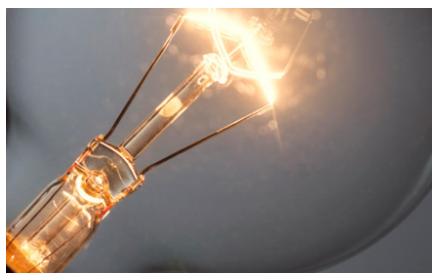


Power Transmission and Distribution

Solution Brief



How to ensure that your journey adds the value you seek without disrupting the mission-critical service your customers rely on.



Today's smart grid and industrial internet of things (IIoT) devices promise great advances in safety, security, speed and more. But they require greater network capacity and more flexibility for various system integrations, pushing into fast-forward the drive to upgrade power transmission and distribution (PT&D) networks.

If the pressure leaves you wondering how you can achieve such enormous changes without disrupting the seamless supply of power to your customers, you are not alone.

Belden understands your situation, and our vendor-agnostic connected energy solution with carefully planned migration enables you to maximize the value of your legacy assets even as you create a flexible, future-proof network foundation for your business.

Designing Future-Ready Networks for PT&D

When you think about your goals for the coming year, how many of them could benefit from more **reliability, operational efficiency, safety, sustainability, customer satisfaction**?



SEVERAL STRATEGIES THAT CAN BE IMPLEMENTED TO INCREASE THESE KPIS, FOR EXAMPLE:

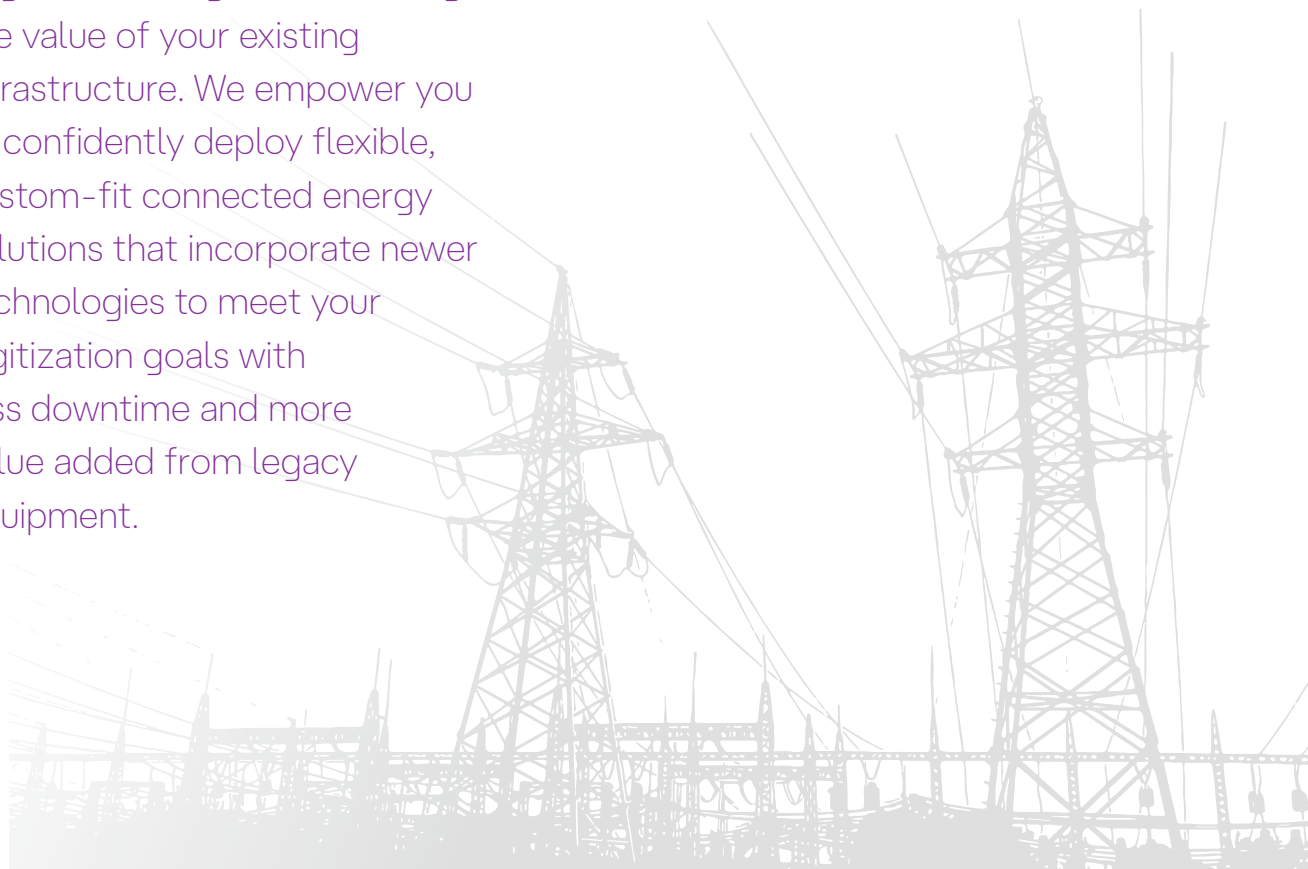
- Improve cross-enterprise data flow to drive better and real-time insights.
- Protect against cyberthreats to drive equipment safety, power reliability and security compliance.
- Increase your use of remotely controlled grid equipment and inspection drones.
- Streamline communication and data entry for everyone from field workers to corporate employees.



