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Engineers at NUS develop a microfibre sensor

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The unique sensor is highly sensitive and ultra-thin with a diameter of a strand of human hair.



A team of engineers from National University of Singapore (NUS) has developed a soft, flexible and stretchable microfiber sensor for real-time healthcare monitoring and diagnosis.

The unique sensor is highly sensitive and ultra-thin with a diameter of a strand of human hair. It is also simple and cost-effective to mass produce.

The smart microfiber sensor comprises a liquid metallic alloy, which serves as the sensing element, encapsulated within a soft silicone microtube.

The sensor measures an individual's pulse waveform in real-time, and the information can be used to determine one's heart rate, blood pressure, and stiffness in blood vessels.

The microfiber sensor could also be beneficial for patients suffering from atherosclerosis, which is the thickening and stiffening of the arteries caused by the accumulation of fatty streaks.

While the NUS researchers continue to explore new applications of the microfiber sensor, they are also keen to work with commercial partners to bring their novel sensor to market.