

Passive smart textiles the first generation of smart textiles, are known to only perceive stimuli in the environment. They are mostly linked to survival situations, the outer layers are known to react to environmental conditions, while inner layers respond to body temperatures. One good example would be clothing worn while exercising, they are supposed to be breathable and absorb sweat. They are known to have no user control. Another great example would be uv protective clothing, these are specially treated garments designed to filter ultraviolet rays. Yes, regular fabrics can cover up one's skin from the sun, and sunscreen can be used as well. However, uv protective clothing protects your skin on another level. Sunscreen is eventually wears off, and regular fabrics do not contain the ultra violet protective factor. The garments provide protection from the sun ranging from fifteen to fifty plus. Being that the sun causes skin cancer this is great approach to protect yourself.

Active textiles the second generation of smart textiles, are known as nerves or if you would like to call them sensors. They pay attention to behaviors and can accurately respond to them. These textiles can memorize shape, regulate temperature, and even tell you how your body is functioning. A great example would be clothes and even shoes that you work out in. Active textiles can consist of leggings that can tell you what muscles you are using while working out and which ones you are not. This is not limited too work out clothing. Clothing that lights up can be one example. There are also socks and sneakers that can track your running pace. This

is beyond using a smartwatch, you can also check these results through an application on your phone. This is a great way to be on top of your general health.

Very smart textiles the third generation of smart textiles. These are known to be the smartest of them all. These textiles are known to be aware of themselves without having to be manipulated or controlled by any remote control. Very smart textiles can think for themselves, as they are known to have a brain. The brain is considered to be this built-in microcomputer in the garment. They can sense their own performance and conditions in the environment all on their own. An example would be a jacket that changes color all on its own due to conditions in the environment. These garments are sometimes called wearable computers.

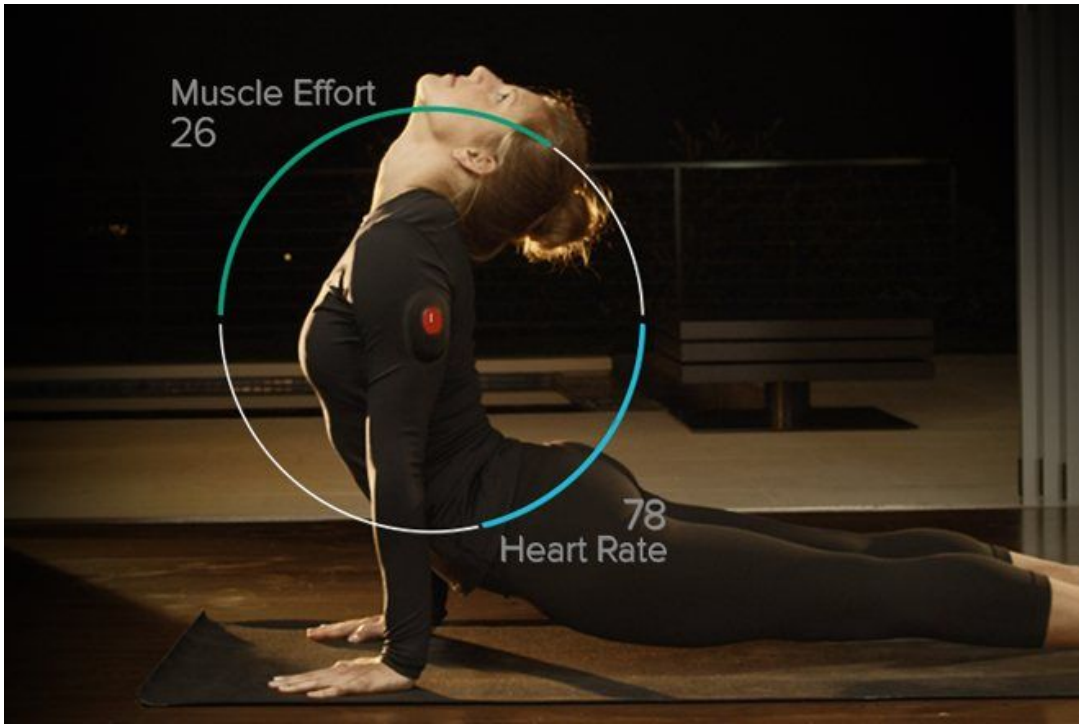
Passive textile

<https://www.bikini.com/style/stay-safe-sun-uv-protective-swimwear>



Active smart textile

<https://www.wellandgood.com/good-sweat/smart-activewear-next-generation-fitness-wearables/>



Very smart textile



https://www.researchgate.net/publication/289320656_Smart_textiles_1_Passive_smart
<https://www.globalsources.com/gsol/Womens-rashguard/p/sm/1151873121.htm#1151873121https://www.bikini.com/style/stay-safe-sun-uv-protective-swimwear>

<https://www.rd.com/health/wellness/sun-protective-clothing/>

<https://phys.org/news/2019-04-smart-scientists-threads-gases-woven.html>