THE KEY TO YOUR DIGITIZATION JOURNEY UNLOCKING BETTER PERFORMANCE IS A HIGHLY FUNCTIONAL, HIGH-AVAILABILITY NETWORK WITH ROBUST CONNECTIONS BETWEEN ASSETS:

- Within each operational area.
- Between operational areas.
- Between operations technology (OT) and information technology (IT) networks.

Belden helps you map your migration in stages that leverage the value of your existing infrastructure. We empower you to confidently deploy flexible, custom-fit connected energy solutions that incorporate newer technologies to meet your digitization goals with less downtime and more value added from legacy equipment.



Pathway to a Robust Network Foundation for Digital Transformation

With Belden's help, you can implement the strong network backbone you need for digital transformation. Belden can help you shift to Multiprotocol Label Switching-Transport Profile (MPLS-TP) to ensure mission-critical transport of information as you retire older synchronous digital hierarchy (SDH) and synchronous optical networking (SONET) technologies.

Our experts assess your unique requirements to design, test, proof and troubleshoot custom-built networks. Our future-ready, fast connected energy network solution will support IT-OT convergence while leveraging legacy supervisory control and data acquisition (SCADA), tele-protection and auxiliary systems.

PT&D includes three main operational areas:

OPERATIONAL AREA

1 Substation Automation Systems (SAS)

3 common network or system levels:

- Station Level
- Bay Level
- Process Level

OPERATIONAL AREA

2 Smart Grid Wide Area Network (WAN)

Operational Telecommunications:

