IEEE Brainwaves

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IEEE Brainwaves Feature Events :

IV to Daimbler AG-Mercedes-Benz India Pvt. Ltd.

An Industrial visit to the Mercedes-Benz India Pvt. Ltd. plant located in Pune, MIDC Chakan was organised for the IEEE members on 18th February, 2016. Established in 1994, Mercedes-Benz India Pvt. Ltd. pioneered the luxury car market in India and boasts of more than 128 years of cutting edge innovation in the luxury automobile industry globally. With a world class production facility spread over 100 acres in Chakan, near Pune, set up in 2009 and an independent assembly facility for passenger cars; the facility is among the fastest green-field operations ever to be created and is rated among the top most CKD plants of Mercedes-Benz, globally. Mercedes-Benz India product

portfolio comprises the locally produced S-Class, E-Class, C-Class, GL-Class and the M-Class. Completely Built Imported cars include the A-Class, CLS-Class, SLK-Class and the luxury tourer B-Class etc. The product portfolio also comprises offering the iconic off-roader G 63 AMG as well as a wide range of other AMG performance cars like the C 63 AMG, E 63 AMG, SLK 55 AMG, GL 63 AMG, ML 63 AMG and CLA 45 AMG. Mercedes-Benz India's strong focus on its four pillars of Products, Network, Cost of Ownership and Brand experiences has led the company's growth story with a total of 64 outlets located in 36 Indian cities, making it the brand with the densest network in the luxury segment. In the plant the members first learnt all about the history regarding the introduction of the brand in India and how the plant was setup in Pune, also about the other different plants and assembly units present all over the world. All the information about various Mercedes-Benz products, materials required, and places from where they are imported, painting and all other jobs was given through a digital presentation in the 'Centre of Excellence' area by the events in charge present there.

· Members came to know about the MB financial and the other business solution services that are provided at the plant office.

· The members were divided into two groups and the groups were led by the in charge to the assembly plant. This session covered the working of the machines and the basic electronics present in every part of the luxury car being made there.

· By the end of the tour members were made acquainted with the cleaning, painting and the complex testing process that every car had to went through.

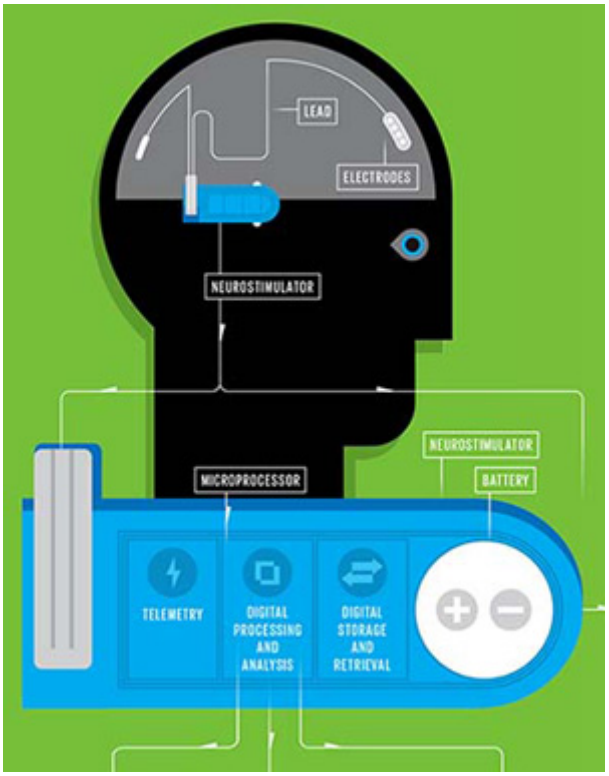
IEEE Spectrum Article :

Smart Neural Stimulators Listen to the Body

Implanted devices sense vital statistics to deliver precisely tailored therapy.

It's an electrifying time to be in neuroscience. Using implanted devices that send pulses of electricity through the nervous system, physicians are learning how to influence the neural systems that control people's bodies and minds. These devices give neurologists new ways to treat patients with a wide range of disorders, including epilepsy, chronic pain, depression, and Parkinson's disease.

So far, these simulators have been one-way devices that deliver a steady sequence of pulses to the nervous system but can't react to changes in the patient's body. Now, at last, medical device companies are coming out with dynamic neural stimulators that have a bit of "brain" themselves. These smart systems can detect changes in a physiological signal and then respond by delivering a therapy or adjusting the patient's treatment in real time.



The three of us work for companies on this technological frontier, building devices that take advantage of developments in low-power implantable sensors and embedded signal processing. In this article we'll describe three devices that respond to the flux of biology within the body. Because these devices rely on data related to the processes they influence, we call them "closed-loop" systems, but you could also call them the next step in a bionic model of medicine. In this new paradigm, engineered systems composed of chips, wires, and batteries can replace or supplement biological systems that malfunction.

An epileptic seizure starts with a storm of abnormal electrical activity in the brain. In the most common adult form of the disorder, this activity begins in one or two specific brain regions and can then spread to other parts of the brain, causing disturbances in movement, sensation, mood, and mental function. During a severe seizure, a person may have convulsions and lose consciousness. The majority of patients find their seizures can be controlled with antiepileptic drugs. For 30 to 40 percent of patients, however, these drugs don't do the job. Neurosurgeons sometimes resort to cutting away the pieces of brain tissue where the seizures originate, but in the past decade or so they've had another alternative: They can implant neurostimulators. These stimulators send pulses of electricity through the nervous system in an attempt to prevent the electrical storms from commencing. An "open-loop" device, which stimulates the brain but can't detect or respond to changing conditions, has been available since 1997.

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