



# INDUSTRIAL ETHERNET DESIGN

Modernize your network infrastructure to realize the value of IoT.

When considering a redesign of your industrial network environment, or designing a new infrastructure, you must consider efficiency, security, and agility to achieve maximum value over the total life of your investment. Industry trends such as the Internet of Things (IoT) is bringing together people, processes and equipment, from sensors to smart devices to entire Enterprises. Essential to maximizing your value is designing a robust network architecture to deliver secure, adaptable connectivity from plant operations to your business systems. This does not come without challenges. The complexities of designing a network that is optimized for both IT and operations, as well as employing the expertise required to adhere to dynamic industry standards have proven to be difficult.

SMC takes a collaborative approach to helping you design the right network to meet your specific needs today - and in the future. Leveraging our knowledge in both the IT and operations technology (OT) environments, this allows for a holistic network architecture across the plant floor and your Enterprise. A comprehensive design plan can help you build the business case to modernize your network infrastructure to realize the value of IoT.

## *Seamless Delivery and Project Management*

The Ethernet design services from SMC lead to a comprehensive logical and physical architecture design plan that will include a detailed evaluation of the current state of your network architecture, including security and future architecture.



## **LOGICAL NETWORK DESIGN**

- Functional Requirements
- Bill of Materials
- Cable Selection
- Physical Hardware Connectivity
- Access and Distribution Layer Topology
- VLANs
- Addressing Schema
- Switch and Network Configuration
- Redundancy
- Remote Access

## **PHYSICAL NETWORK DESIGN**

- Enterprise, Plant and Line Requirements
- Environmental Evaluation (MICE levels)
- Physical Media
- Space Planning, Pathways, and Routing
- Control Room Data Center
- Distributed Zone Enclosure
- Layer 1 Physical Infrastructure  
Documentation, Drawings, Bill of Materials,  
and Installation Drawings



*For more information, please visit  
[smcelectric.com](http://smcelectric.com)*



# The SMC Difference



The Connected Enterprise consists of industrial operations that are intelligent, optimized, and secure. Central to achieving this is the convergence of information technology (IT) and operations technology (OT) into a single unified architecture to capitalize on operational, business, and transactional data for improved enterprise, operations, and supply chain performance.

A shared IT and OT infrastructure can bring new challenges across the organizations. It is important to understand and agree upon unique priorities around things like information infrastructure, controls and devices, networks and security. However, a collaborative approach brings opportunities by allowing you to incorporate data from OT assets across the enterprise to deliver performance-critical contextualized information that can be used for real-time decision-making.

Working together and in collaboration with other key partners like Cisco, SMC can help you design reliable, future-proof, secure network architectures.

## Benefits

- Validated, tested architectures to connect plant and enterprise networks
- Building block solutions hardened for industrial applications
- Integrated solutions optimized for IT and OT professionals
- IP-based networking technical resources, industry news, and eLearning



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