

Reinventing wireless, pCell aims for fullspeed mobile data (w/ video)

March 14 2014, by Nancy Owano



(Phys.org) —A new mobile network technology is called pCell. Think of it as wireless reinvented. Hyperbole? The company behind pCell, Artemis Networks, is convinced that the technology, presented last month for faculty and graduate students at Columbia University, is a viable solution for an always-on connected world that is running out of capacity.

At the Columbia venue, Artemis founder and CEO, Steve Perlman,



explained how his pCell technology works and gave a demonstration, transmitting HD video and using eight iPhones simultaneously, without any buffering. Perlman believes there has to be a new day where we turn away from reliance on conventional antenna trees and think along different lines. Mobile data use has risen dramatically; global <u>mobile</u> data traffic grew 81 percent in 2013, according to *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update,* 2013–2018.

Perlman's promotional video noted how we have hit a "physics upper limit." Whereas conventional cell towers send signals that avoid interference with each other, his approach, using pWave radios, transmits signals that deliberately interfere with each other. Instead of dodging interference, pCell exploits interference, combining radio signals to synthesize tiny personal cells. Rather than hundreds of users taking turns sharing the capacity of one large cell, each user gets an unshared pCell. In short, there is a pCell for every user device. Quoted in *Wired* last month, Perlman said, "It's a complete rewrite of the <u>wireless</u> rulebook." He added, "Since the invention of wireless, people have moved around the coverage area. Now, the coverage area follows you."

Perlman said that his company's <u>wireless technology</u> will be seen this year, making better use of the wireless spectrum. The pCell approach is designed to deliver full-speed mobile data regardless of the number of users, whether the scenario is a morning crowd on the city streets, with workers pounding the pavement with their smartphones, tablets and smartwatches in tow, or a passenger in the back seat of a taxi on a highway checking messages, or spectators at concerts and in sports stadiums. According to the Artemis site, pCell technology is compatible with standard LTE devices.

According to the company's <u>press statement</u> last month, "pCell is currently in trials with partners in San Francisco and will be ready for



first commercial deployment in one market at the end of 2014, expanding to major markets in the US, Asia and Europe starting in 2015. The exact deployment schedule in each market will be determined by the carrier and ISP partners."

More information: www.artemis.com/

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