

# Boosting Labor Productivity in Your Warehouse



SOLUTION BRIEF



Belden's Labor Productivity Solution for material handlers addresses the most critical challenge on the path to automation – the slow, error-prone human tasks that create inefficiencies and waste.



## Unique Warehousing Complexity Hinder the Full Automation Journey

The operational complexity of a warehouse results in a unique set of inefficiencies across manual, semi-automated, and automated equipment. Manual scanning and slow transport times lead to inventory receiving, storage, and tracking discrepancies. Picking location and scanning errors, as well as packing mistakes and complex loading procedures increase shipping inefficiencies. All these issues can be directly traced to manual human interaction with systems and assets.



## Lack of Labor Automation Creates Waste

The reliance on manual tasks within a material handling environment creates significant waste across several dimensions. The result is product waste from inaccurate picking and packing; time waste from slow inventory counting; labor waste from inefficient transportation and labor-intensive security; as well as wasted overhead from poor storage and energy usage.



## Automation Knowledge Gaps Brings Uncertainty and Risk

While Industry 4.0 is necessary to eliminate labor inefficiencies, uncertainty around the required technologies and potential capital expenditures slows the pace of achieving that goal. Potential for unknown unknowns increases the hesitancy in adopting automation, and anticipated problems in data aggregation, high-bandwidth networking, and cyber-security derail project momentum.

# Create a Reliable, Future-Proof Material Handling Network



## Produce Data

Machine control systems can collect a host of real-time data that gives tremendous insights into your operations and can be easily augmented with additional sensors to fill in gaps.



## Aggregate and Analyze

Feed connected systems through your OT network's aggregation layer to establish zones and conduits for data flow - and integrate converged IT/OT cybersecurity strategies to provide resilience.



## Monitor and Optimize

Use live performance dashboards and conduct root cause analyses to inform management decisions and activities.

## What a Labor-Efficient Warehouse Looks Like

- Improved scanning and sensor technology to automate inventory/asset tracking, counting, and management
- Consolidated and optimized warehouse storage solutions
- Automated tools and equipment to assist workers on the warehouse floor and reduce reliance on labor
- Comprehensive warehouse facility monitoring by security equipment

