Smart Textiles in Apparel: Markets, Applications and Technologies

Description: This new report 'Smart Textiles in Apparel: Markets, Applications and Technologies' examines the markets for textile based wearable technologies, the companies producing them and the enabling technologies. This is creating a 4th industrial revolution for the textiles and fashion industry worth over $100 billion by 2025.

Advances in fields such as nanotechnology, organic electronics (also known as plastic electronics) and conducting polymers are creating a range of textile–based technologies with the ability to sense and react to the world around them. This includes monitoring biometric data such as heart rate, the environmental factors such as temperature and the presence of toxic gases producing real time feedback in the form of electrical stimuli, haptic feedback or changes in color.

The report identifies three distinct generations of textile wearable technologies.

- First generation is where a sensor is attached to apparel and is the approach currently taken by major sportswear brands such as Adidas, Nike and Under Armour

- Second generation products embed the sensor in the garment as demonstrated by products from Samsung, Alphabet, Ralph Lauren and Flex.

- In third generation wearables the garment is the sensor and a growing number of companies including AdvanPro, Tamicare and BeBop sensors are making rapid progress in creating pressure, strain and temperature sensors.

Third generation wearables represent a significant opportunity for new and established textile companies to add significant value without having to directly compete with Apple, Samsung and Intel.

The report predicts that the key growth areas will be initially sports and wellbeing followed by medical applications for patient monitoring and fashion. Technical textiles, fashion and entertainment will also be significant applications with the total market expected to rise to over $100 billion by 2025 with triple digit compound annual growth rates across many applications.

The rise of textile wearables also represents a significant opportunity for manufacturers of the advanced materials used in their manufacture. Toray, Panasonic, Covestro, DuPont and Toyobo are already supplying the necessary materials, while researchers are creating sensing and energy storage technologies, from flexible batteries to graphene supercapacitors which will power tomorrows wearables. The report examines the markets, details the latest advances and their applications.

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- Aluminium Inks From Alink Co
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