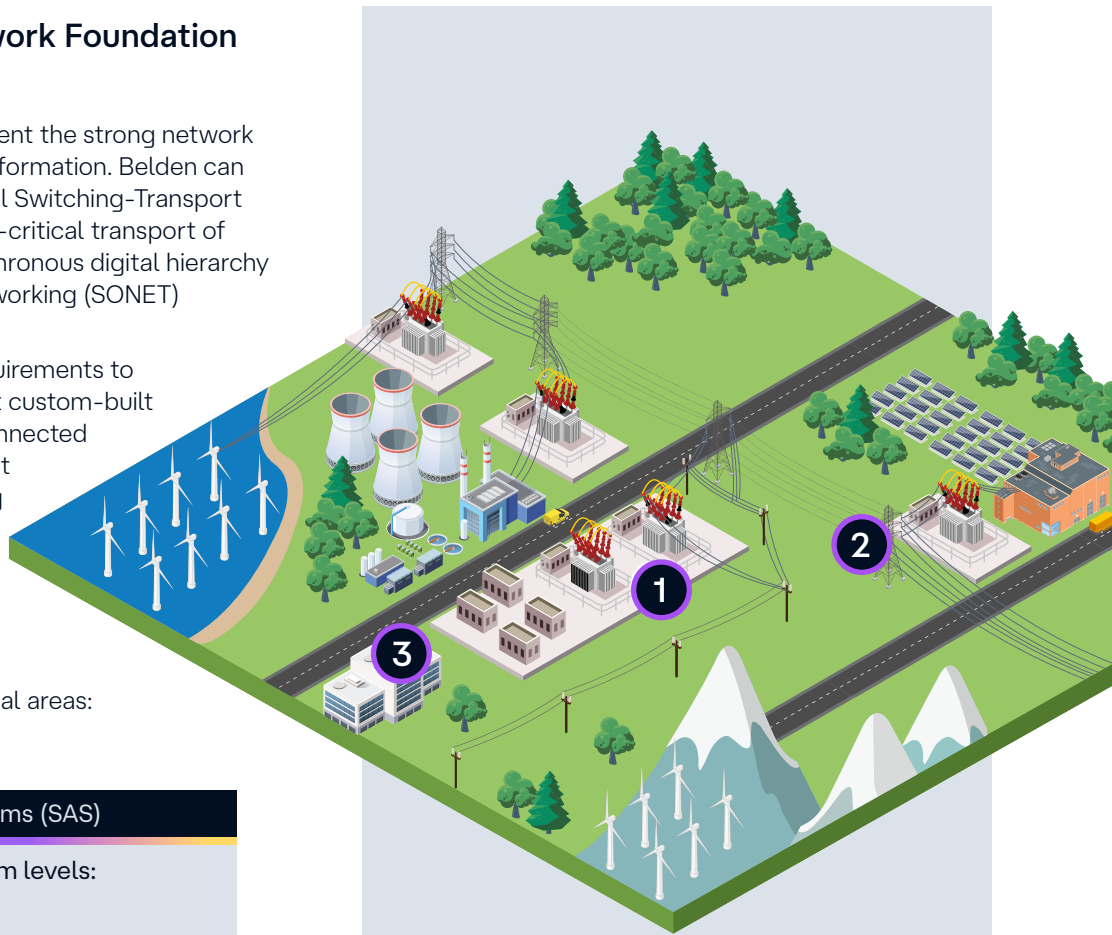
- Over a WAN
- Connects all together
- Based on data transport technology

OPERATIONAL AREA

3 Control or Dispatch Centers

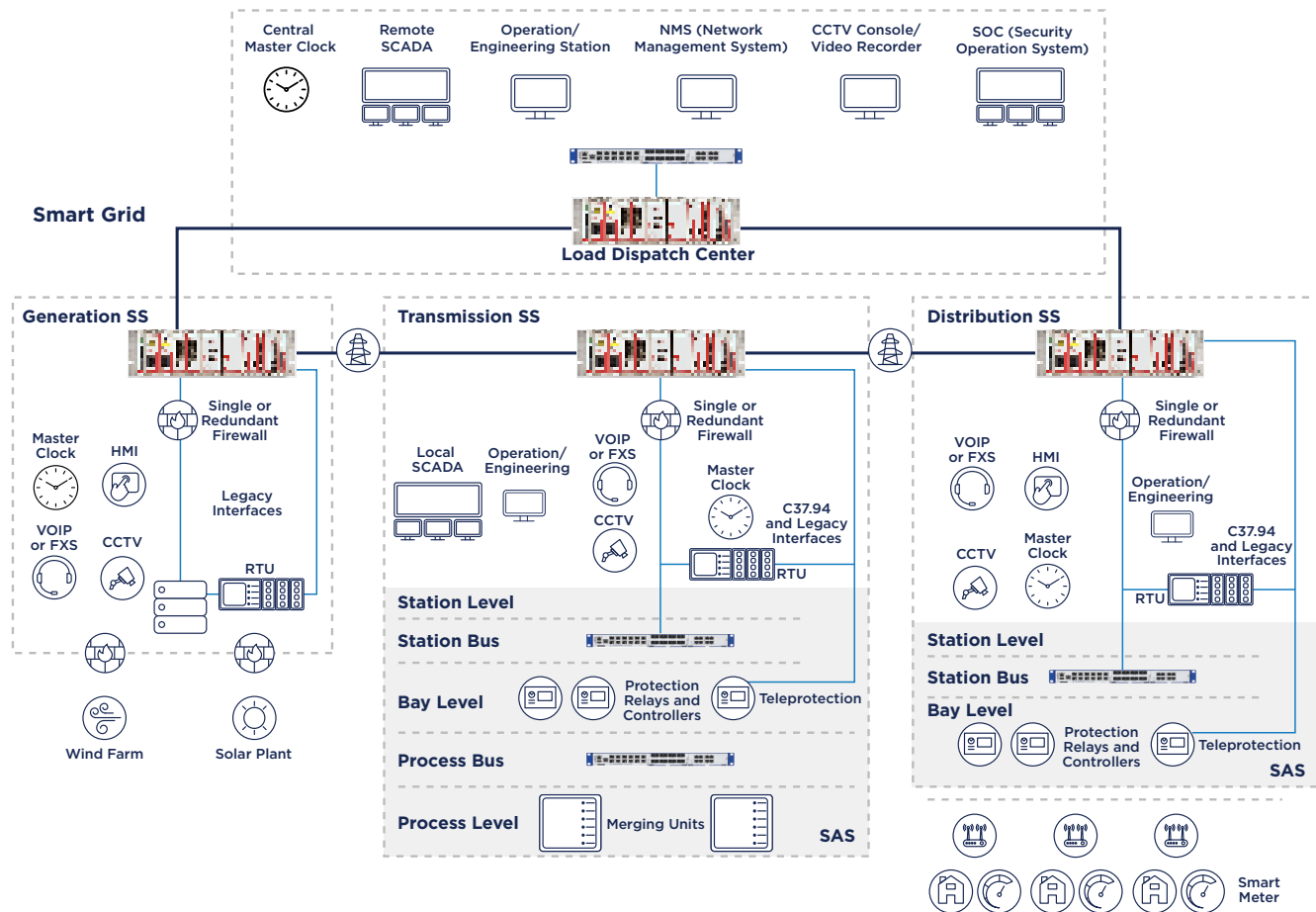
Centralized Operations Management:

