



Swiss Innovation: CE-Approved Blood Pressure Measurement Via Smartphone App Available for the First Time

The Swiss population can now measure and monitor their blood pressure using their smartphones. The quality level meets high standards of CE EU-MDR medical certification and is extremely easy to use.

LAUSANNE - 7 February 2024 - The new blood pressure monitoring app, OptiBP™, from Lausanne-based start-up Biospectral, is now available on Google Play in Switzerland. A solution making clinical grade blood pressure monitoring dramatically easier, the app complies with the EU's strict CE-MDR regulations for medical devices, the technology was developed in collaboration with CSEM, the renowned Swiss technology innovation center. "Finally, measuring blood pressure anywhere and anytime has become so easy that dramatically more people will be able to manage their cardiovascular disease better from now on," comments Jens Krauss, Head of the Medtech Business Unit at CSEM. "Telemedicine solutions are the future globally, and we are proud that we are well ahead of all other providers, including Apple and Google, who are tirelessly working on new digital health solutions," explains Elliott Jones, Co-Founder & CEO of Biospectral. Following Switzerland, where the app is being launched first, Biospectral will expand OptiBP's rollout to other major European countries and then proceed to global markets, where it already has conducted extensive research and validation in regions including Africa and Asia, as well as the United States.

With OptiBP, users can record their blood pressure in 30 seconds – significantly faster than the traditional cuff – by placing their fingertip on a smartphone camera lens. By creating an optical recording of blood flow beneath the skin, algorithms and optical signal analysis methods developed by Biospectral in collaboration with CSEM convert data into blood pressure values. Easy, connected smartphone-based recording offers compelling advantages, including saving time spent on visits to doctors, making it simple and convenient to measure “on the go” during everyday life, and enabling sharing results with loved ones and medical providers quickly and easily. "What many people don't realize is that patients are often stressed when blood pressure is measured at the doctor's office, causing unnaturally high and unrepresentative results – known as “white coat effect. Measuring in the patient’s natural environment is the best way to get a picture of what’s really going on with their blood pressure. Unfortunately, people hate using an inflatable cuff. It hurts and is hard to carry with them, so they don’t use it and doctors don’t get the information they need," explains Professor Patrick Schoettker, MD, Chief Medical Advisor at Biospectral.

Lowering economic burden of hypertension

Uncontrolled high blood pressure (140/90 mmHg or higher) persists as the number one chronic condition worldwide, affecting over 1.3 billion people according to the WHO. It's a major factor in heart disease, the leading cause of death. One in three adults suffers from high blood pressure, and almost half of those affected are unaware of their condition. Prevention, early detection, and effective treatment of hypertension are among the most cost-effective healthcare interventions. The annual global cost of high blood pressure is estimated at 370 billion dollars. The economic benefits of improved hypertension treatment programmes outweigh the costs by a ratio of 18 to 1.

Biospectal developed its software algorithm based on more than two million invasive blood pressure samples, recorded across numerous studies in multiple countries, including in the University Hospital in Lausanne (CHUV) operating room in collaboration with CSEM. The resulting algorithm was validated on outpatients in the CHUV's hypertension clinic along with other leading hospitals such as the Erasme Hospital in Brussels, Belgium and in global health clinics in Tanzania, South Africa, and Bangladesh with funding from the Bill and Melinda Gates Foundation and Grand Challenges Canada. The company's patented technology is the result of more than 15 years of research and development in the field of non-invasive optical biosensing. "The technology developed by CSEM in partnership with Biospectal has exciting potential to improve the health and life quality outcomes of millions of people worldwide. As with the creation of glucose monitoring a decade ago, it could transform the patient and doctor experience. Optical biosensing of blood pressure has the potential for extended innovations, use cases, and implementations to have an even greater effect. The future is both technically exciting and beneficial for global good," summarizes Jens Krauss.

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About Biospectal

Biospectal is a remote monitoring and biosensing software company focused on the worldwide democratization of clinical screening and diagnostic monitoring. Biospectal's OptiBP™ smartphone application-driven platform eliminates the hassle of the impractical and cumbersome traditional blood pressure cuff, enabling easier adherence to frequent blood pressure tracking recommended by doctors. Via simple fingertip measurement on a smartphone camera, OptiBP transforms light information into blood pressure values via sophisticated AI algorithms developed from a partnership with CSEM. The OptiBP solution provides smartphone users everywhere to have a connected blood pressure monitor in their pocket that is available whenever they need it. Founded in July 2017 in Switzerland, with roots in Europe and United States, Biospectal is headquartered in Lausanne, Switzerland. Learn more at <https://biospectal.com>.

About CSEM - Facing the challenges of our time

CSEM is a Swiss technology innovation centre that develops breakthrough technologies with strong societal impact and transfers them to industry to strengthen the economy. The public-private non-profit organisation is internationally renowned and supports the innovation activities of companies in Switzerland and abroad. CSEM is active in the fields of precision microfabrication, digital technologies and sustainable energies. To fulfil its mission as a bridge between research and industry, 600 employees from 44 countries work closely with leading universities, universities of applied sciences, research institutes and industrial partners. With its six locations in Allschwil, Alpnach, Bern, Landquart, Neuchâtel and Zurich, CSEM is active throughout Switzerland. www.csem.ch