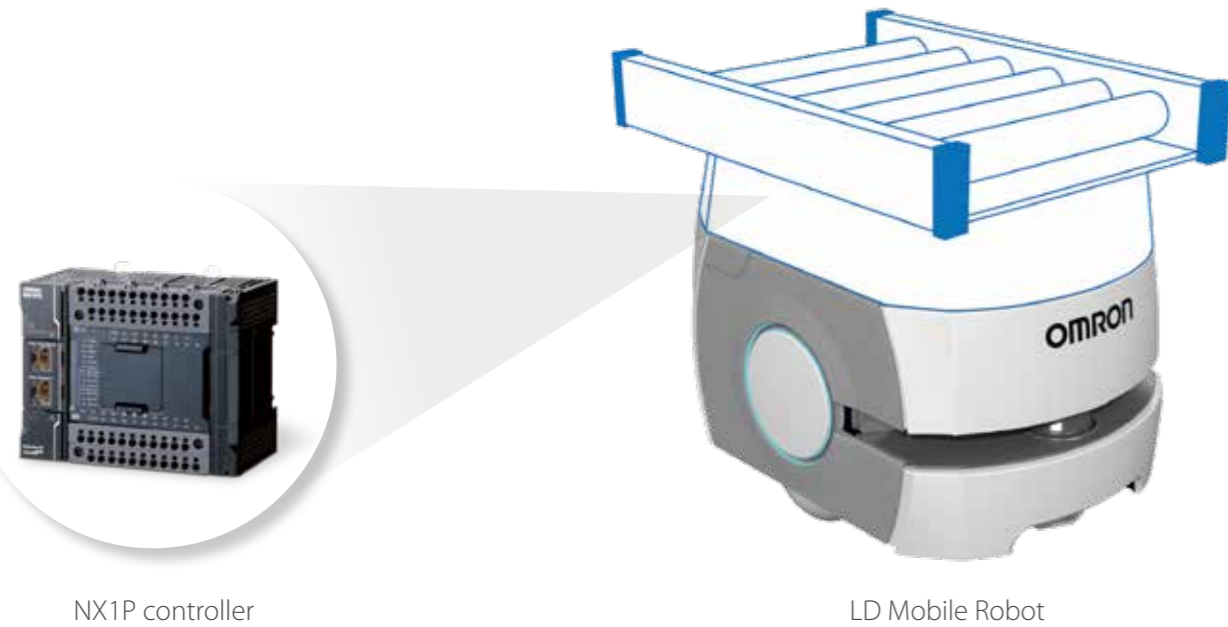
Dynamic configuration thanks to the sensors with IO-Link connectivity.

## Ready for Eco/Green Packaging



Controlling real sealing temperature guarantees less defects during the sealing process even with thin and eco films

## Managing operations efficiently in flexible production



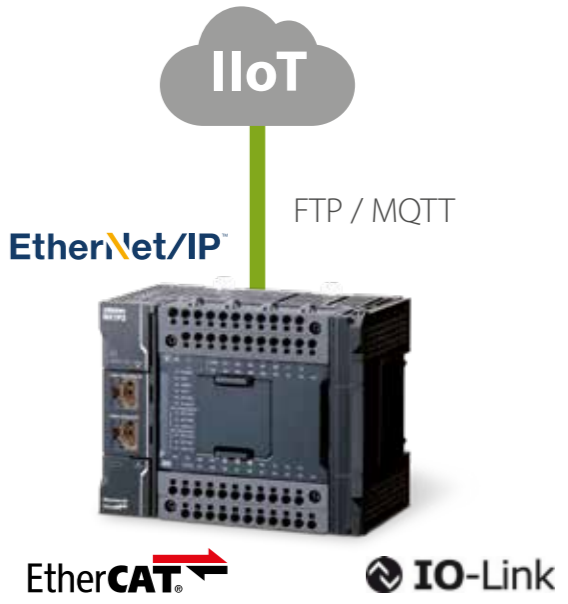
Integrating the NX1P controller into OMRON's LD mobile robot provides efficient management of the custom payloads and machine handshaking.

## Predictive Maintenance



Data collection of IO-Link sensor status, such as dust accumulated, enables predictive maintenance and reduced machine downtime.  
Set of Function Blocks available for condition monitoring the actuators to prevent product failures.

## Improve machine efficiency







IO-Link provides the controller with production data at sensor level.  
The FTP and MQTT protocols enable standard Cloud connectivity to measure machine efficiency

# Advanced control in Compact Shape controller

The manufacturing industry is striving to boost productivity and to improve quality. Although the use of high-end multi-functional machines is one of its solutions, flexible systems that leverage production data are required to satisfy diverse consumer needs by optimizing manufacturing processes. Omron industrial automation enables faster adaptability of the small-middle size machines to a flexible production line as a key for the next manufacturing processes. The machine controllers NX1P series offer features for control, motion, and information to support machine performance in a «compact» application range.

- Increase machine performance without compromising on quality
- Faster adaptability to a flexible production
- Get results quickly by the use of an intuitive Integrated Development Environment
- Integrated motion PLC and Safety functions
- Battery-free controller
- Cycle time: up to 2 ms
- Up to 8 axes (4 synchronized motion axes and 4 PTP)
- One unique, synchronized cycle for local and remote I/O, EtherCAT devices, and motion control
- Comprehensive network connectivity, 1x Ethernet ports + 1x EtherCAT
- Up to 8 local NX units
- Supports up to up to 16 EtherCAT nodes

		NX1P2 Sysmac Machine Controller					
		NX1P2-9B24DTx	NX1P2-9B40DTx	NX1P2-9024DTx	NX1P2-1040DTx	NX1P2-1140DTx	
Models Built-in Ethernet IP and EtherCAT interface							
Built-in I/O		14 Inputs / 10 Outputs		24 Inputs / 16 Outputs		24 Inputs / 16 Outputs	
Number of axes	PIP	2			4		
	Synchronous	0	0	0	2	4	
	Virtual	0	0	0	4	4	
Programming memory		1.0 MB			1.5 MB		
Remote I/Os		8 EtherCAT slaves 24 NX I/O Modules			16 EtherCAT slaves 24 NX I/O Modules		
Expansion Units		8 NX I/O Modules			8 NX I/O Modules		
Primary Tact		4 ms			2 ms		
Variable memory		2 MB   32 KB (non volatile)					
Serial Optional board		1 slot	2 slots	1 slot	2 slots		

Would you like to know more?

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