Converging low power microelectronics, IT and Communication Technology into Implantable Medical Devices

Implantable medical devices include cardiac pacemakers, defibrillators, neurostimulation devices and drug infusion systems. Historically these types of devices have been used in open loop delivery systems for therapy. The advent of wafer scale manufacturing, low power electronics and novel telemetry schemes has allowed devices to more effectively interact with physiologic sensors to serve as closed loop therapy systems while allowing for the remote management of patients. Our ability to effectively manage patients with heart failure, diabetes and degenerative neurological conditions will be dramatically enhanced by the convergence of these technologies.

Stephen N. Oesterle, MD
Senior Vice President for Medicine and Technology, Medtronic

Stephen N. Oesterle, MD, joined Medtronic in 2002 as Senior Vice President for Medicine and Technology. In this role, Steve provides executive leadership for scientific research, formation of technological strategies and continued development of strong cooperative relationships with the world's medical communities, technical universities, financial institutions, and emerging medical device companies. Previously, Dr. Oesterle served as Associate Professor of Medicine at the Harvard University Medical School and as Director of Invasive Cardiology Services at Massachusetts General Hospital, Boston. A teacher and innovator in the field of cardiac catheterization, he has also developed and directed interventional cardiology programs at Good Samaritan Hospital, Los Angeles; at Georgetown University; and at Stanford University. Dr. Oesterle is a 1973 summa cum laude graduate of Harvard College and received his medical doctorate from Yale University in 1977. He completed his internship and residency at Massachusetts General Hospital and also served a fellowship in interventional cardiology at Stanford.