

Smart Textiles with Integrated Electronics Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

<https://marketpublishers.com/r/S347E4C3812BEN.html>

Date: October 2025

Pages: 250

Price: US\$ 4,850.00 (Single User License)

ID: S347E4C3812BEN

Abstracts

The Global Smart Textiles With Integrated Electronics Market was valued at USD 7 billion in 2024 and is estimated to grow at a CAGR of 22.6% to reach USD 55.6 billion by 2034.

The sharp expansion indicates a strong potential for electronic functionality to be embedded directly into fabrics. Continuous innovations in flexible electronics, advanced sensor systems, and energy-harvesting technologies are redefining the capabilities of traditional textiles. The healthcare industry remains the primary driver, as intelligent fabrics are enabling real-time health monitoring, early disease detection, and personalized medical treatment. The use of integrated biosensors, temperature sensors, and motion sensors is transforming patient care. Progress in textile manufacturing, including conductive materials and flexible circuit integration, is lowering production costs while improving durability and performance. The availability of washable and resilient electronic fabrics has addressed earlier limitations, fueling broader commercial adoption. This growth is further supported by increased R&D funding and collaborative partnerships between technology companies and textile producers. Government initiatives promoting Industry 4.0 and smart manufacturing have also provided a favorable environment for expanding smart textile applications across industrial and consumer sectors. With advanced sensing technologies now embedded in fabrics, smart textiles can actively detect and respond to physical or environmental changes, enabling accurate monitoring of key physiological data such as heart rate, respiration, and glucose levels.

The passive smart textiles segment held a 37.24% share in 2024. These fabrics can identify variations in environmental conditions such as humidity, pressure, and

temperature, but cannot alter or adapt themselves in response. Their dominance highlights the maturity, stability, and widespread adoption of passive sensing technologies across multiple applications, offering an efficient and power-free sensing solution that enhances user comfort and reliability.

The fabric-level integration segment held a 45% share in 2024 and is projected to reach a CAGR of 24.9% between 2025 and 2034. This integration technique incorporates electronic components directly during textile production, ensuring that electronic functionality is embedded without compromising the natural feel or appearance of the fabric. The process involves distributing sensors and electronic circuits within the textile structure to enhance durability, flexibility, and functionality. Such integration supports applications like connected garments and adaptive fabrics with improved washability, resilience, and performance consistency over time.

North America Smart Textiles with Integrated Electronics Market held 33.5% share in 2024 owing to its advanced R&D ecosystem, significant investment in innovation, and early technology adoption. The region's expansion is largely supported by the United States, driven by strong collaboration between major technology firms, research institutions, and defense sectors. Favorable intellectual property frameworks, abundant venture capital, and robust partnerships between industry and academia are further reinforcing the region's leadership in the development and commercialization of smart textiles.

The major players in the Global Smart Textiles with Integrated Electronics Market include Myant Inc., AiQ Smart Clothing Inc., Sensoria Inc., Clothing+, Intelligent Textiles Ltd., Vista Medical Ltd., Xenoma Inc., Ohmatex A/S, Gentherm Inc., Textronics, Interactive Wear AG, Hexoskin (Carr? Technologies), Nextiles Inc., Loomia Technologies, and Schoeller Textiles AG. Key strategies adopted by companies in the Smart Textiles with Integrated Electronics Market center on innovation, collaboration, and sustainable manufacturing. Leading players are heavily investing in R&D to create textiles with higher conductivity, comfort, and sensor accuracy while maintaining wearability and durability. Many are forming strategic partnerships with technology developers and healthcare providers to co-develop advanced smart fabric systems.

Contents

CHAPTER 1 METHODOLOGY AND SCOPE

- 1.1 Market scope and definition
- 1.2 Research design
 - 1.2.1 Research approach
- 1.3 Data collection methods
- 1.4 Data mining sources
 - 1.4.1 Global
 - 1.4.2 Regional/Country
- 1.5 Base estimates and calculations
 - 1.5.1 Base year calculation
 - 1.5.2 Key trends for market estimation
- 1.6 Primary research and validation
 - 1.6.1 Primary sources
- 1.7 Forecast model
- 1.8 Research assumptions and limitations

CHAPTER 2 EXECUTIVE SUMMARY

- 2.1 Industry 360° synopsis
- 2.2 Key market trends
 - 2.2.1 Regional
 - 2.2.2 Product type
 - 2.2.3 Technology
 - 2.2.4 Application
- 2.3 CXO perspectives: strategic imperatives
 - 2.3.1 Key decision points for industry executives
 - 2.3.2 Critical success factors for market players
- 2.4 Future outlook and strategic recommendations

CHAPTER 3 INDUSTRY INSIGHTS

- 3.1 Industry ecosystem analysis
 - 3.1.1 Supplier landscape
 - 3.1.2 Profit margin
 - 3.1.3 Value addition at each stage
 - 3.1.4 Factors affecting the value chain

