Project title:	Hybrid E-Tattoo - A platform for sensor fusion of smart textiles and skin adhesives for the next generation of smart wearables
Partner:	Hasselt University (UH) Institute of Materials in Electrical Engineering 1 of RWTH Aachen University Technisch en Wetenschappelijk Centrum voor de Belgische Textielnijverheld University of Applied Sciences Kaiserslautern
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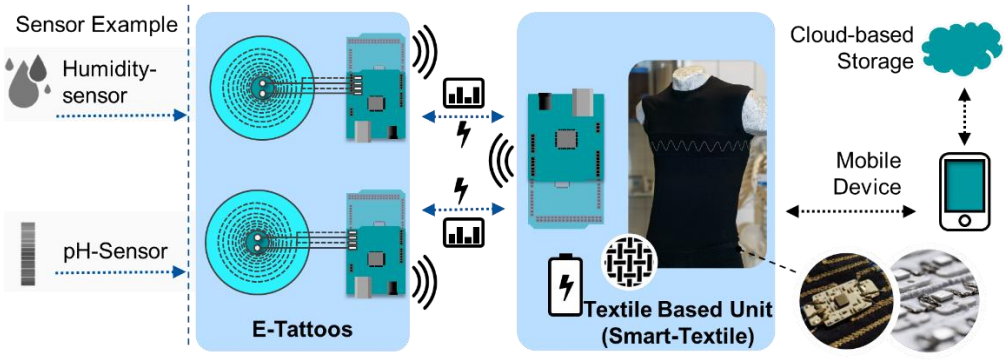
Mission Statement

In the past years, an increase in digital wearables that collect real-time data and vital parameters of the body to assess health has increased. These wearables can measure a variety of parameters such as temperature, oxygen saturation, breathing rate, etc. This project will work on a versatile hybrid plug & play wearable sensor technology platform by combining the expertise on functional skin adhesives and smart textiles. This makes wearable technology more accessible for SME companies, indicating that the type of sensors incorporated into the platform can be adapted according to the manufacturer needs/application, and where otherwise the knowledge base to enter and proceed in the complicated web of fused sensors is missing, is now simplified.



Approach

Hybrid E-Tattoo is based on the integration of different sensor concepts in both skin adhesives and textiles. The plug & play technology platform exists out of sensors that measure properties at the skin by using functional skin adhesives, called E-tattoos, and a textile-based unit (TB-U) equipped with textile-based sensors capable of gathering data from a single or more E-Tattoo's depending on the application. The intelligently designed platform will exist out the re-usable part and a disposable skin adhesive equipped with the sensors needed for the SME's application. The TB-U has a universal structure with a defined communication interface and to be used in different sensory tasks/applications. The TB-U remains for the lifetime of the textile, fulfills all requirements for washability or sweat tolerance and at the textile's end of lifetime is detached and recycled. Our consortium aims at building a reliable, durable, sustainable safe and easy to use smart healthcare wearable.

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