- Control center
- Oversees the PT&D network
- Single or multiple locations



Experts for All Your PT&D Networking Needs

As an end-to-end network solution provider, Belden guides you to the products, services and tools you need to move ahead on your digitization journey. With our experts by your side, you will see your unique automation plans come to life through a combination of Belden's extensive network portfolio and third-party tools and services. Below is an idea of what a full connected energy solution architectural would like for the operational areas listed above:



Global Customer Innovation Centers:

Belden’s Customer Innovation Centers (CICs) serve your needs throughout the solution development lifecycle. These hubs – strategically located to serve regions throughout the world – offer access to best-in-class capabilities, including the opportunity to run proof of concepts (PoCs) in our validation lab.



Experts at your side:

Designing the right solution for your business needs is not an easy task, so Belden provides direct access to our experts:

>>> Solution Architect	>>> Digital Automation Consultant	>>> Solution Consultant	>>> Service Engineer
<ul style="list-style-type: none">• Deep technical knowledge of network architectures• Develop, design, and validate best solutions tailored to the complexity of each customer’s unique business challenge	<ul style="list-style-type: none">• Industry expertise with deep networking knowhow• Lead process, work-flows, and data assessments to identify digital transformation opportunities and calculate potential value of network solutions for the customer	<ul style="list-style-type: none">• Deep technical knowledge of applications and industries• Guide the customer in their digital transformation journey, conducting industrial network audits and positioning the ideal solutions	<ul style="list-style-type: none">• Deep technical knowledge of products and technologies• Conduct trainings, test and commission networks• Lead network assessments and deliver high quality presales and post-sales technical support

Connect to what's possible.

Solution Brief



About Belden

Belden Inc. delivers complete connection solutions that unlock untold possibilities for our customers, their customers and the world. We advance ideas and technologies that enable a safer, smarter and more prosperous future. Throughout our 120+ year history we have evolved as a company, but our purpose remains – making connections. By connecting people, information and ideas, we make it possible. We are headquartered in St. Louis and have manufacturing capabilities in North America, Europe, Asia and Africa.

For more information, visit us at:
belden.com

follow us on



© 2025 | Belden and its affiliated companies claim and reserves all rights to its graphic images and text, trade names and trademarks, logos, service names, and similar proprietary marks, and any other intellectual property rights associated with this publication. BELDEN® and other distinctive identifiers of Belden and its affiliated companies as used herein are or may be pending or registered or unregistered trademarks of Belden, or its affiliates, in the United States and/or other jurisdictions throughout the world. Belden's trade names, trademarks, logos, service names, and similar proprietary marks shall not be reprinted or displayed without Belden's or its affiliated companies' permission and/or in any form inconsistent with Belden's business interests. Belden reserves the right to demand the discontinuation of any improper use at any time.