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Meet Mr. GPS

By Janelle Weaver

In the summer of 1986, Kanwar Chadha decided to go to Disneyland with relatives visiting from India. He was told to arrive early to avoid long lines, and when they got there at 8 a.m., the parking lot was almost empty. But by the end of the day, they were lost in a sea of thousands of cars, and it took them about 30 minutes to find their own vehicle. That experience inspired an innovative idea later in life: What if regular people could use a satellite-based navigation system to find their way around in their everyday lives? Bringing the Global Positioning System (GPS) to the mass market was Chadha's mission when he co-founded SiRF Technology in 1995.

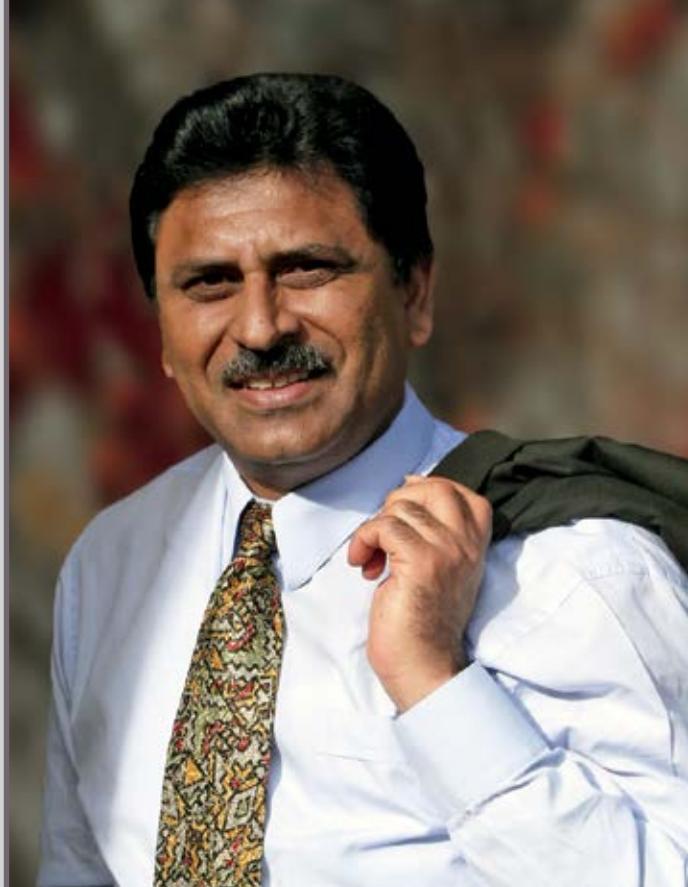
"When we started SiRF, nobody had really worked on optimizing GPS for the mass market," says Chadha, (MBA/M.S.'83). "But as we moved into the mobile space, we knew that GPS technology could become a very important aspect of our lives."

