Assess
Design
Deploy and Manage

Industrial Automation Advisory Services

Panduit Advisory Services
Building a Smarter Unified Business Foundation

The physical layer connects the power and communication components of automation systems. As networks converge, the physical infrastructure becomes even more critical to support the demands of real-time control, data collection, and device configuration. Each element of the physical infrastructure must be integrated in its design and deployment to ensure industrial networks and control systems provide sufficient performance margin within the specified environmental conditions.

Panduit is a world-class developer and provider of physical infrastructure solutions that improve reliability, security, and safety of Industrial Automation systems, while reducing deployment and operating costs. Working with industry leaders, Panduit bridges the gap between IT and Controls Engineers with a reference building-block solution for connecting, managing, and automating enterprise and industrial networks as well as industrial control systems.

Industrial Automation Advisory Services
Operational Excellence Starts with an Optimized Physical Infrastructure

Panduit Industrial Automation Advisory Services help customers implement validated industrial network and control system designs that reduce deployment time, exceed performance requirements and reduce operation, maintenance, and repair costs. Panduit understands that convergence requires diligence in network design. By utilizing Industrial EtherNet/IP™ and IT structured techniques as a common platform for horizontal and vertical integration, we provide customers with additional capabilities that support the convergence of information and control networks. These techniques help you manage assets more efficiently and accommodate important application disparities, while maintaining a tiered approach for machine, motion, and process control.

Manufacturers are challenged to implement IP-based networks due to the knowledge gap between IT professionals who are not as familiar with manufacturing implementations and control engineers who are not familiar with the physical layer specifications of IT systems. Panduit views the manufacturing, facilities, and enterprise from the inside out. Starting with an understanding of your network infrastructure and facilities, we work with you to determine how to best optimize your physical infrastructure.

Our Industrial Automation Advisory Services include:

• Assessment Services – evaluate key physical infrastructure components to help you increase productivity and reduce costs
• Design Services – ensure that your physical infrastructure will meet your current and long-term network goals. Up to 80% of industrial network downtime can be attributed to physical layer connections
• Deployment and Management Services – see that the implementation of your project goes smoothly and achieves the results you require, resulting in up to a 30% reduction in deployment costs and 75% savings in deployment time

*EtherNet/IP™ is a trademark of ODVA.
Assessment Services

According to Gartner Research, 80% of mission-critical outages through 2015 will be caused by people and process issues, and more than 50% of those outages will be caused by change/configuration/release integration and handoff issues. In addition, poorly controlled and managed change is responsible for approximately 80% of all unplanned outages and incidents. Panduit Industrial Automation Advisory Services help address these issues by examining your current environment and providing recommendations for optimization.

Assessment Services provide an engineering-based analysis of your physical infrastructure’s current state and future readiness to help you:

- Avoid design compromises that affect noise immunity and operational performance
- Fix problematic issues by systematic implementation of telecommunications grounding
- Protect your assets and enable physical network security

Evaluate Key Components

Each Panduit assessment provides a detailed examination of an aspect of your physical infrastructure, including an evaluation of its compliance with industry standards and its ability to support your current needs and future business.

Our assessments evaluate key components of your physical infrastructure, such as policy, design, on-site operation, risk, and vulnerability assessments.

By charting your current and future needs, you gain insight into where you are, where you want to go, and what it will take to get there, enabling you to manage your business more strategically and efficiently.

A Physical Infrastructure Assessment provides an engineering-based analysis of your infrastructure. With this analysis, your infrastructure will be compared to existing requirements and various industry standards, which will result in recommendations for your controls and information network infrastructure for:

1. Assessing the present infrastructure condition
2. Planning for a new infrastructure deployment
3. Migrating or refreshing a legacy architecture

To get started with a Panduit Assessment today, contact your local Panduit Sales Representative or email us at AdvisoryServices@panduit.com
Design Services

By optimizing the physical and logical infrastructures, you minimize risk of downtime and security lapses, increase flexibility and deliver maximum performance throughout your network. As a result, a scalable, integrated, and well-planned physical infrastructure provides quick and efficient deployment of new technologies.

Optimal Physical Infrastructure Design

A structured, engineered approach to physical infrastructure design is essential to ensure that investments in network distribution deliver optimum output. The Design Services team can turn a potentially chaotic network installation process into a predictable, controlled initiative through our structured planning and design methodology that provides:

Planning – The planning phase is critical to the physical infrastructure installation process. Changes after this stage will normally incur additional costs and delays to the project. Our project plans identify tasks, responsibilities, and due dates for the design, installation, testing and documentation steps to ensure that your project is completed on-time and on-budget.

The Services team works to fully understand:

- Existing systems, including field verification of equipment and available ports
- Types of traffic
- Limitations of your existing physical infrastructure
The scope of the networking required for an automation system will be investigated and reviewed to formulate an effective plan. This evaluation includes how your network will be used, the type of physical atmosphere, code issues related to wiring, quantified amount and types of equipment on the network, and potential future growth.

**Design** – The design stage includes generating CAD drawings, detailed specifications, and a Bill of Materials for building and deploying your physical infrastructure network. When laying out the infrastructure for your network installation, we work with you to factor in production and maintenance department preferences, providing ease of installation, and avoidance of harmful atmospheres, whenever possible.

Field verification of routes and pathways are performed to ensure no interferences with existing or planned equipment or systems, which have the potential to change designs and add to costs. We follow applicable standards for best design practices. A Bill of Materials takes into account real-world conditions and any specialty requirements for your installation. Every effort is made to utilize factory pre-configured and integrated products to speed installation time and reduce errors in the field.

