

innovate your heart out

MEDICAL DEVICE MAKER MEDTRONIC THRIVES ON PRODUCT INNOVATION AND WEB TRANSFORMATION BY TODD DATZ

Medtronic Inc.
Minneapolis
www.medtronic.com

FOUNDED 1949
REVENUES \$5 billion

It's the stuff of science fiction, really. A doctor implants a heart monitor in a patient with chronic cardiovascular disease. The monitor collects physiologic data on the patient's heart. A "reader" placed over the implanted device collects the data—heart rate, intercardiac pressures and the like—and transmits it to a "programmer" on the patient's bedside table. The programmer

then sends the information via the Internet to the patient's doctor.

Computers humming away in someone's body? Wireless transmissions through flesh and bone? Doctors downloading a patient's heart data from the Web? All of them are real for the 125 patients who are participating in trials for the Chronicle implantable heart failure monitor, the latest medical breakthrough from Medtronic.

Founded in 1949 in a Minneapolis garage, Medtronic is a dominant player in the medical device market—in fiscal 2001 it had revenues of more than \$5.5 billion and netted \$1.25 billion. From 1985 to 2000, the company achieved a compound annual growth rate of 19 percent for revenues and 23.2 percent for earnings per diluted share. At the heart of this impressive growth is an unwavering commitment to product innovation, which,

coupled with a 10-year strategy to move as much of its business as possible to the Internet, has landed Medtronic on *Darwin's* list of Fittest 50 winners.

The company builds devices that help people manage chronic diseases, such as heart failure, diabetes and epilepsy; Medtronic's scientists and engineers work extensively with physicians worldwide to make sure the stream of inventions never dries out. "We spend more than 10 percent of our [annual] revenues on internal research and development," says CEO and President Art Collins. "Last year two-thirds of our sales came from products that were developed or launched within the last two years." In 1960 the company produced the first implantable pacemaker; today it remains the leader in that market. Its most recent crop of innovations includes a sys-

tem that doctors embed in the brain to help stop the tremors of Parkinson's disease and an implantable defibrillator that helps correct potentially lethal heart rhythm problems. (Vice President Dick Cheney received Medtronic's GEM III DR defibrillator at the end of June 2001, bolstering the company's reputation for standout devices.)

"They're a company that can identify a market opportunity, build the product for that opportunity and get it approved in a timely manner," notes Anne P. Malone, senior analyst for medical devices at Salomon Smith Barney in New York City.

This emphasis on R&D helps Medtronic maintain its GE-like lead in its major markets. The company is number one in pacemakers, implantable defibrillators and spinal treatment therapies, and number two—behind Guidant—in heart stents in the

medtronic



Medtronic CEO Art Collins spends more than 10 percent of company revenues on R&D to keep the product pipeline full. Vice President Dick Cheney (above) uses a Medtronic defibrillator.



PHOTO BY JOHN NOLTNER; BOTTOM BY GETTYONE; INSET BY AP

United States. (A stent props diseased arteries open to allow blood flow.)

In most of its product lines, the company has several generations of replacements in the pipeline. That kind of backup may appear to be a luxury, but in the fast-paced, ever-changing world of medical devices, it's more of a necessity. "Having a strong flow of new products and therapies is critical to our success," says Collins, who knows his company is no better than its latest success. After all, when a new device can mean the difference between life and death, brand loyalty can vaporize the minute a competitor comes out with a better product.

Medtronic's embrace of technology isn't limited to its labs. Understanding that the convergence of medical and information



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alliance with health-care information provider WebMD.com last year so that consumers can access Medtronic content through www.webmd.com. Ultimately, the company wants patients and physicians to collaborate online using the website. And personally "touching" its customers may really ring true for Medtronic: the company envisions Medtronic.com as a password-protected portal that will even allow doctors to reprogram their patients' implanted devices from hundreds of miles away. On an innovation scale of 1 to 10, that registers a *Spinal Tap*-like 11.

To maintain its strong growth rate and sustain its stock price, Medtronic went on a buying binge in the late 1990s, moving into markets outside its core pacemaker business. In May 2001, the company agreed to pay \$3.28 billion for MiniMed, the market leader in insulin pumps for the treatment of diabetes. It also coughed up \$420 million for Medical Research Group, a company that designs implantable pumps and sensors for diabetes patients.

Medtronic's get-big-quick strategy has had some growing pains. One deal that quickly went sour was the company's purchase in January 1999 of coronary stent maker Arterial Vascular Engineering in Santa Rosa, Calif. Not long after the acquisition, competitors brought newer, better stents to the market-

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technology was radically affecting the way patients and doctors manage diseases, a team of employees gathered two years ago to prepare the company's e-business game plan. "We put our best and brightest people to look out over the next decade and to see the major trends that could be impacting our business," Collins says.


The result was Vision 2010. One of the major focuses of this 10-year plan is to achieve greater efficiencies by migrating its internal and external business processes to the Internet. "By moving everything to the Web, we have an opportunity for cost savings that would have been difficult to achieve in the past," says Jeff Balagna, senior vice president and CIO.

An integral part of this strategy is Medtronic.com. The site provides consumers and patients with information about medical products and treatments. Medtronic also committed \$100 million to form an

Another piece of Vision 2010 is the Global Healthcare Exchange, a privately held online trading exchange launched in March 2000 by Abbott Laboratories, Baxter International, GE Medical Systems, Medtronic and Johnson & Johnson. Its goal: to simplify business processes for health-care providers. "We want to reduce all that [order processing] paperwork and turn it into transactions that cost dollars or pennies instead of a few hundred dollars," says Steve Kelmar, Medtronic's senior vice president of e-business and external relations. Currently the exchange hosts about 120 health-care companies representing 90 percent of the nonpharmaceutical medical technology market and has several hundred hospitals signed on as customers.

Whether the exchange will succeed where others have failed is an open question. "If everyone's allowed to compete and supply, it's hard to understand what they're going to get out of it," says Malone.

place, and Arterial Vascular's share of the market plunged from 30 percent to 10 percent. However, Medtronic's stent business has since rebounded. And Malone points out that Medtronic's get-bigger-fast approach has helped the company reduce its dependency on its core pacemaker business through product diversification.

Collins makes no apologies for the company's growth strategy. If his company wants to maintain its rapid growth and market dominance, "we must continue to attract and retain the people that will be necessary to grow this business rapidly," he says. "That's both a challenge and a great opportunity." If the past is any indication, this Fittest 50 winner will forge ahead without missing a beat. 

How are you using the Web to push your products to market? Send your comments to Senior Editor Todd Datz at tdatz@darwinmag.com.