- 3.2 Industry impact forces
 - 3.2.1 Growth drivers
 - 3.2.1.1 Growing demand for wearable technology
 - 3.2.1.2 Advancements in flexible electronics and materials
 - 3.2.1.3 Growth in healthcare and medical applications
 - 3.2.2 Industry pitfalls & challenges
 - 3.2.2.1 High manufacturing and material costs
 - 3.2.2.2 Durability and washability issues
 - 3.2.3 Opportunities
 - 3.2.3.1 Rising health and fitness awareness
 - 3.2.3.2 Integration with IoT and connected devices
- 3.3 Growth potential analysis
- 3.4 Future market trends
- 3.5 Technology and innovation landscape
 - 3.5.1 Current technological trends
 - 3.5.2 Emerging technologies
- 3.6 Price trends
 - 3.6.1 By region
 - 3.6.2 By Type
- 3.7 Regulatory landscape
 - 3.7.1 standards and compliance requirements
 - 3.7.2 Regional regulatory frameworks
- 3.8 Porter's analysis
- 3.9 PESTEL analysis

CHAPTER 4 COMPETITIVE LANDSCAPE, 2024

- 4.1 Introduction
- 4.2 Company market share analysis
 - 4.2.1 By region
 - 4.2.1.1 North America
 - 4.2.1.2 Europe
 - 4.2.1.3 Asia Pacific
 - 4.2.1.4 Latin America
 - 4.2.1.5 Middle East and Africa
- 4.3 Company matrix analysis
- 4.4 Competitive analysis of major market players
- 4.5 Competitive positioning matrix
- 4.6 Key developments

- 4.6.1 Mergers & acquisitions
- 4.6.2 Partnerships & collaborations
- 4.6.3 New Product Launches
- 4.6.4 Expansion Plans

CHAPTER 5 MARKET ESTIMATES & FORECAST, BY PRODUCT TYPE, 2021 - 2034 (\$BN, THOUSAND UNITS)

- 5.1 Key trends
- 5.2 Passive smart textiles
- 5.3 Active smart textiles
- 5.4 Ultra-smart textiles

CHAPTER 6 MARKET ESTIMATES & FORECAST, BY TECHNOLOGY, 2021 - 2034 (\$BN, THOUSAND UNITS)

- 6.1 Key trends
- 6.2 Fiber-level integration
- 6.3 Yarn-level integration
- 6.4 Surface treatment

CHAPTER 7 MARKET ESTIMATES & FORECAST, BY APPLICATION, 2021 - 2034 (\$BN, THOUSAND UNITS)

- 7.1 Key trends
- 7.2 Healthcare & medical
- 7.3 Sports & fitness
- 7.4 Fashion & lifestyle
- 7.5 Military & defense
- 7.6 Automotive
- 7.7 Industrial
- 7.8 Others

CHAPTER 8 MARKET ESTIMATES & FORECAST, BY REGION, 2021 - 2034 (\$BN, THOUSAND UNITS)

- 8.1 Key trends
- 8.2 North America
 - 8.2.1 U.S.

- 8.2.2 Canada
- 8.3 Europe
 - 8.3.1 UK
 - 8.3.2 Germany
 - 8.3.3 France
 - 8.3.4 Italy
 - 8.3.5 Spain
 - 8.3.6 Russia
- 8.4 Asia Pacific
 - 8.4.1 China
 - 8.4.2 India
 - 8.4.3 Japan
 - 8.4.4 Australia
 - 8.4.5 South Korea
- 8.5 Latin America
 - 8.5.1 Brazil
 - 8.5.2 Mexico
 - 8.5.3 Argentina
- 8.6 MEA
 - 8.6.1 UAE
 - 8.6.2 South Africa
 - 8.6.3 Saudi Arabia

CHAPTER 9 COMPANY PROFILES

- 9.1 AiQ Smart Clothing Inc.
- 9.2 Clothing+
- 9.3 Gentherm Inc.
- 9.4 Hexoskin (Carr? Technologies)
- 9.5 Interactive Wear AG
- 9.6 Intelligent Textiles Ltd.
- 9.7 Loomia Technologies
- 9.8 Myant Inc.
- 9.9 Nextiles Inc.
- 9.10 Ohmatex A/S
- 9.11 Schoeller Textiles AG
- 9.12 Sensoria Inc.
- 9.13 Textronics
- 9.14 Vista Medical Ltd.

9.15 Xenoma Inc.

I would like to order

Product name: Smart Textiles with Integrated Electronics Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

Product link: <https://marketpublishers.com/r/S347E4C3812BEN.html>

Price: US\$ 4,850.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/S347E4C3812BEN.html>