

DIGITAL FACTORY *now*



Auto supplier looks to implement net-zero greenhouse-gas emissions standards for its manufacturing plants around the globe

Highlights

- An automotive supplier wants to achieve net zero emissions in its plants by 2030 and in its supply chain by 2050
- The company wants to integrate energy monitoring into its “Smart Factory” global standard to help measure and achieve this
- Phoenix Contact took a holistic approach based on the PLCnext Technology ecosystem, which aligns with the customer’s IIoT and digitalization initiatives

Customer profile

This Tier 1 automotive supplier manufactures bearings, seals, lubrication systems, and mechatronic and monitoring systems in over 100 plants around the globe.

Challenge: Getting to net zero emissions

The customer has publicly committed to reduce emissions in its own operations to net zero by 2030 and reduce emissions in its supply chain by 2050, aligning it with the Paris Agreement. The company is currently expanding its industrial communications infrastructure to comply with a “Smart Factory” global standard. As part of this project, the manufacturer wants to integrate an energy monitoring and reduction solution to coincide with the stated goal.

Solution: A proven ecosystem

The solution was chosen mainly from the PLCnext Technology ecosystem currently utilized at the Bad Pyrmont facility (Figure 1).

The Phoenix Contact design team took information already derived from use cases such as “leakage detection,” which could be extended into the current infrastructure, whether for cloud connections, condition-based maintenance, or machine connection for OEE optimization.

Regarding the developing Industrial Internet of Things (IIoT) framework, Phoenix Contact suggested developing software connectors for OT devices, edge, IT, and cloud – all within the PLCnext Engineer Application suite.

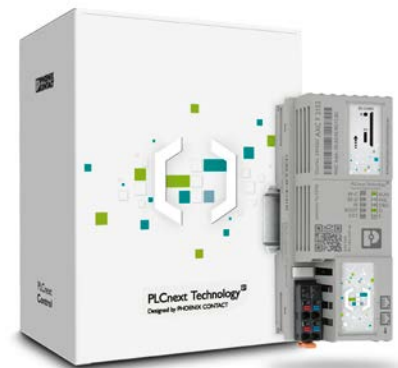


Figure 1: PLCnext Technology is an open, digital ecosystem that helps manufacturers move toward IIoT and digitalization

The “Digital Factory Now” approach emphasizes the importance of IIoT and the digitalization of business

Because the application involves building automation systems, a key focus would be a connector to BACnet. The customer could then use NodeRed, EMPro, MSSQL, PN-MachineManager, MQTT, OPC-UA, AXL F series, and Proficloud.io to enhance the tools to manage its plant production and processes.

Phoenix Contact vertical marketing and engineering resources took a holistic approach to creating a solution that fits the budget for the current project and sets the architecture for the future. The Phoenix Contact team built the project based on the “Digital Factory Now” approach, emphasizing the importance of IIoT and the digitalization of business.

Results: Making the “Smart Factory” a reality

By following the Digital Factory Now approach, the manufacturer improved visualization of its current systems. It has networked the production plants with technical building automation systems, which will allow condition-based energy monitoring through machine learning solutions. The Phoenix Contact hardware and software integrate easily into the company’s existing “Smart Factory” standards.

By creating a framework for future growth and IIoT capabilities, the manufacturer will be able to measure progress toward its Net Zero goals.

