

Smart Textiles For Military Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

The smart textiles for the military market is anticipated to grow at a CAGR of 15% during the forecast period.

The COVID-19 pandemic moderately impacted the market. Although the global military expenditure reached USD 2.1 trillion in 2021, with several military powerhouses investing in soldier modernization and the R&D of advanced technologies for soldiers, the onset of the pandemic led to various manufacturers being unable to manufacture necessary products owing to border restrictions and a decline in the workforce, which led to various manufacturers facing losses. The end of the pandemic led to growing investments from countries focused on developing and deploying advanced smart textiles for their military personnel. Moreover, the end of the pandemic witnessed nations opening their borders, leading to the free flow of trade and various manufacturers of smart textiles receiving the necessary raw materials. With the gradual improvement in the workforce, manufacturers' profits started to increase. Thus, the advancements and investments in this market are expected to lead to future incremental growth in the smart textiles market.

Companies and research facilities are currently focusing on the various categories of technology-enabled fibers, such as dual-channel data transfer capable fibers, color-changing fibers, and fibers that can store electricity. Textile-based materials with nanotechnology and electronics also play a vital role in developing technologically advanced military uniforms and materials. The growing emphasis on integrating such technologies into military textiles is expected to bolster the market prospects during the forecast period.

Military Smart Textiles Market Trends

Health Monitoring and Diagnostics Segment to Dominate the Market

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The operation of military personnel in harsh terrains for extended tenure necessitates protection from elements and battle hazards. Biological and chemical agents continue to pose severe threats because of their overall defensive and offensive potential. Recently, the threat of bioterrorism increased due to the concerns that non-state armed actors, such as terrorists and militia groups, could use biological agents to target air, water sources, food supplies, and other vital infrastructures.

Additionally, the integration of IoT sensors in smart clothes for determining the presence and level of hazardous gas in the environment allows the military to efficiently mitigate the harm caused by dangerous gases.

Acellent Technologies Inc., a US company, in collaboration with the US Army, developed the SmartArmor system for the in-service monitoring of the health of body armor structures. The system was designed to monitor personal body armor comprising an intelligent layer and software to increase the safety of soldiers in a combat zone. Furthermore, as of May 2022, researchers in the United States worked on wearable gas sensors integrated with uniforms. The flexible, porous, and susceptible nitrogen dioxide sensors for military applications monitor the soldier's health and safety on the battleground or in case of hazardous gases. Several technologically advanced product research and developments are expected to drive this market segment at significant growth rates during the forecast period.

The Asia-Pacific Region is Expected to Witness Significant Growth During the Forecast Period.

The Asia-Pacific region is expected to witness significant growth during the forecast period. The area houses some of the largest arms importers, such as India, Australia, China, South Korea, etc. Owing to the ongoing territorial issues and geographical tensions in the region, the countries in the area are rapidly increasing their military spending. China and India are the world's largest defense spenders, with USD 293 billion and USD 76.6 billion in military spending in 2021. The increase in defense spending propels investments toward developing and deploying smart textiles for military personnel.

In September 2022, the Indian Institute of Technology (IIT) announced they signed a memorandum of understanding with Troop Comforts Limited (TCL), an enterprise of India's government, to develop Smart Protective Clothing for the Indian security forces.

Nevertheless, the growth in research activities to develop smart textiles for the militaries of countries like India, Japan, and others, is expected to drive market growth during the forecast period.

Military Smart Textiles Market Competitor Analysis

The smart textiles for the military market is fragmented due to many players. Some prominent players in the market are BAE Systems PLC, Texas Instruments Incorporated, TenCate Protective Fabrics, Dupont de Nemours Inc., and Schoeller Textil AG.

Players in the market collaborated with several universities and research organizations in Europe and North America to develop advanced smart textiles for global militaries. Moreover, companies are partnering with governments and armed forces to build customized products for their military personnel. The market is emerging, with a lot of scope for technological advancements. Since several countries realize the importance of smart textiles on the battlefield, significant R&D investments are anticipated from many countries, which may provide new opportunities for local players during the forecast period.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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