

Industrial Wireline Networking Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2024 to 2032

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Abstracts

The Global Industrial Wireline Networking Market was valued at USD 6.5 billion in 2023 and is projected to expand at a CAGR of 7.1% from 2024 to 2032. Modern industrial operations increasingly rely on data-intensive applications, demanding high bandwidth and reliability to support processes such as high-resolution video monitoring, augmented reality-assisted maintenance, and complex simulation models. Wireline networks meet these needs, providing the consistent performance essential for seamless industrial communication. Key industrial applications—such as motion control, robotics, and distributed control systems—depend on precise timing and synchronization, making wireline networks with Time-Sensitive Networking (TSN) capabilities indispensable. TSN technology offers low-latency, low-jitter performance crucial for applications requiring deterministic communication.

This reliability is vital to maintaining production quality, ensuring operational safety, and minimizing downtime, especially in critical industrial surroundings where network breakdown can have substantial consequences. Segmented by network type, the market includes Ethernet, fieldbus, and other technologies. In 2023, the Ethernet segment captured over 60% of the market share and is expected to surpass USD 7.5 billion by 2032. Ethernet scalable bandwidth is essential in the industrial landscape, where vast amounts of data are generated by sensors, cameras, and other devices. The growing demand for high data throughput in industrial networks makes Ethernet an increasingly preferred choice for data-intensive operations, supporting both current and future network demands.

The market is also divided by components into hardware, software, and services. The hardware segment is anticipated to exceed USD 7 billion by 2032, fueled by the

ongoing convergence of information technology (IT) and operational technology (OT) networks. Manufacturers are innovating hardware that bridges IT networks with industrial control systems, supporting standard IT protocols as well as industry-specific ones like Ethernet/IP, Modbus, and Profinet. This convergence enhances connectivity between factory floors and enterprise IT systems, facilitating smooth data flow and improved decision-making across the organization.

Regionally, the U.S. industrial wireline networking market held over 75% share in 2023. A notable trend in the U.S. is the integration of 5G technology with wireline networks. By combining the speed and low latency of 5G with the stability of wireline connections, U.S. facilities leverage this hybrid network for advanced applications, such as mobile robotics, augmented reality, and adaptive production lines, while maintaining wireline reliability for critical control systems. This approach supports the move toward smart manufacturing but also introduces challenges related to security and the seamless transition between wireless and wired connections.

Contents

Report Content

CHAPTER 1 METHODOLOGY & SCOPE

- 1.1 Research design
 - 1.1.1 Research approach
 - 1.1.2 Data collection methods
- 1.2 Base estimates and calculations
 - 1.2.1 Base year calculation
 - 1.2.2 Key trends for market estimates
- 1.3 Forecast model
- 1.4 Primary research & validation
 - 1.4.1 Primary sources
 - 1.4.2 Data mining sources
- 1.5 Market definitions

CHAPTER 2 EXECUTIVE SUMMARY

- 2.1 Industry 360° synopsis, 2021 - 2032

CHAPTER 3 INDUSTRY INSIGHTS

- 3.1 Industry ecosystem analysis
- 3.2 Supplier landscape
 - 3.2.1 Hardware providers
 - 3.2.2 Software providers
 - 3.2.3 Automation equipment providers
 - 3.2.4 System integrators
 - 3.2.5 End users
- 3.3 Profit margin analysis
- 3.4 Technology differentiators
 - 3.4.1 High-speed data transfer and low latency
 - 3.4.2 Ruggedized ethernet switches
 - 3.4.3 Modular network infrastructure
 - 3.4.4 Embedded security protocols
 - 3.4.5 Others
- 3.5 Key news & initiatives

3.6 Regulatory landscape

3.7 Impact forces

3.7.1 Growth drivers

3.7.1.1 The proliferation of connected devices and sensors in industrial environments

3.7.1.2 Enhanced security features of wireline networks

3.7.1.3 High-bandwidth application requirements in modern industrial processes

3.7.1.4 Growing investments in legacy equipment and systems that rely on traditional wireline protocols

3.7.2 Industry pitfalls & challenges

3.7.2.1 Scalability and flexibility challenges

3.7.2.2 Networking and troubleshooting concerns

3.8 Growth potential analysis

3.9 Porter's analysis

3.10 PESTEL analysis

CHAPTER 4 COMPETITIVE LANDSCAPE, 2023

4.1 Introduction

4.2 Company market share analysis

4.3 Competitive positioning matrix

4.4 Strategic outlook matrix

CHAPTER 5 MARKET ESTIMATES & FORECAST, BY NETWORK, 2021 - 2032 (\$BN)

5.1 Key trends

5.2 Ethernet

5.2.1 Industrial ethernet

5.2.2 Gigabit ethernet

5.2.3 Others

5.3 Fieldbus

5.3.1 Profibus

5.3.2 Modbus

5.3.3 DeviceNet

5.3.4 CANopen

5.3.5 INTERBUS

5.4 Others

CHAPTER 6 MARKET ESTIMATES & FORECAST, BY COMPONENT, 2021 - 2032

(\$BN)

6.1 Key trends

6.2 Hardware

6.2.1 Routers

6.2.2 Switches

6.2.3 Gateways

6.2.4 Hubs

6.2.5 Others

6.3 Software

6.4 Services

6.4.1 Installation & integration

6.4.2 Maintenance & support

6.4.3 Consulting services

CHAPTER 7 MARKET ESTIMATES & FORECAST, BY APPLICATION, 2021 - 2032 (\$BN)

7.1 Key trends

7.2 Process automation

7.3 Factory automation

7.4 Energy & power

7.5 Others

CHAPTER 8 MARKET ESTIMATES & FORECAST, BY END USE, 2021 - 2032 (\$BN)

8.1 Key trends

8.2 Manufacturing

8.3 Energy & utilities

8.4 Transportation & logistics

8.5 Telecommunications

8.6 Healthcare

8.7 Others

CHAPTER 9 MARKET ESTIMATES & FORECAST, BY REGION, 2021 - 2032 (\$BN)

9.1 Key trends

9.2 North America

9.2.1 U.S.

- 9.2.2 Canada
- 9.3 Europe
 - 9.3.1 UK
 - 9.3.2 Germany
 - 9.3.3 France
 - 9.3.4 Spain
 - 9.3.5 Italy
 - 9.3.6 Russia
 - 9.3.7 Nordics
- 9.4 Asia Pacific
 - 9.4.1 China
 - 9.4.2 India
 - 9.4.3 Japan
 - 9.4.4 South Korea
 - 9.4.5 ANZ
 - 9.4.6 Southeast Asia
- 9.5 Latin America
 - 9.5.1 Brazil
 - 9.5.2 Mexico
 - 9.5.3 Argentina
- 9.6 MEA
 - 9.6.1 UAE
 - 9.6.2 South Africa
 - 9.6.3 Saudi Arabia

CHAPTER 10 COMPANY PROFILES

- 10.1 ABB
- 10.2 Advantech
- 10.3 Amphenol
- 10.4 BCE
- 10.5 Belden
- 10.6 Broadcom
- 10.7 Cisco Systems
- 10.8 Emerson
- 10.9 Hitachi Energy
- 10.10 Huawei
- 10.11 Industrial Networking Solutions (INS)
- 10.12 Infosys

- 10.13 Intel Corporation
- 10.14 L&T Technology Services
- 10.15 Moxa
- 10.16 NXP Semiconductors
- 10.17 Rockwell Automation
- 10.18 Siemens AG
- 10.19 Techwave
- 10.20 VIAVI Solutions

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