

Asia Leads in Wireless Innovation

A venture capitalist bets on Asia rather than the West when investing in wireless technology.



by Lay Leng TAN

Tim Chang, a principal at Silicon Valley-based Gabriel Ventures Partners and a quintessential technology-savvy jetsetter, heads the company's wireless investment as well as its business in Asia. Though based in the US, he spends half his time working with business partners in the East, meeting with representatives of hi-tech firms and persuading them to adopt United States inventions.

Yes, you read it right. Asian companies are now forerunners who equip their products with swanky innovations. Chang's company works closely with leading firms in Korea, Japan, Singapore, and China in developing business in consumer electronics and wireless technology.

Gabriel Ventures sees Asia's importance as a market for start-ups and focuses on forging links between US companies and the region. Portfolio members, particularly those in wireless technology, generate most of their business in Asia. "Sometimes Asian companies launch new products so aggressively that they

move faster than their US and European counterparts," Chang explains.

He attributes this seemingly contradictory trend to the NIH, or "not invented here," mentality of some big Western firms. Conversely, because many Asian companies realise that they cannot do everything, they are more receptive to working with start-ups. In a way, they possess greater sophistication because they think ahead, and are eager to work with external parties. "This is innovation in business development," the venture capitalist notes. In fact, he

rules that the US is a second-world country in wireless technology compared to Asia.

Chang finds Korea especially strong in bringing US start-ups to market because a giant conglomerate such as Samsung can expose the partner to the whole world. Singapore's size requires it to compete harder. Such local telecommunications companies as StarHub are aggressive and adopt new technology quickly, an approach that benefits small, young firms. "They may not have the biggest local markets, but some companies here are smart, and they move quickly," he stresses.

Gabriel Ventures counts among its Singapore partners the Economic Development Board, which has helped introduce a handset-components firm to local makers, a move that led to a business deal two months later. The US wireless designer makes antennas for mobile handsets. Its uniqueness lies in the antenna embedded inside the phone that supports different wireless modes such as GSM, GPS, Wi-Fi, ultrawideband, and others. This advantage sets it apart from the traditional antenna that allows only one radio mode per unit. Multimode models now require multiple antennas, which make the phone expensive and noisy and use up batteries.

Difficult to copy because the invention exploits disruptive technology, it can be safely sold in piracy-rampant Asian markets. Singapore companies find it worthwhile to form partnerships with such start-ups with original ideas. Multimedia bigwig Creative Technologies, one customer interested in such advanced technologies, is partnering with another wireless start-up.

One emerging technology is radio frequency identification (RFID). One US firm has designed an active RFID tag that intelligently updates prices of shelf items in real time on a liquid crystal display. The device is already on trial in Japan.

However, Gabriel Ventures does not concentrate on the latest technologies and gizmos only. In an unusual move, it has back-pedalled on cutting-edge performance to help another group of customers exploit low-end technology. Chang explains the seeming contradiction: "Traditionally, young companies of technology innovation have been about the newest features, the fastest speed, the highest performance, and these are aimed at the most advanced customers, but today's strategy for selling in emerging markets like China and India is not about high speed, features, or processing. It actually concerns what I call 'good-enough technology:'

"Good enough is picking maybe the 60% functionality that people really want and reducing the price accordingly. It differs from the usual Silicon Valley venture, which concerns 'This is five times faster and stores three times more.' This relates to 'They only need this much functionality and if possible, let's bundle lots of functions together and sell it really cheap so everyone can afford it,'" Chang elaborates.

Corporate strategist C K Prahalad wrote the best-selling book *Fortune at the Bottom of the Pyramid* about selling to the next billion customers, and sees most growth coming from the pyramid's base, namely, mass consumers in emerging countries. Even though they may not have as much to spend as the US or

European markets, developing countries need products and they do have growing spending power. Companies that can take "good-enough" technology and package it conveniently and cheaply will see much growth in these markets.

Chang is intrigued by this type of approach, and how it breeds a new class of entrepreneur. "Let us not just talk about technological innovation but innovation in business, markets, and geography. A company may have a product not intended for the West but should be sold in the Philippines or China first. Understanding what each region needs constitutes another type of innovation, combining business development, marketing, and sales innovation.

