Equipping RMS With M2M Gateways for Higher PCB Yields

A PCB manufacturer asked their solution provider to develop a solution with a Recipe Management System (RMS) as a centralized data library to improve the PCB production through real-time data collection and analysis across their manufacturing processes.

Factory Automation

Why Moxa

- Compact DIN-rail design for easy installation in small cabinets
- Memory and storage preinstalled to save time with option for future expansions
- Product quality guaranteed by a 3-year warranty

DRP-A100-E4 Series

DIN-rail computer with

Intel Atom® X Series processor

- Diverse set of interfaces including 2 LAN, 2 serial, and 3 USB ports
- Fanless design for stable operation in -30 to 60°C temperature range
- Compact DIN-rail design for easy installation

Product Page

Solution Brochure

System Requirements

- Connect different types of equipment to centralized management systems
- High-speed low-power computing for real-time data processing
- Compact size, easy installation, and easy storage upgrades

Moxa's Solution

The PCB manufacturer wanted to develop a system integrated with edge gateways to enhance the Industrial IoT capability in their factories. Due to the limited space in existing control cabinets, the solution provider selected Moxa's DRP-A100-E4, a compact DIN-rail computer that enables efficient data collection and utilization to better coordinate various processes and improve productivity.

Leveraging Moxa's configure-to-order (CTO) service, the system provider rapidly transformed the DRP-A100-E4 DIN-rail computer into a M2M gateway equipped with versatile Linux-based software applications, a high-capacity DDR4 memory, and an easily replaceable CFast storage card for efficient machine-to-machine communication.

Coupled with the robust connectivity of the EDS-2008 8-port unmanaged switch, the Intel Atom® X processor powered DRP-A100-E4 computer facilitates faster data aggregation, processing, and transfer to centralized MES, RMS, and ERP systems, serving as a solid building block to improve quality control and thereby increase productivity in the PCB plants.

*MES stands for Manufacturing Execution System, RMS for Recipe Management System, and ERP for Enterprise Resource Planning.

DRP-A100-E4
DIN-rail Computer

MES/RMS/ERP
Management System

Ethernet
Serial

EDS-2008
Unmanaged Switch

PLC

PLC

PLC

Flow Sensor

PH Sensor

Current Sensor

Pressure Sensor

Temperature Sensor