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NEW LEVEL FABRICS

The purpose and objectives. The aim of the scientific work is to draw attention to new technological sources that can be used in light industry. As well as exploring technology more extensively as a fashion design.

The object of the research is technologies of new fabrics, their use, risks and ideas about their introduction into achievement and fashion. The research is focused on the breakthroughs in the field of fabrication.

Methods and techniques. In our research we used the survey method and information analysis method on the development of textiles in the world and its use.

Scientific novelty and practical value of the results. Our research can be used as practical and theoretical material in studies and fashion industry world.

Research results. The fabric for a long time was perfected by mankind, from its origin and up to date. But it does not cease to improve. For the first time in history, scientists began to introduce technology and work equipment not only for military fabrics, but also for everyday things of textiles and clothing.

New fabrics are leading the way in scientific advances. Fabrics are no longer just a key player in fashion. Just imagine what it would be like if the fabrics had some qualities that were not characteristic of the fabric. These futuristic fabrics are embedded or woven with technological elements enhancing not only the use of the fabric, but also the wearer. These new fabrics can be broken into two categories: performance enhancing and aesthetic.

Performance Enhancing. These smart new fabrics are making a huge impact on industries such as athletic, sporting and the military. Properties can include regulating body temperature, controlling muscle vibration and reducing wind resistance. These properties can all help improve physical performance. Other new smart fabrics have

been created to help protect the human body from extreme hazards such as radiation, space travel and heat. Even the medical world is getting in the act. New fabrics that can release drugs into the skin, materials infused with moisturizers, perfumes and serums. The possibilities are endless.

Denim leaders Levi's partnered with Google to create Levis's x Jacquard by Google jacket. An interactive denim jacket, which not only looks great but is infused with revolutionary fabric technology. Once paired with a smartphone via Bluetooth, the jacket can perform basic key functions. The wearer just needs to tap and swipe accordingly.

Just last year, Stanford University student Po-Shun Hsu developed a plastic material, NanoPE, that helps radiate body heat. Thus, lowering the body temperature and cooling the wearer. The team are now working on making this material a woven textile, so it can be transformed into wearables.

Aesthetic. Aesthetic examples of smart textiles can include everything from fabrics that can change color to fabrics that light up. Power is collected from the sun, batteries or the environment harnessing vibrations and heat to react accordingly. We have seen dresses made from photo luminescent thread from designer Ying Gao, and designers using mobile phone LEDs to light up their garments on the runways. Using sensory technologies to make garments more interactive is just the start. [1]

Finally, independent of any university at all, Budapest-based textile designers Judit Eszter Karpati and Esteban de la Torre (known collectively as EJTech) are responsible for a project known as "Chromosonic." Making use of a small 12v arduino controller the technology transforms soundwaves into low level heat, which in turn affects the properties of the dye in the fabrics to change their appearance almost instantaneously. Alongside this, the heat from a person's hands can also affect the dyes' color, providing a twofold means of interaction with the fabric. What's most exciting about this approach is the complex textile designs EJTech have already produced, which are far more advanced than the prototypes seen elsewhere.

Who hasn't dreamed or fantasised about being invisible? The idea of being invisible is not something new. For hundreds of years, humans have imagined having a

fabric that would make us invisible. As in other fields, science and technology have advanced a lot in regard to fabrics and special fabrics, so this dream is getting closer and closer to becoming a reality today.

The Canadian company Hyperstealth Biotechnology is trying to keep its stealth fabrics project a secret by not giving out too many details, but they have offered a few pictures on their official website, and the results are truly amazing.

According to this company, the fabric that makes you invisible will not be sold commercially, but rather will be used to facilitate infiltration and camouflage missions in the military forces. But who knows, maybe sooner than you think, you'll be able to buy a coat that makes you invisible. Just look at the Internet, which began as something for military use, and today everyone in the world can use it.

In answer to sceptics on the existence of this new fabric making you invisible, the CEO of the above-mentioned company said that “this fabric works without cameras, batteries, special lighting or mirrors.” In addition, he describes it as light-weight and fairly inexpensive. [2]

Conclusions. Through the review of articles, we learned about the new fabrics of the world. A boundless array of technologies attracted the attention of the textile industry. They improve the fabric, making them much better than their predecessors. The fabrics protect, attract attention and surprise, as in the case with invisible fabric.

REFERENCES

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