

Wireless World: Enormous innovation, but big challenges

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A record number of mobile phones were shipped last year, and analysts and investors are now saying that the promises made 10 years ago about the potential for the wireless economy are truly being realized. Still, some of the foremost investors and analysts tell United Press International's Wireless World that they are nervous that the United States may not maintain its competitive edge in the global information economy unless certain changes are made -- by federal policymakers and business leaders -- soon.

"There is enormous innovation in our economy -- no doubt," said James Melcher, founder of the New York City-based hedge fund, Balestra Capital Management, in an interview with Wireless World. "It's incredible. But there are problems. Why are countries with only 40 percent of the world's population (e.g., China) graduating ten times as many engineers and scientists as we are? Why are our schools pumping out so many lawyers? There is no value-added in legal work."

Melcher's fund -- which grew 14 percent last year, and is up 6 percent during the first three weeks of this year -- is invested in a number of economic sectors, including energy and agriculture, and has reduced its exposure to technology, to hedge its bets.

Global mobile phone shipments grew 19 percent year-over-year, to reach a record 810 million units during 2005, according to the latest research from Strategy Analytics, the noted Boston-based consultancy.

But Melcher, and others, worry that the growth in the technology sector may turn out to be what he terms "profitless prosperity." He worries that federal regulations regarding homeland security related technologies may be too restrictive -- and may cut off an avenue of future growth for the technology industry. That, combined with immigration restrictions on foreign-born engineers and scientists, heightened since Sept. 11, 2001, and the decline in the number of native-born Americans seeking technology degrees, may be a signal to view the future of the U.S. economy pessimistically.

Other investors and analysts are less pessimistic, however.

According to the report, 2006 IT Predictions from Nucleus Research, a copy of which was provided to Wireless World, the global economy has already seen some of the charm of India fade, "as the population of top programmers is tapped and costs rise."

Although some companies will move technology work to China or Bangkok, others will find that the costs of effectively managing offshore outsourcing "outweighs the benefits," said the report.

What is more, Nucleus said, wireless and Internet technologies are still driving cultural changes that are creating waves at many major companies.

While many firms have provided employees the option of working remotely, some have been reluctant to extend the practice past a select group of workers, fearing loss of control. "But, the realities of natural disasters and the rising cost of commuting to work provides compelling reasons for companies to examine their current practices for enabling employees to work remotely," said the Nucleus report. "Telecommuting will be on the rise as companies take advantage of the technology they already have in place, and appreciate that by loosening the corporate

apron strings, you'll be able to provide your employees a nice addition to the benefit package that doesn't add to and perhaps can even lower overhead costs."

According to Peter S. Cohan, an executive-in-residence at Babson College, there are an array of trends, being pushed by consumers, not businesses, that could continue to propel the tech economy to prosperity. Cohan tells Wireless World that the six most promising technology sectors this year are as follows:

- location-based services
- free wireless Internet
- Web-based document management
- sensor networks
- Flash memory
- semantic Web

Among that technology mix, the wireless technologies may be the most compelling. "Location-based technologies use global positioning satellite (GPS) technology linked to individuals' changing locations to create new services for consumers and businesses," said Cohan. "Location-based applications have already started in Asia -- helping parents locate their children, providing driving directions and enabling consumers find the closest movies or restaurants."

The market for location-based services is expected to grow fast, other experts note. ABI Research estimates that the global location-based market will grow at a 52 percent compound annual growth rate, from the

current of \$981 million to \$8 billion in 2010.

Another wireless trend of promising potential for this coming year is free wireless Internet, Cohan told Wireless World. "Through a laptop computer, people can send or receive mail, obtain news and entertainment, and -- using Internet telephony services such as Skype -- converse with others," he added. "And thanks to the increased availability of free wireless Internet, laptop users can do all this from any location where wireless Internet is available."

As it becomes more pervasive, free WiFi Internet access will create opportunities for some businesses and threaten others, Cohan said. "WiFi Internet access will increase the productivity of mobile workers, such as sales and service people, globe-trotting executives and medical professionals. However, WiFi Internet represents a direct threat to Internet service providers and telecommunications companies that are used to charging monthly fees for wired services."

Another very promising area -- networks of tiny wireless sensors. Cohan said these sensors are making it cheaper to monitor temperatures, chemicals and light. "Using small amounts of energy, the sensors can quickly wake from hibernation and locate and establish communications with nearby wireless sensor networks. They can then report changes in temperature, light, motion, or the presence of chemical agents," he said.

Sensor networks, Cohan added, are likely to create significant business opportunities. "They will improve the quality and lower the cost of providing perimeter security, they will facilitate the tracking and management of inventory, and they will improve manufacturing and process quality," said Cohan, who is also founder of Peter S. Cohan & Associates, based in Marlborough, Mass.

There are other tech trends as well that are worth noting for 2006 and

beyond, according to researchers. Growth by acquisition will be seen among telecoms, as VoIP vendors continue to attract the technology-hungry Baby Bells. What's more, electronics and computer hardware manufacturers will continue to sell for higher prices -- relative to earnings than firms in other industries. This is partly due to rapid advances in technology and end-users' lower costs for equipment replacement -- such as cheaper mobile phones.

Costs for manufacturing overseas have probably gone about as low as they can go -- and Asia may some day no longer have a lock on the electronics manufacturing jobs. "The big impact from China over prices is probably over," said Melcher. "Wages and prices are increasing there too now."

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