

# SINTEC



SOFT INTELLIGENCE EPIDERMAL COMMUNICATION PLATFORM

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**PROJECT TITLE:** Soft intelligence epidermal communication platform

**ACRONYM:** SINTEC

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**TOPIC:** ICT-02-2018 | Flexible and Wearable Electronics

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**PROJECT NUMBER:** 824984

**PROJECT COORDINATOR:** Uppsala University (Sweden)

**PARTNERS:** Mid Sweden University (Sweden), Links Foundation (Italy), STMicroelectronics (Italy), MySphera (Spain), Evalan (The Netherlands), Micronyc AB (Sweden), Warrant Hub S.p.A. (Italy)

**PROJECT WEBSITE:** [www.sintec-project.eu](http://www.sintec-project.eu)



## Smart patches help us to keep track

Soon, a new kind of smart patch will be released. They are made of **soft stretchable** circuit board technology and can measure **important body functions** that are wirelessly transferred to a smartphone. The researchers hope that the patches can be used in health and sports. In a new European research project, SINTEC, eight partners collaborate in developing a technology for **stretchable electronic patches**.

The smart patches are developed by a circuit board technology where small modules of common electronic components are mounted in a soft rubber material and connected with fluid alloy conductor tracks. The patches can measure important body functions and wirelessly gather the information to a smartphone with a safe, fast and streamlined transmission via the fat tissue in our body. Instead of sending signals into the air with an antenna, we aim it toward the body. This reduces the power needed for communication and the information cannot be read without coming into direct contact with the person's skin.

Because the smart patches are soft and thin, they are **more comfortable** than the wireless products available on the market today and the developers hope that the patch in the future will serve as a convenient, safe and discreet support system that can be used all the time regardless of what you do, for example, skiing, having a sauna or taking a shower.

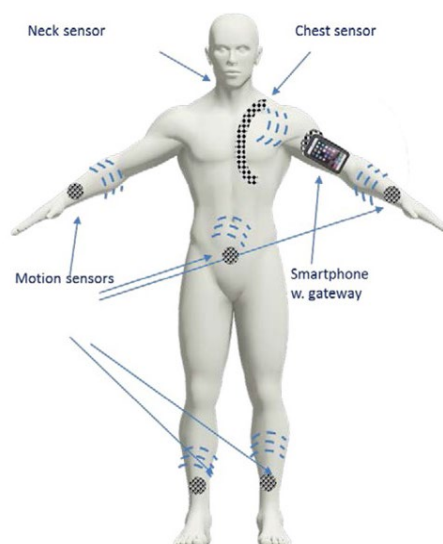
It resembles today's technical aids that are strapped to the body (like a wristband or a band around the chest). However, they should not be seen as a replacement for today's activity bracelet but as a complement. See it as the equivalent to if you choose to wear contact lenses or glasses.

The researchers plan to demonstrate the smart patches for the Swedish ski team and hope that the patches will **help athletes improve their performance**. The idea is that what you can only test in physiological laboratories today, you should be able to measure in normal exercise outdoors. Already today, you try to measure how effective your skiing style is, but with more data that connects movement, body strain and effort to how fast you get, you can easily improve your ride. It can also help athletes who train intensively to optimize your training and reduce the risk of injury.

Another target group is patients with **heart problems or recovering** from a bone fracture or surgery. Looking at other uses, these smart patches should provide comfort in our ageing society, helping people meeting a slow deterioration of health, such as the heart, balance or muscles.

In the future, it is quite possible that this technology will offer a **more inspiring and safer everyday life** for active people, whether they are very well trained, are recovering from a disease or are older.

### SINTEC concept (hardware)



### FOR MORE INFORMATION:

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