# Wearable for state-of-mind shift set for 2015

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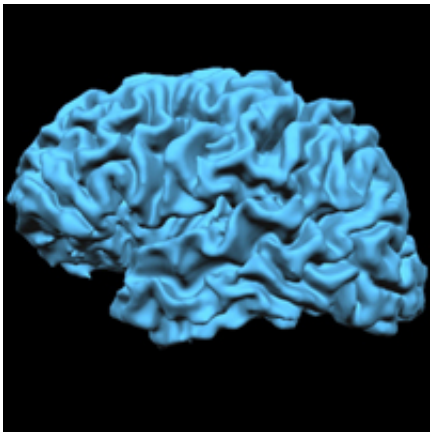

MRI brain scan

How will neuroscience impact daily life? A more topical question might be, how will neuroscience play a role in the business of electronic-device vendors of headsets and other wearables? One entry to this niche is Thync, which is in the business of neurosignaling products. Their motto is "Forward thinking in every sense." They have a device that enables the person to shift the state of mind. This represents a new realm in wearable products based on advanced neuroscience. We might now become accustomed to neuroscience-inspired "lifestyle" wearables to optimize a state of mind, whether one feels a need for a calm mood or more energetic mood. The company uses neurosignaling algorithms–waveforms that signal neural pathways –to shift and optimize people's state of mind related to energy, calm and focus. MIT Technology Review ran an article on them on Monday, defining their product as a

smartphone-connected device that delivers electrical stimulation to nerves in the head. It consists of a set of electrodes connected to a phone, said the author, Kevin Bullis.

Their technology is about proprietary neurosignaling waveforms that target neural pathways via a triad: BRAIN: prefrontal and frontoparietal brain regions; NERVES: sensory fibers of cranial nerves; and MUSCLE: neuromuscular fibers, according to their site. Fundamentally, this is, in the words of CNN's Heather Kelly, "a portable headset that will offer three settings to start: energy, relaxation and focus." Isy Goldwasser, the company CEO, said in CNN, "For some people it would be their third cup of coffee, for some people it would be their afternoon nap." Cofounder and CSO Jamie Tyler, a professor at Arizona State University, said in MIT Technology Review that the device can produce "a calming effect more potent than drinking a couple of beers or taking Benadryl."

As for the energizing effect, Bullis said the "short-lived" energizing effect "feels a little like drinking a can of Red Bull." When Bullis tried the calming effect, he said he felt relaxed and clearheaded—more as if he had meditated than as if he had had a couple of drinks. The relaxed effect for Bullis lasted for about 45 minutes, but he noted that the length varies from person to person. Bullis said that in Thync's device, "a barely perceptible electrical current is applied to the skin just behind the ear for the Red Bull effect, and on the temple and back of the neck for the relaxing effect."

Kelly said that "one of the primary technologies Thync is based on is transcranial direct current stimulation, or tDCS, which uses a weak electrical current to change the sensitivity of neurons in the brain. Neurons are cells in the brain that send electrical signals to each other, resulting in the release of chemicals that impact what a person is thinking or feeling. When targeted to the right area, the tDCS currents

can create changes in how a person's brain is functioning."

When will this product be available?. "Sometime next year, the company will begin selling a miniaturized, Bluetooth-enabled neurosignaling device," said Brad Stone, senior writer for Bloomberg Businessweek. Bullis similarly said, "Early next year you should be able to buy a small device that uses electricity to change your mood at the press of a button on your smartphone."

The company started up in 2011, founded by experts in neurobiology, neuroscience and consumer electronics. According to the site, "The Thync Vibe delivery system is the first of a new category of wearable technology—to make neuromodulation safer and more comfortable for users." They said that a secure Bluetooth Low Energy network enables users to control and tune neurosignaling waveforms. Thync headquarters are in Silicon Valley.

**More information:** www.thync.com/about



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