

OMRON Smart Maintenance Solution

Data-Driven Maintenance decision-making in the design of your Automation

Device and sensor level

Realtime system Health and Process data

Smart sensors and intelligent devices provide system health data and process information as well reaction time, operation time and number of operations or status information.

Alert:

Condition monitoring device generate alert for abnormal conditions.

Data transmission and processing

Precise data collection:

EtherCAT technology provides collection of Synchronous data from all the devices connected.

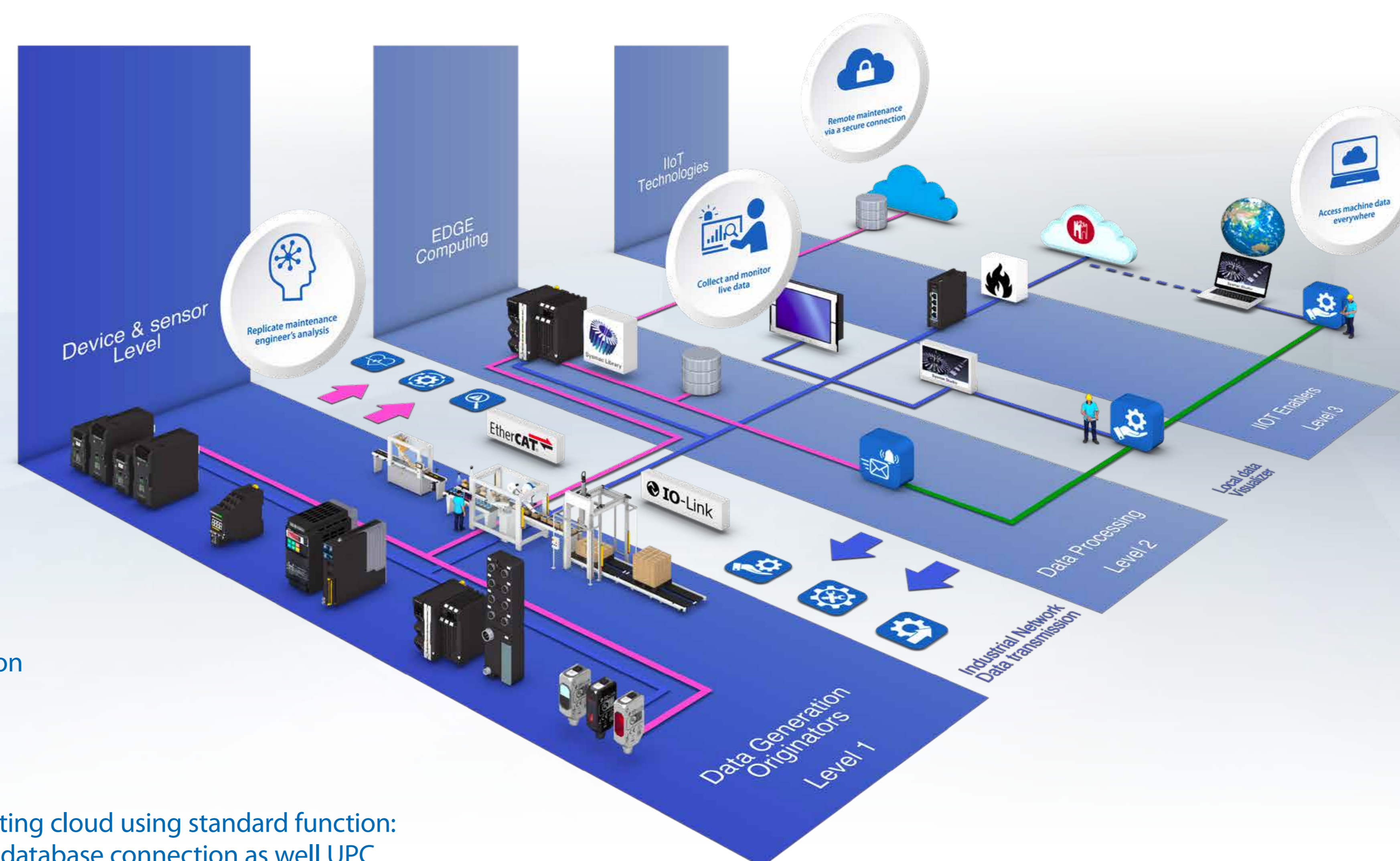
Decision making with low latency:

Edge computing functions make a quick reaction time for local or remote notification and alerts.

IOT enabler and remote connection

Easy integration of OMRON Solution in the existing cloud using standard function: Stored Procedures in SQL database, Direct SQL database connection as well OPC UA, MQTTs, HTTPs rest.

Use on-demand secure remote access to the machine for maintenance to increase efficiency.



Quick troubleshooting:

Reduce on site maintenance duration and costs by getting prepared in advance spare parts needed with a preventive connection to the plant.

Automation playback function helps to find the root cause of an abnormal condition by going back in time in PLC program and data starting from when a failure happen.

Notification module:

Reduce Travel costs by reducing human presence on site when not essential. Provide an immediate maintenance service: alerts, alarms or abnormal condition can be notified by SMS, e-mail to the maintenance team or machinery specialist when happens.

Edge computing:

Reduce cloud service costs by managing pre-elaborating information instead of raw data.

OMRON Smart Maintenance Solution Product Highlights



Replicate maintenance engineer's analysis

NX I/O series



In addition to the regular functions of the units, maintenance information such as reaction time or count of ON/OFF switches as well device status monitoring, process information and Real-time health data are automatically generated. This allows detection of possible abnormal conditions and corrective actions to be taken keeping higher stable productivity during the entire machine life cycle.

E3AS-HL Sensors



Maintenance actions can be scheduled before machine stops when dirty sensing surface by dust, liquids or vapor cause false detection. Light incidence issue can be detected in advance, preventing false detections too.

S8VK-X Power supply



Digital display shows power supply lifetime, voltage, current. Monitoring values, it's easy to measure changes in the functions of the connected loads and take preventive actions.

K6CM Condition monitoring



Monitor key assets of the machine (motor current/vibration/temperature/insulation resistance), detect abnormal working conditions and share information and trends via EtherNet/IP. Alerts can be automatically generated.

M1 Series Inverter, 1S Series Servo Drive



Real-time system health data monitors strategic Drive components lifetime, like fans, IGBT's, capacitors, etc.



Collect and monitor live data



Access machine data everywhere



Remote maintenance via a secure connection



Sysmac Studio

One machine troubleshooting

i-Automation! concept is not only a controller but a whole architecture integrating Controllers, Actuators, Advanced sensors, HMIs, Safety, Vision, Robotic, etc. Automation playback and one machine troubleshooting lives in this synchronous system of data.



NX Controllers:

- Simplified OT/IT interface
- Real-time data for Maintenance and troubleshooting
- Quick reaction time and alerts for local or remote notification
- Decision making with low latency



Sysmac Library

Communication Libraries:

- JSON Encoding & Decoding Library
- MQTT Library: This library is an "IoT enabler" for our Sysmac NX/NJ controllers.
- Data analytics at the edge to convert raw data in information



Remote access:

- Access machine data everywhere via a secure connection WIFI/4G/LAN connection.
- Execute a quick connection to a machine to get relevant information and to monitor machine status.