

Press Release

Your veins are the key

Your complete ID on your wrist

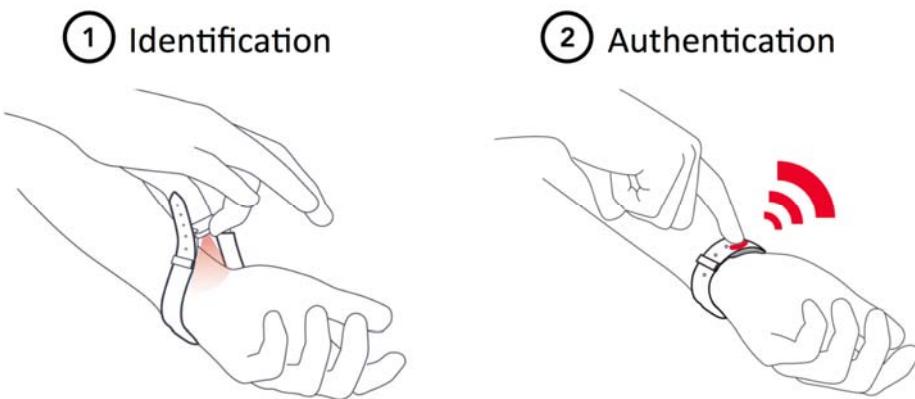
Neuchâtel, February 2, 2016 – CSEM at Neuchâtel and the Idiap Research Institute in Martigny are joining forces to propel the young and promising Swiss startup BIOWATCH to the top.

The flagship product of BIOWATCH is a biometric identification system integrated into the buckle of a watchband that enables the secure authentication of a person by detecting the unique pattern of veins on the wrist. Numerous applications are possible, from bank card payments to opening a vehicle to replacing the passwords used everyday on a computer.

Specifically, this is about both building a miniature vision system that is particularly low-profile and developing a reliable recognition algorithm.

To be identified, the user first activates the watchband buckle so that the system can acquire an image of the wrist veins (1). Once the wristband is reclosed, an algorithm of biometric classification confirms (or not) the user's identity. The information is then encrypted and conserved until the next deployment of the watchband. To maximize the system's security, the identification is deleted when the watch is removed from the wrist.

Subsequently, to authenticate identity, the user pushes a button on the watchband (2) that triggers a wireless connection (NFC/Bluetooth), and encrypted authentication occurs.



CSEM and Idiap are working in close collaboration on the applied research project BIOWAVE (BIometric Watch Activated by VEins) for the benefit of the startup BIOWATCH. CSEM's main task will be to develop the hardware, comprised of a miniature vision system including extra-slim optics and the capacity to process embedded information.

Idiap is putting in place the algorithmic development infrastructure (BEAT platform: Biometrics Evaluation and Testing) and is co-developing the vein recognition algorithm with BIOWATCH. Finally, BIOWATCH will handle encryption and transmission of the authentication as well as the design and packaging of its product.

Powered by a wireless rechargeable battery that lasts a solid week, the system is targeting a recognition rate of 99.9%.

This project, scheduled over 18 months, debuts in February 2016 and is being produced with the financial support of CTI (Commission for Technology and Innovation), the federal agency responsible for the promotion of science-based innovation.

BIOWAVE watchband buckle



Further Information

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About CSEM

CSEM—Technologies that make the difference

CSEM, founded in 1984, is a research and development center (public–private partnership) specializing in microtechnology, nanotechnology, microelectronics, system engineering, photovoltaics, and communications technologies. Around 450 highly qualified specialists from various scientific and technical disciplines work for CSEM in Neuchâtel, Zurich, Muttenz, Alpnach, and Landquart.

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About Idiap

The **Idiap Research Institute** is an independent, nonprofit, research foundation affiliated with Ecole Polytechnique Fédérale de Lausanne ([EPFL](#)). Its activities encompass basic research and development in the areas of multimedia information management, perceptual and cognitive systems, social media, biometric person recognition, multimodal information interfaces, and large scale machine learning.

www.idiap.ch

About Biowatch

BIOWATCH is a young Swiss startup many times awarded for its innovation, including a prize at the global challenge UBS "Future of Finance". Co-founded by the inventor of vein recognition and a PhD candidate from EPFL and Idiap, Biowatch is regularly cited among the top Swiss startups thanks to its product at crossroads: biometrics, wearable and Swiss watch industry.

For more information, visit www.biowatch.ch

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