

Smart Fabrics Transforming the Textile Landscape: Key Growth Engine for Healthcare, Sports & Defense | DataM Intelligence

Smart fabrics embedded with sensors and electronics are reshaping healthcare, sports, defense, and fashion, driving a US\$6.7Bn market by 2031 at a 12.8% CAGR.

NEW YORK, NY, UNITED STATES, July 22, 2025 /EINPresswire.com/ -- Market Overview :-

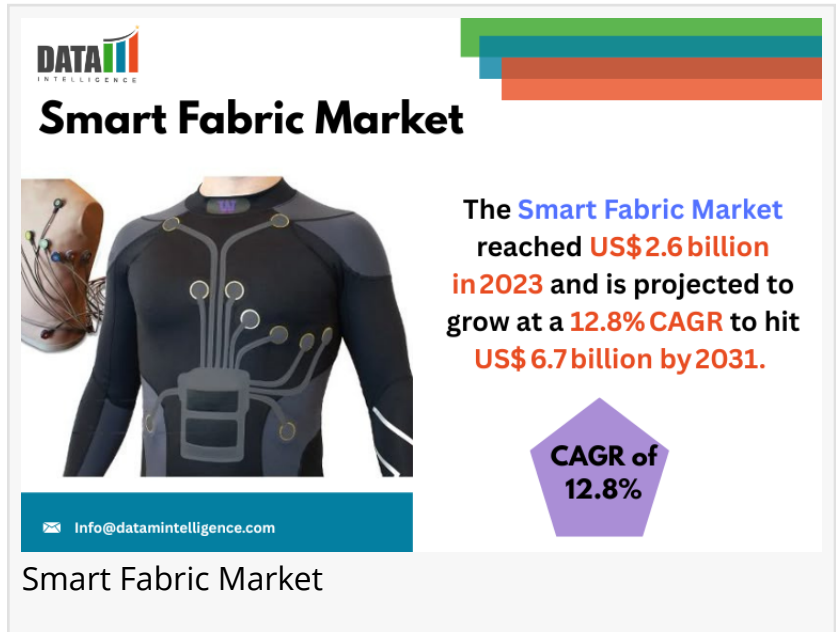
The [Smart Fabric Market](#) reached US\$2.6 billion in 2023 and is projected to grow at a 12.8% CAGR to hit US\$6.7 billion by 2031. Smart fabrics textiles embedded with

sensors, actuators, and conductive yarns are redefining end-use applications from health monitoring to performance apparel. Key advancements in flexible electronics, miniaturized power sources, and durable wash-and-wear integration are enabling garments and technical textiles that can sense, communicate, and adapt in real time, driving robust demand across healthcare, sports, military, and fashion sectors.

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Smart fabrics are not just textiles, they're a platform for real-time health tracking, performance analytics, and adaptive comfort, ushering in an era where every garment can think, respond & protect.”

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Smart fabric Market Drivers are :-

Rising Demand for Remote Patient Monitoring: Wearable textiles that continuously track vital signs (ECG, temperature, respiration) are gaining traction in telemedicine and eldercare.

Athlete Performance Optimization: Smart sportswear offering real-time biomechanical and metabolic data helps coaches and athletes fine-tune training and reduce injury risk.

Growing Military & Defense Applications: Advanced camouflage, health-monitoring uniforms, and embedded communication fabrics strengthen soldier safety and situational awareness.

Consumer Interest in Connected Fashion: Tech-savvy consumers seek garments with embedded LEDs, haptic feedback, or smartphone connectivity for both function and style.

Technological Advances in Materials: Breakthroughs in conductive polymers, graphene coatings, and energy-harvesting fibers are improving durability, washability, and power autonomy.

Smart fabric Market Key Players are :

AIQ Smart Clothing Inc.

ThermoSoft International Corporation

Eeonyx Corporation

Ohmatex ApS

Sensoria Inc.

Clothing+ (Jabil)

MacLellan Rubber

Sensing Tex SL

Adidas AG

Hexoskin

Smart fabric Market Segmentation :

By Fabric Type: Woven, Non-woven, Knitted

By Technology: Resistive Sensors, Capacitive Sensors, Piezoelectric Fibers, Conductive Inks

By Application:

Healthcare & Wellness

Sports & Fitness

Military & Defense

Fashion & Lifestyle

Automotive & Transportation

By Region: North America, Europe, Asia-Pacific, Latin America, Middle East & Africa

Latest News- USA

January-2025: Sensoria Inc. closed a US\$-25-million Series-B financing round to expand its North American smart-textile manufacturing capacity for performance apparel and medical shirts.

February-2025: Eeonyx Corporation inaugurated a state-of-the-art graphene-enhanced fiber facility in Ohio, tripling its production capability for conductive yarns used in intelligent garments.

June-2024: AIQ Smart Clothing Inc. secured FDA 510(k) clearance for its ECG-monitoring smart shirt, becoming the first textile-based wearable to gain such approval in the U.S.

Latest News- Japan

March-2025: Toray Industries, in collaboration with Ohmatex ApS, began commercial trials of its phase-change thermal-regulating smart fabric in seating systems for Toyota's latest electric vehicles.

March-2024: Clothing+ (Jabil) partnered with Mitsubishi Electric to integrate conductive yarns into industrial uniforms, enabling in-garment posture correction alerts and safety monitoring for factory workers.

October-2023: Ohmatex ApS showcased its adaptive thermal fabric prototype at CEATEC-2023, developed jointly with Toray Industries for automotive and consumer-wear applications.

Key Developments through Mid-2025 :

By mid-2025, the smart fabric ecosystem has seen strategic collaborations and scaling efforts to meet rising demand. Sensoria closed a US\$-25-million Series-B round in January-2025, earmarked for expanding its North American manufacturing footprint. In February-2025, Eeonyx Corporation announced the opening of a new conductive polymer facility in Ohio to triple its

output of graphene-enhanced fibers. ThermoSoft International launched a global pilot with a major European hospital network in April 2025, testing its washable temperature-sensing dressings for neonatal care. Meanwhile, Adidas AG began integrating smart fabric knee braces into its Elite Soccer lineup, providing real-time joint-load data to athletes and coaches.

Conclusion :

The Smart Fabric Market stands at the cusp of a textile revolution, where the convergence of flexible electronics and advanced materials is creating garments that do more than clothe us they connect, protect, and empower. Fueled by strong health-tech adoption, performance apparel demand, and defense needs, the sector's double-digit growth is set to continue through 2031. As key players expand manufacturing capacities, secure regulatory approvals, and forge cross-industry partnerships, smart fabrics will increasingly weave intelligence into everyday life.

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Sai Kumar

DataM Intelligence 4market Research LLP

+1 877-441-4866

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