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# At Qualcomm, Rise of Founder's Son Defies Hazards of Succession

By MALIA WOLLAN

SAN DIEGO — When [Paul E. Jacobs](#) took over from his father as chief executive of the chip maker [Qualcomm](#) in 2005, mobile phones were just beginning their transition from tools for talking to hand-held computers delivering data and entertainment.

“We talk about the future of computing being mobile, but I don’t feel that way,” said Mr. Jacobs, 48. “I feel the present of computing is mobile.”

Mr. Jacobs has spent the last six years expanding Qualcomm’s business beyond his father’s tight focus on the digital wireless technology known as C.D.M.A. (code division multiple access).

While Irwin Jacobs, 77, the M.I.T. professor and electronics wizard who founded the company in 1985 and retired in 2005, was known for his dogged defense of the company’s intellectual property, his son Paul is more prone to talk breathlessly about a connected world where mobile devices diagnose our illnesses, turn on our lights, control our thermostats and allow doctors to remotely monitor our health in real time.

Such a family succession in publicly traded companies is rare; Ford Motor and Comcast come to mind. For it to succeed is rarer still.

Corporate governance specialists often disapprove of such successions. But the younger Mr. Jacobs has positioned Qualcomm, which builds chips for mobile devices, to lead the smartphone chip market as consumers increasingly do their computing in their palms and not tethered to their desks.

Last year Qualcomm dominated a diverse field of smartphone chip makers with 41 percent of the total market share in terms of revenue and nearly 61 percent of the market share for application processors used in smartphones powered by Google’s [Android](#) operating system, according to the market research firm Strategy Analytics.

Part of the company's success is that the market for smartphones has been so robust. In 2010, smartphone shipments shot up 74 percent over the year before, while the market for PCs increased just 14 percent, according to the market research firm IDC.

Such huge growth in hand-held computers has rival chip makers like Intel, Nvidia, Samsung and Texas Instruments in a tight race to build smaller, more power-efficient chips, capable of running the increasingly complex apps, location-based services and graphics consumers have come to expect in their phones. Intel, which dominated PC chips, is late to this market, so it is anyone's game to win.

Qualcomm's strategy has been to create high-function, low-powered chip sets for smartphones and tablets that connect with other devices in various ways — a feat that has thus far largely eluded Intel. Qualcomm's ARM-based Snapdragon chips are just such all-in-one processors.

"Qualcomm has a two- or three-year advantage in terms of integration," said Stuart Robinson, an analyst at Strategy Analytics.

Qualcomm managed a leadership feat unusual in the modern business environment.

"Qualcomm has been able to do the handoff from father to son that most other companies have not been able to do," said Cody Acree, an analyst at the Williams Financial Group who has covered Qualcomm and the chip industry for more than a decade.

"Paul is an engineer who owns patents in his own right and was a brilliant technologist before moving into this position," he said. "And I think the industry as a whole respected him, knowing he was not just being given the job because it was his dad's."

Still, the stigma of nepotism trailed Mr. Jacobs. "I could walk into a room and people would just underestimate me. 'You're the son of Irwin,' " he said. "They would think, 'This person is only here because of that.' "

The third of four sons, Mr. Jacobs took to computers early, learning to program in middle school on a Teletype terminal. Beginning in seventh grade he worked part time at Linkabit, another technology company founded by his father, which made communications equipment for the military. During college he worked summers at Qualcomm.

"Another thing that my father did for me was that every summer I worked in another area of engineering, so that by the time I went to college, I had done almost every kind of engineering there was," said Mr. Jacobs, who went on to earn a Ph.D. in electrical engineering at the University of California, Berkeley, where he focused on robotics.

Even when he is in a stylish suit, his laid-back cadence — though peppered with computer science acronyms — evokes his skateboarding teenage years here in San Diego. Mr. Jacobs is tall and athletic, and his demeanor as chief seems shaped in equal parts by his hyper-technical upbringing and this sunny, beachside city where he grew up.

Where Mr. Jacobs seems to revel in the possibilities of a not-so-distant future awash in wireless connectivity, his father had a more professorial, and at times myopic, perspective.

“Paul is very much broader in the area that he has vision,” said Steven M. Mollenkopf, the executive vice president overseeing Qualcomm’s chip development, who has been with the company since 1994. “He likes the application of the technology in addition to the technology. Irwin traditionally was very engaged in the technology and the creation of the technology.”

Mr. Jacobs enjoys talking about a world where chips spread out beyond the confines of smartphones. In this so-called Internet of things, everyday objects like TVs, dishwashers, running shoes, blood glucose monitors, picture frames, heart [defibrillators](#) and even Band-Aids have tiny chips or sensors that transmit information and communicate with mobile devices like smartphones and tablets.

“The sensors are going to be on your body, they’re going to be in the environment around you,” Mr. Jacobs said. “You’ll go and step on the scale and the scale will automatically talk to your phone and keep track of your health.”

For Qualcomm to build out an Internet of things it must design chip sets that can seamlessly interact with countless communication signals including Wi-Fi, cellular, Bluetooth, GPS, peer-to-peer radios and near-field communication. In February, Qualcomm announced a new technology called FlashLinq, which allows devices to recognize one another and communicate automatically and continuously within a one-kilometer radius. Last year, the company spent \$2.5 billion, some 23 percent of its revenue, on research and development on just such technologies.

[Qualcomm’s purchase](#) of the chip maker Atheros Communications for \$3.1 billion, the company’s largest acquisition, expands Qualcomm beyond phones into tablets and home electronic devices. It moves the company closer to “fulfilling this vision that wireless is going to be embedded in the world around us,” Mr. Jacobs said.

He is particularly keen on expanding wireless communication into health care. In January, Qualcomm announced a partnership with Telcare to integrate 3G connectivity into blood

glucose meters, allowing caregivers to monitor patients' glucose levels remotely and in real time.

Some of Mr. Jacobs's interconnected visions can be wackier. In May, Qualcomm and the X Prize Foundation, which finances competitions for things like space flight and lunar landings, announced a \$10 million competition for a diagnostic smartphone tool called Tricorder X, named for a gadget in the [Star Trek](#) television show and movies. The challenge is to build a noninvasive but accurate device that can detect health problems.

"Now this is a little futuristic, I'll admit," he said. "But it's not that farfetched."