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Scientists in Tokyo design smart skin ECG device

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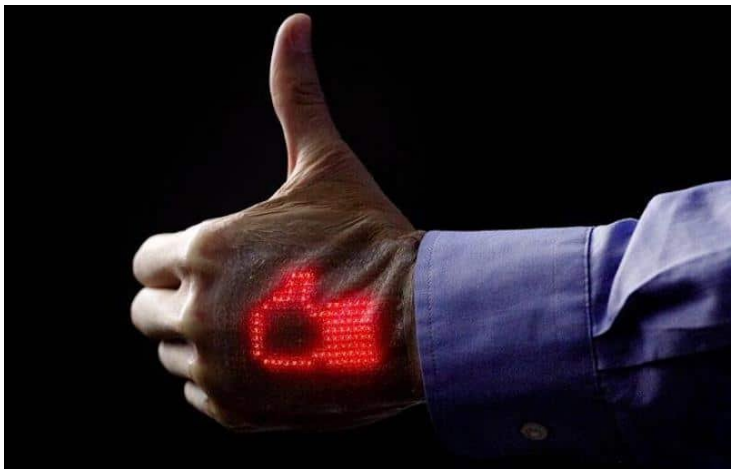

A group of researchers, at the University of Tokyo's Graduate School of Engineering in collaboration with Dai Nippon Printing, a leading Japanese printing company, has developed an ultrathin, highly elastic skin display device that can show the moving waveform of an electrocardiogram recorded by a breathable, on-skin electrode sensor.

It consists of a 16 x 24 array of micro LEDs and stretchable wiring mounted on a rubber sheet. The display is stretchable by as much as 45 per cent of its original length.

The wearable medical device fits tightly onto the patient and combines with a wireless communication module to transmit biometric data to smartphones or cloud-hosted storage. The technology has potential home healthcare applications.

The readings or electrocardiogram waveforms can be displayed on the screen in real time or sent to either the cloud or a memory device where the information is stored.

The integrated skin display could be brought to market within the next three years if the reliability of the device can be improved by optimising its structure, enhancing the production process for high integration, and overcoming technical challenges such as large-area coverage.