Surgically implanted chips could boost memory for people with traumatic brain injuries

Over the past five years, the U.S. Defense Advanced Research Projects Agency (Darpa) has invested $77 million to develop devices intended to restore the memory-generation capacity of people with traumatic brain injuries. Last year two groups conducting tests on humans published compelling results.

The Mayo Clinic device was created by Michael Kahana, a professor of psychology at the University of Pennsylvania, and the medical technology company Medtronic Plc. Connected to the left temporal cortex, it monitors the brain's electrical activity and forecasts whether a lasting memory will be created. "Just like meteorologists predict the weather by putting sensors in the environment that measure humidity and wind speed and temperature, we put sensors in the brain and measure electrical signals," Kahana says. If brain activity is suboptimal, the device provides a small zap, undetectable to the patient, to strengthen the signal and increase the chance of memory formation. In two separate studies, researchers found the prototype consistently boosted memory 15% to 18%.

…

[E]ach implant requires clunky external hardware that won't fit in somebody's skull. The next steps will be building smaller implants and getting approval from the U.S. Food and Drug Administration to bring the devices to market.

Read full, original post: Upgrade Your Memory With a Surgically Implanted Chip