



PRESS RELEASE

DETECTING SLEEP APNEA: LETI EMBEDS SENSORS IN WRISTBAND TO MEASURE HEART RATE AND THREE OTHER INDICATORS

APNEAband, Which Will Be Demonstrated at CES 2018, Also Monitors Mountain Sickness, Dehydration, Dialysis Treatment Response and Epileptic Seizures

GRENOBLE, France – Dec. 12, 2017 – Leti, a research institute of CEA Tech, will demonstrate at CES 2018 its new wristband that measures physical indicators of a range of conditions, including sleep apnea, dehydration and dialysis-treatment response.

APNEAband provides accurate, real-time detection of sleep-apnea events caused by pauses in breathing or shallow breaths during sleep. The wristband measures heart rate, variation in the time interval between heartbeats, oxygen saturation levels in the blood and stress level. The combination of these four indicators helps physicians make a complete and reliable medical diagnosis of sleep apnea.

“This small wristband eliminates the need to spend the night in a medical lab hooked up to sensors and equipment that measure these key indicators,” said Alexandre Thermet, Leti healthcare industrial partnership manager in the U.S. “APNEAband brings a safe, easy-to-use, affordable and non-invasive solution to detect sleep apnea at home.”

Working with Prof. Jean-Louis Pepin and his team at Grenoble Alpes University and INSERM from the Physiology Laboratory in Grenoble CHU's hospital, Leti designed, developed and validated an advanced software technology that efficiently extracts and screens health parameters relevant to sleep apnea. Pr. Pepin, a principal clinical-trial investigator at Grenoble CHU Hospital, and its team provided medical guidelines to support this sleep-apnea project.

APNEAband's embedded technology can be applied to detect and track various other health conditions, such as acute mountain sickness, dehydration, dialysis treatment response, chronic pain, epileptic seizures, phobia and panic disorder. The wristband's cardiac-coherence biofeedback also helps people who want to achieve total relaxation with simple breathing exercises. Possible applications also include detecting work-related stress or hot flashes and stress, while playing video games.

See demonstrations by Leti, List and Liten (institutes of CEA Tech) at the CEA Tech Village, booth 50653 in Eureka Park.

About Leti

Leti, a technology research institute at CEA Tech, is a global leader in miniaturization technologies enabling smart, energy-efficient and secure solutions for industry. Founded in 1967, Leti pioneers micro- & nanotechnologies, tailoring differentiating applicative solutions for global companies, SMEs and startups. Leti tackles critical challenges in healthcare, energy and digital migration. From sensors to data processing and computing solutions, Leti's multidisciplinary teams deliver solid expertise, leveraging world-class pre-industrialization facilities. With a staff of more than 1,900, a portfolio of 2,700 patents, 91,500 sq. ft. of cleanroom space and a clear IP policy, the institute is based in Grenoble, France, and has offices in Silicon Valley and Tokyo. Leti has launched 60 startups and is a member of the Carnot Institutes network. This year, the institute celebrates its 50th anniversary. Follow us on www.leti-cea.com and @CEA_Leti.

CEA Tech is the technology research branch of the French Alternative Energies and Atomic Energy Commission (CEA), a key player in innovative R&D, defence & security, nuclear energy, technological research for industry and fundamental science, identified by Thomson Reuters as the second most innovative



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research organization in the world. CEA Tech leverages a unique innovation-driven culture and unrivalled expertise to develop and disseminate new technologies for industry, helping to create high-end products and provide a competitive edge.

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