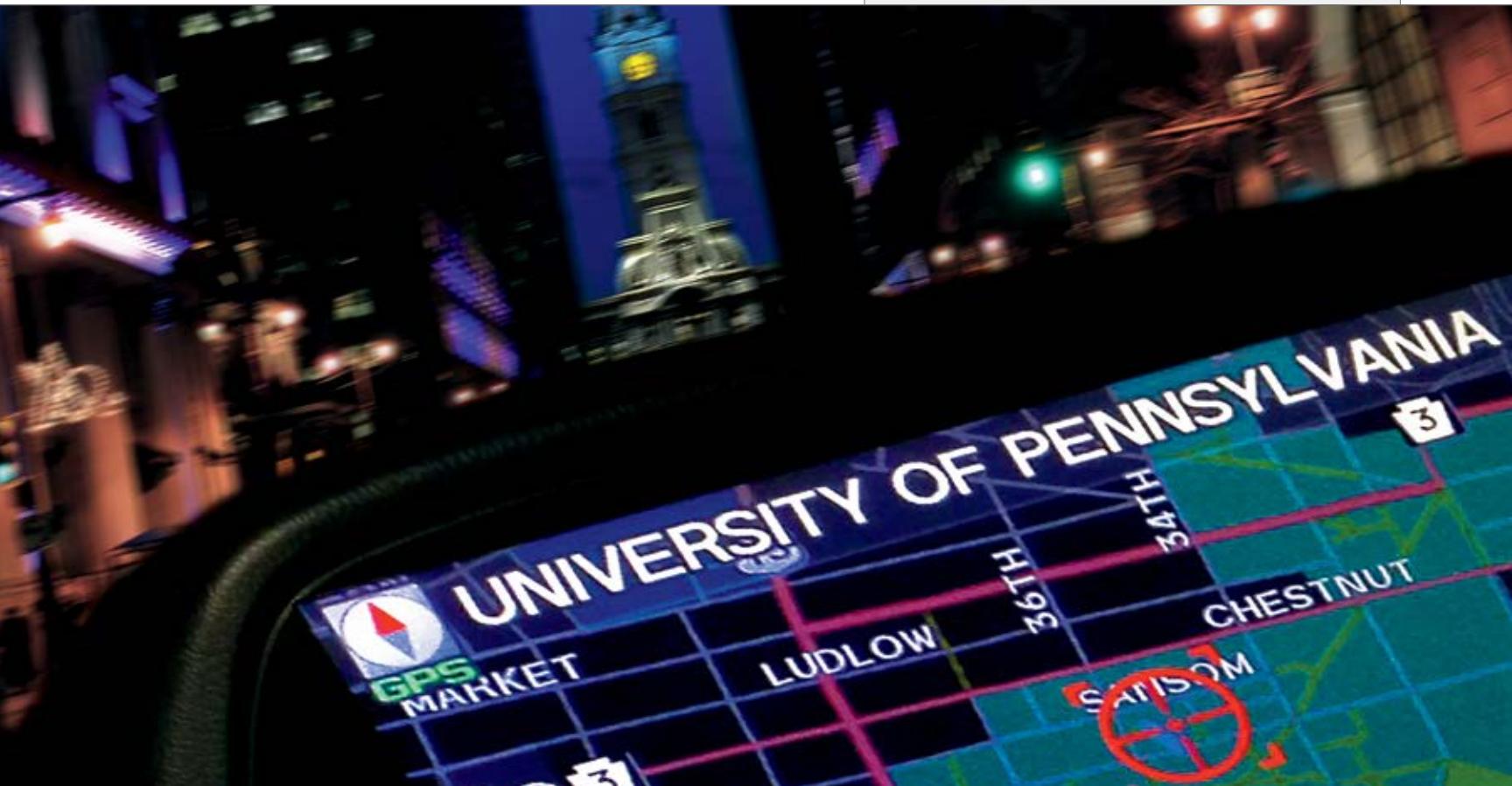
Military to Mass Market

GPS was originally developed by the Department of Defense for military purposes, so SiRF had to overcome several challenges to adapt the technology for mainstream use. For example, ships and aircraft typically receive unobstructed signals from space-based satellites, but this is not the case for individuals sitting at home, walking in forested areas or driving through cities dense with skyscrapers.

To deal with this obstacle, SiRF developed sophisticated signal processing algorithms that could lock onto GPS satellites quickly and track very weak signals. The company made GPS radios and processors that could power portable navigation systems and other devices such as smartphones, introducing these products to the mass market in 1999.

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Fostering a Fascination

After earning his bachelor's degree in Electrical Engineering from the Indian Institute of Technology in New Delhi, Chadha applied to The Wharton School to receive a top-notch business education. But after only one semester in the program, he decided it was "too much fun," so he approached Aravind Joshi, then the chair of the Department of Computer and Information Science, to ask about simultaneously working on an advanced engineering degree. Taking advantage of the flexibility offered at Penn, he enrolled in the master's degree program in Computer and Information Science while focusing on marketing courses at Wharton.

With this diverse educational background, Chadha went on to work at Intel on processors, and then used the skills he acquired to start his first company, called AQuesT, which developed multimedia subsystems. These experiences led to an interest in wireless

communication between different devices, such as PCs and TVs. A meeting with his SiRF co-founder, who had worked on military GPS, eventually fostered his fascination with GPS.

Finding Your Way Around

Chadha is now on to his next entrepreneurial venture. Last year, he founded Inovi, with the vision of enhancing high-bandwidth connectivity using wireless technology to support a vast amount of multimedia data, which traditional mobile wireless networks were not designed to handle. "My goal is to build companies and develop new ideas and technologies that can have a major impact on the everyday lives of consumers around the world," Chadha says.

His Penn education has been vital to accomplishing this goal. "It gave me the confidence to solve problems creatively in an unstructured environment where you don't have all the information you need, which is very important if you're starting your own company and you have to find your own way around." □