Panduit Design Services for Industrial Automation provide:

- **Production Area Detailed Topology** – Detailed space planning layout including control and enterprise system topologies, control room area definition, detailed rack layouts and pathways provided in CAD
- **Industrial Networks** – Cabling and connectivity for all industrial automation networks and devices
- **Pathways** – Designed for maximum flexibility and cable protection
- **Telecommunications Bonding** – Grounding and Bonding system design in accordance with TIA-607-B standards
- **Labeling and Administration** – Room, rack, enclosure, and port-level labeling and identification scheme in accordance with TIA-606-A standards
- **Full documentation deliverable package** – Includes CAD drawings, Specification Documents and Bill of Materials

**Robust Design**
- Optimized for operation
- Incorporates latest industry standards, best practices, and reference architecture approach

**Improved Accuracy**
- Master plan versus ‘design as you go’ approach
- Customized design documents

**Improved Speed of Deployment**
- 2 – 3 times faster in most cases
- Optional on-site management to accelerate implementation time and accuracy

**Clarity of Intent**
- Easily referenced by others

**Design Documentation**
- Improve troubleshooting
- Minimize downtime

To get started with a Panduit Assessment today, contact your local Panduit Sales Representative or email us at AdvisoryServices@panduit.com
Deployment and Management Services

Implementation of a design requires the marshaling of many resources, and demands a disciplined project management methodology. The right project management support can help you avoid delays, needless expense, and frustration. It can also help you monitor the implementation of your project to ensure smooth results. Panduit and our partners understand the physical infrastructure’s impact on logical design, and use proven methodology to help key stakeholders accomplish implementation goals as quickly and effortlessly as possible.

Reduce Specification, Implementation and Support Costs

Installation by Panduit certified installers includes testing of all connections following installation best practices and warranty procedures. All testing is documented with copies provided to you, the customer and Panduit for warranty records. All cabling is properly labeled with products suitable for long-life in your environment.

Every effort is made to avoid deviation from the initial design, unless the intent and limitations of the original design are carefully considered. Any changes to the design plan will be updated on CAD drawings for your retention. All change orders to original design are carefully reviewed to avoid future work. As-built drawings and network documentation are generated to provide important information for support and maintenance over the lifetime of the system.
Unification Across the Physical Infrastructure

The phases of unification across the physical infrastructure can be defined in three levels:

1. **Connect**: The first phase involves deploying modular and scalable passive, active and intelligent products, software and tools that align and connect systems within individual areas of a plant-wide deployment.

2. **Integrate**: The second phase involves integrating products, software and tools into a converged physical infrastructure solution that extends across more than one manufacturing area.

3. **Optimize**: The third phase involves optimizing the entire physical infrastructure into a seamless interoperable system across all critical systems and areas.

Panduit provides you with an actionable plan that ensures the network installation meets all your requirements and standards...*with nothing left to chance...and no shortcuts.*

- Meet aggressive build-out schedules
- Avoid project delays
- Oversee implementation by Panduit Certified Installer (PCI)
- Resolve build issues on-site as they arise
- Coordinate trades

Translate the Logical Network Architecture into an Optimal Physical Layer

For over 50 years, Panduit has delivered innovative physical infrastructure solutions for our clients. We provide solutions that increase network throughput and reliability while reducing operating expenses. Our expertise is in the interaction between the physical layer and the logical layers of the network. Therefore, we can help you identify problems faster, develop optimized designs and implement solutions more efficiently.
Real-World Solutions

With a proven reputation for excellence and innovation, Panduit and our partners work with you to overcome challenges and implement real-world solutions that create a competitive business advantage. Panduit offers the broadest range of solutions, from data centers and intelligent buildings to manufacturing operations, to help you build a smarter, unified business foundation.

Technology Leadership

Panduit develops innovative physical infrastructure solutions that meet the rapidly changing needs of our clients, from hardware and software to advisory services. This commitment is supported by investment in advanced research, solutions-focused product development, world-class manufacturing, and collaboration with customers at the forefront of technology.

Partner Ecosystem

Our best-in-class partner ecosystem offers a comprehensive portfolio of services that span the project lifecycle, from planning and design to delivery, deployment, maintenance, and operation. Panduit business partners – distributors, and certified architects, consultants, engineers, designers, system integrators, and contractors – are qualified to help you achieve your objectives and realize predictable and measurable results.

Strategic Alliances

Panduit cultivates long-term strategic alliances with industry leaders, including Cisco Systems, EMC, IBM, and Rockwell Automation, to develop, optimize, and validate solutions for our customers. This investment in people and resources helps solve our customers’ greatest business challenges.

Global Business Commitment

Panduit is committed to delivering a consistently high level of quality and service the world over. With a presence in more than 100 countries, local Panduit sales representatives and technical specialists offer guidance and support that bring value to your business. Our global supply chain, which includes manufacturing, customer service, logistics, and distribution partners, provides prompt response to your inquiries and streamlines delivery to any worldwide destination.

Sustainability

With a commitment to environmental sustainability, Panduit develops and implements solutions that protect, replenish, and restore the world in which we live. This commitment is demonstrated by Panduit’s LEED Gold certified World Headquarters, leveraging the Unified Physical Infrastructure™ approach to enable convergence of critical building systems to drive energy efficiency and ongoing operational improvement.