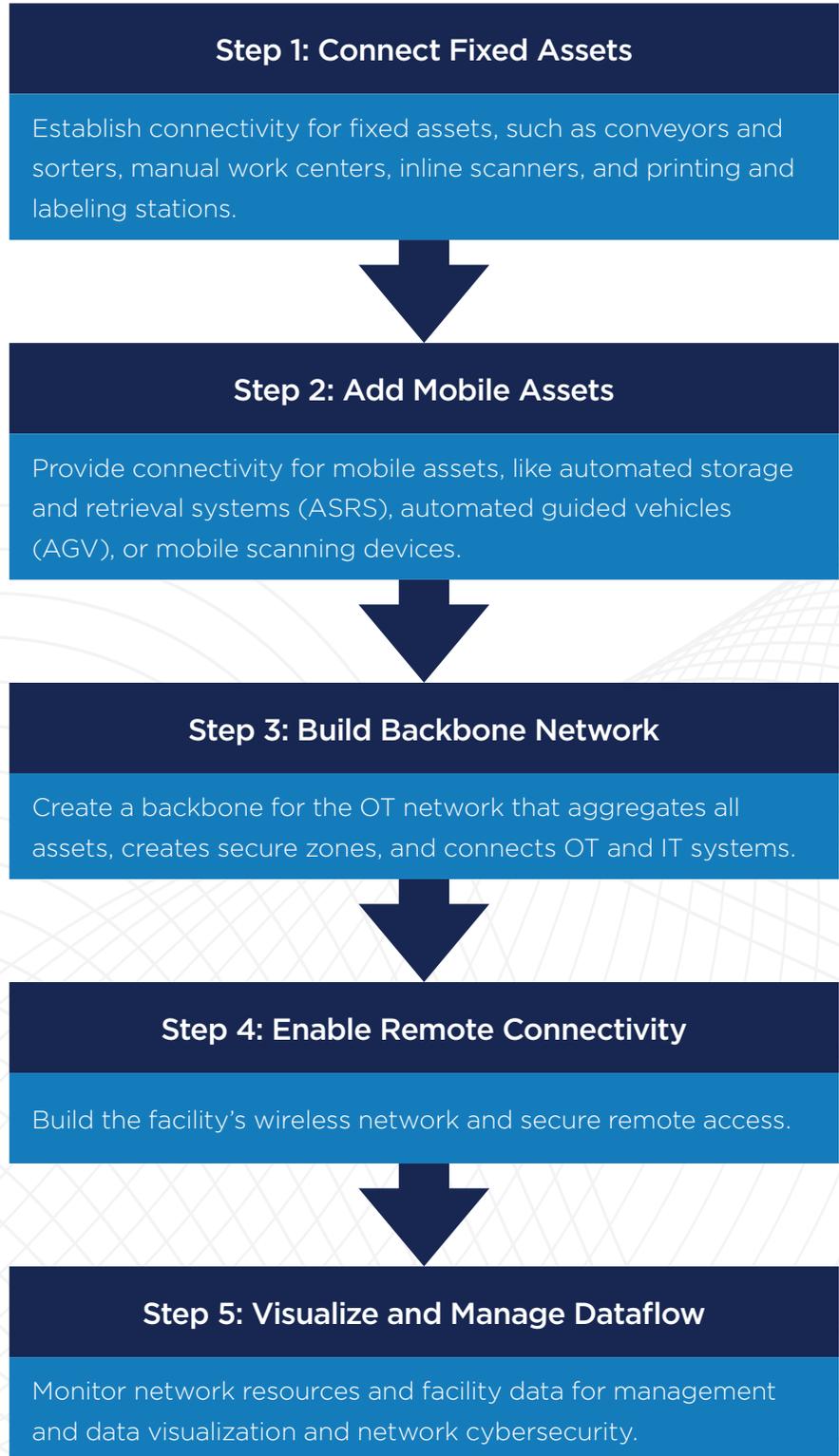
## Belden Addresses Material Handling Challenges

Labor typically accounts for 55% of material handling factory costs and Belden can unlock:

