

# Global Smart Textiles For Military Market to Reach \$5.15 Billion at a Steady 13.9% CAGR by 2029

*The Business Research Company's Smart Textiles For Military Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034*

LONDON, GREATER LONDON, UNITED KINGDOM, November 18, 2025  
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How Large Will The [Smart Textiles For Military Market](#) Be By 2025?

Recently, there has been a surge in the market size of smart textiles for military. The market, which stood at \$2.7 billion in 2024, is projected to leap to \$3.07 billion by 2025, marking a compound annual growth rate (CAGR) of 13.6%. The significant rise in the past years can be linked to the early integration of temperature regulating fabrics, the use of antimicrobial coatings, the emergence of lightweight ballistic fabrics, the adoption of conductive fibers for communication, and the inaugural use of phase-change materials for managing heat.



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The market for smart textiles geared toward military use is on a trajectory towards substantial expansion in the

coming years, forecasted to reach \$5.15 billion by 2029, with a compound annual growth rate (CAGR) of 13.9%. The prediction for this expansion period is founded on several factors, including higher demand for safety and protection of soldiers, the increased use of wearable systems monitoring health, innovation in technologies that harvest energy, defense budget growth in burgeoning economies, and a focus on alleviating soldier exhaustion through adjustable textiles. Forecasted trends for this period encompass the inclusion of AI-powered sensors, creation of adjustable camouflage materials, application of nanofiber-based ballistic

defense systems, a mixture of passive and active textiles, and emphasis on all-purpose fabrics that merge protection, energy, and monitoring capabilities.

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### What Are The Major Driving Forces Influencing The Smart Textiles For Military Market Landscape?

The growing susceptibility to biological and chemical threats is anticipated to fuel the progressive evolution of the smart textiles for military market. The term biological and chemical threats implies the utilization or possible usage of harmful biological or chemical materials like bacteria, viruses, or toxins, which could damage humans, animals, plants, and the environment, typically in the context of warfare, terrorism, or unintentional exposure. The vulnerability to these threats is increasing due to escalated industrialization, leading to greater manufacturing, more prevalent usage of dangerous substances, and a higher vulnerability to incidental or deliberate dispersion in the environment. Military smart textiles aid in confronting these chemical and biological threats by supplying protective garments that come with embedded sensors and materials capable of detecting, counteracting, or protecting against harmful agents. For example, a report from the United Nations, a United States-based intergovernmental organization, stated that between February 2023 and June 2025, there were 9,712 recorded instances of Russian occupation forces using ammunition loaded with dangerous chemical agents, including riot control agents, as a warfare strategy. Consequently, the escalating susceptibility to chemical and biological threats is propelling the growth of the military smart textiles market.

### Who Are The Top Players In The Smart Textiles For Military Market?

Major players in the Smart Textiles For Military Global Market Report 2025 include:

- BAE Systems plc
- Sioen Industries NV
- Teijin Limited (Teijin Aramid)
- DuPont de Nemours Inc.
- TenCate Protective Fabrics
- WL Gore & Associates Inc.
- Milliken & Company
- Schoeller Textil AG
- Noble Biomaterials Inc.
- Mide Technology Corporation

### What Are The Prominent Trends In The Smart Textiles For Military Market?

The primary focus of significant firms in the smart textiles for military market is to develop groundbreaking solutions like moisture-wicking fabrics to improve the comfort, performance, and resilience of soldiers in difficult circumstances. Moisture-wicking fabrics, which pull sweat away from the skin to evaporate on the outer surface, serve not only to maintain the wearer's

dryness, but also regulate body temperature, prevent chafing, minimize discomfort during extended activity, and improve overall performance and endurance in challenging conditions. An example of this occurred in April 2024, when Heathcoat Fabrics Limited, a manufacturing firm based in UK, introduced Drytec, a moisture-wicking spacer fabric with a pending patent, tailored specifically for military attire. Drytec is not only designed to draw sweat away from the skin and spread it onto the outer surface, but it also possesses specialized properties for breathability and quick-drying to maintain optimal body temperature, alleviate discomfort during lasting activities, and improve overall operational performance and resilience in severe and complex environments. Drytec has been constructed with durability and resistance to abrasion in mind, to meet the strenuous requirements of military operations, while its lightweight build assures easy movement and adaptability. The fabric's uniquely innovative structure also promotes long-term wearability, thereby reducing the likelihood of skin irritation, chafing, and stress related to heat, thus benefiting the safety, comfort, and efficiency of military personnel across various climates and operational situations.

Market Share And Forecast By Segment In The [Global Smart Textiles For Military Market](#)

The smart textiles for military market covered in this report is segmented –

- 1) By Type: Passive Smart Textiles, Active Smart Textiles, Ultra-Smart Textiles
- 2) By Raw Material: Conductive Fibers, Phase Change Materials, Nanofibers, Smart Polymers
- 3) By Application: Camouflage, Ballistic Protection, Energy Harvesting, Health Monitoring, Other Applications
- 4) By End User: Army, Navy, Air Force, Special Forces

Subsegments:

- 1) By Passive Smart Textiles: Temperature Regulating Fabrics, Moisture Absorbing Fabrics, Antimicrobial Fabrics, Ultraviolet Protecting Fabrics
- 2) By Active Smart Textiles: Energy Harvesting Fabrics, Conductive Fabrics, Shape Memory Fabrics, Thermochromic Fabrics
- 3) By Ultra-Smart Textiles: Sensor Integrated Fabrics, Communication Enabled Fabrics, Health Monitoring Fabrics, Adaptive Camouflage Fabrics

View the full smart textiles for military market report:

<https://www.thebusinessresearchcompany.com/report/smart-textiles-for-military-global-market-report>

Smart Textiles For Military Market Regional Insights

In the Smart Textiles For Military Global Market Report 2025, North America stood as the dominating region in 2024. Meanwhile, Asia-Pacific is anticipated to witness the most rapid growth within the forecasted timeline. The report encompasses regions such as Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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