"Today, no start-up sells by itself. Partners, distribution, and channels represent other categories of innovation. It is not about technology anymore, which makes it very exciting."

Is advanced technology, therefore, still relevant for developing countries? Indeed, Chang maintains. "In markets like India and China, wireless technology gets incredible adoption but on very different business model from the US's. Prepayment serves as the model for these countries; they do not sell advanced services like ring tones and games, just basic voice communication.

"A funny TV commercial in India shows a rich businessman getting a shoeshine. A cell phone rings; he reaches for the phone, but it is actually the shoeshine man's phone. It demonstrates how even poorer people can afford this technology because it is cheap enough. Companies offer the diverse technology, but customers select only the features they want and thereby reduce the price."

Enterprising business people reduce the cost of technology, combine the features and functions of these products, and assemble the results. For instance, security appliances in China



combine intrusion-detection and anti-virus services in one device. Chang predicts this arena will witness a lot of innovation, picking established markets and combining the best to cater to need either as a box, a service, or software — the ultimate embodiment of reusing products and technologies, instead of reinventing them.

Another wave sweeping markets like China and India is consumer behaviour, he says. Young people use cellular phones as text devices, rather than voice, partly because of the lower price of text compared to voice and because of customer preference. Choice among different parts of technology is behaviour-driven and unpredictable. The trick lies in responding quickly to those preferences.

This strategy makes a lot of sense in regions with less spending power. Even in the West, convergence, bundling, and multimode functions happen too, Chang notes. He sees the point at which healthcare and biotechnology meet information technology as rife with opportunity. Companies that apply database-enterprise

management to the healthcare market have successfully captured the business. One possible future scenario centres on a cell phone that can be used for non-invasive glucose blood monitoring.

The canny venture capitalist says: “The model for the 21st century is that every corporation has to think globally, even if it doesn’t open offices worldwide. In that sense, every company, even a three-person start-up, is a multinational enterprise from day 1. It is scary, but that is the creativity in innovation because you just expand the playing field.”

Chang is a product of this globalisation. Descended from a Chinese family that moved to Taiwan during the civil war in China, he grew up in the US but then spent most of his working career in Asia — Japan, China, Taiwan, and Korea. With this multicultural background, the trilingual citizen of the world personifies a truly global business-development innovator of the new era. ¹

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Innovative Start-ups

Skycross: A start-up focusing on multiband/wideband embedded antennas for next-generation, multimode handsets, laptops, and mobile devices. Their technology and products eliminate the need for multiple antennas as well as external “stubby” or “whip” antennas, and also reduce cost, battery consumption, and radio interference in mobile devices. (www.skycross.com)

Sequoia Communications: The first company in the world to pioneer a single-chip 2G/2.5G/3G multimode radio for handsets, eliminating the need for handset makers to use multiple radio chips in cell phones, thereby reducing cost, power consumption, radio interference, and size of components. (www.sequoia-communications.com)

Iridigm Display Corp (acquired by Qualcomm, and now Qualcomm MEMS Technologies): One of the only successful start-up microdisplay companies to reach a highly successful exit, with their disruptive MEMS-based bi-stable display technology. This type of new display technology enables mobile devices to show high-contrast images with virtually zero battery consumption, and promises to revolutionise the quality of displays for cell phones, GPS units, watches, and every type of other mobile device. (www.qualcomm.com/qmt/)

IPWireless: One of the leading players in 4G wireless broadband technology, using the TD-CDMA variant of the 3G UMTS standard to allow wireless operators to deliver true “wireless DSL” experiences to laptops and mobile devices. (www.ipwireless.com)

NextG Networks: The company that created the “distributed antenna system” (DAS) market, which represents the future of wireless network transport infrastructure. Their technology powers the next-generation cell tower industry, where multiple carriers and multiple traffic types can be carried over a shared infrastructure by RF-over-fibre. (www.nextgnetworks.net)

TestQuest: The market leader in automated testing systems for mobile device makers, wireless carriers, and mobile application developers. Although testing is not a very “sexy” area, it is becoming an increasingly critical pain point for wireless companies who need faster and faster time-to-market for their products and services onto increasingly complex devices and networks. (www.testquest.com)