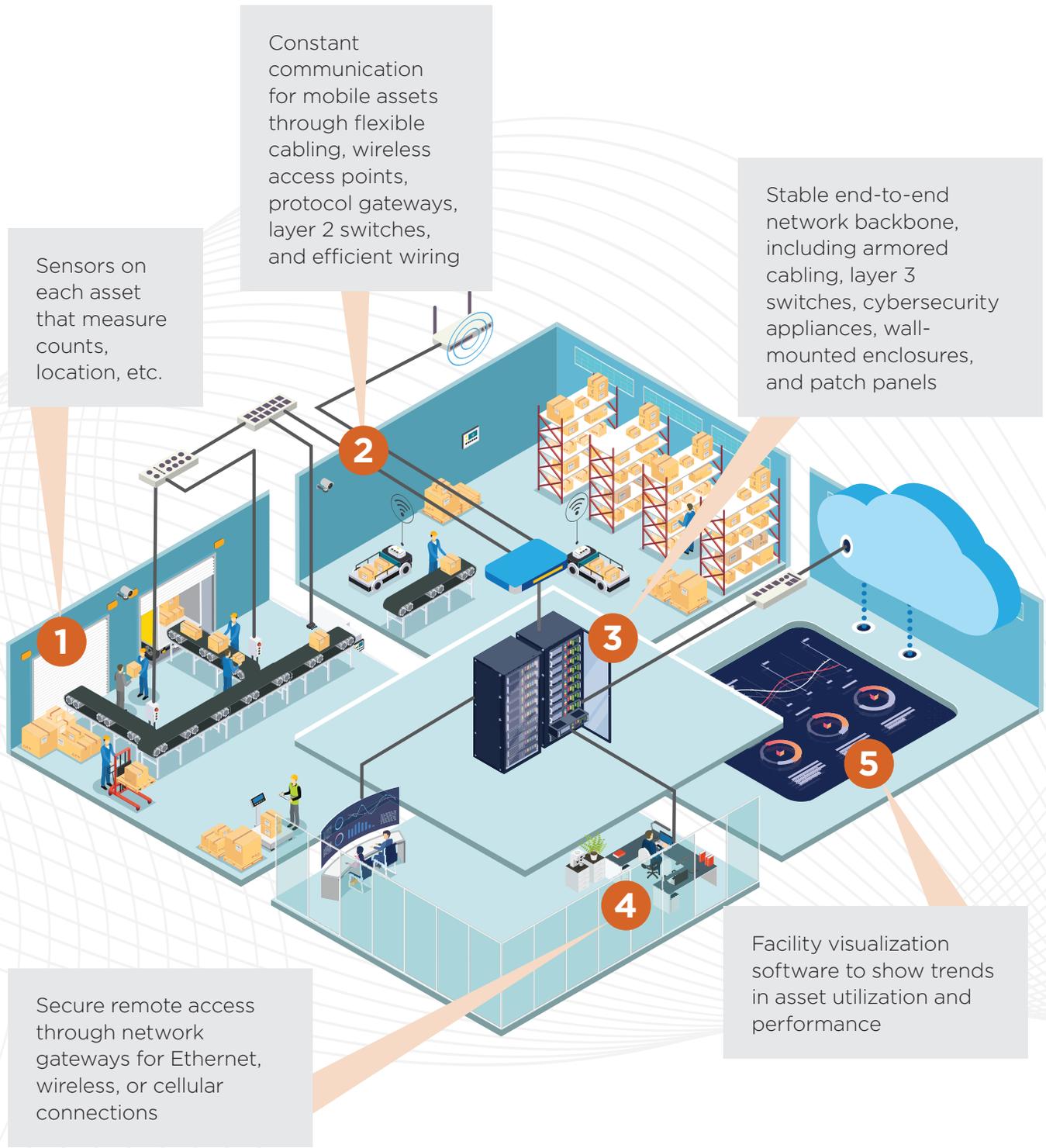
- 35% improvement in operational costs
- 10-25% improvement in order fulfillment

## The Pathway to an Automated Warehouse

For maximum efficiency and value, Belden has mapped out five major design steps that are crucial to successfully connect warehouse assets and workers:



# Components of the Solution



## How Belden Can Help

As a comprehensive networking solution provider, Belden enables material handlers to access the solutions, services and tools needed to take major steps in their automation journey.

### Our Experts at Your Side

Selecting the right solution for your business needs is not an easy task. These Belden experts will be your trusted advisors along the way.

#### Solution Architect



- Deep knowledge of network architectures
- Design solutions and networks of the future

#### Digital Automation Consultant



- Lead workflow and data assessment
- Identify opportunities for digital transformation
- Calculate projected ROI

#### Solution Consultant



- Deep technical knowledge of applications and verticals
- Conduct industrial network audits

#### Service Engineer



- Deep knowledge of products and technologies
- Test and commission networks
- Deliver pre- and post-sale technical support

# End-to-End Solution Portfolio

Belden offers the most comprehensive networking portfolio for your warehouse automation solution. This includes:

## Cable

- Fiber
- Copper



## Connectivity

- Field Terminators
- Connectivity Tools
- Pre-terminated Cord-Set
- Active & Passive I/O Blocks
- Racks, Enclosures, & Patch Panels



## Networking

- Wireless
- Gateways
- Switches
- Routers



## Software & Services

- Network Management Software
- Firewalls
- Software Configuration Management & Virtual Machine
- Network Access Control



## Ecosystem Partners

Belden's end-to-end partner ecosystem makes scalable digital transformation easier & faster. To check out our list of authorized partners in material handling, please visit our [Ecosystem Partner Showcase](#).



## About Belden

Belden Inc. delivers the infrastructure that makes the digital journey simpler, smarter and secure. We're moving beyond connectivity, from what we make to what we make possible through a performance-driven portfolio, forward-thinking expertise and purpose-built solutions. With a legacy of quality and reliability spanning 120-plus years, we have a strong foundation to continue building the future. 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](https://www.belden.com); follow us on [Facebook](#), [LinkedIn](#) and [Twitter](#).

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