



Media Contact:

René Link, VP Marketing and CIO

inCode Wireless

858-337-3300

rlink@inCodewireless.com

inCode REVEALS TOP 10 WIRELESS PREDICTIONS FOR 2005
*Increased Competition Drives New Developments in Wireless Voice, Data and Video
For Carriers, Manufacturers and Enterprises*

SAN DIEGO, CA.–Nov. 18, 2004—Although competition in the U.S. wireless market already is greater than in many of the country's other telecommunications sectors, the battle for customers will intensify even more in 2005. Industry economics will force at least one additional consolidation among U.S. wireless network operators next year, but remaining operators will see no competitive relief. Non-traditional players--multimedia companies with powerful content and cable TV arms, major brands with private-label wireless services and even equipment vendors--will muscle into the wireless marketplace with attractive subscriber offerings. Those are some of the key points from the Top 10 Wireless Predictions issued today by inCode, a global wireless technology and business consulting firm.

"The map of wireless companies as we know it could be redrawn," says Jorge Fuenzalida, East Coast Director of inCode's Technology and Strategy Group. "Conglomerates with huge content portfolios will challenge wireless network operators for control of the wireless 'pipe,' forcing carriers to provide differentiated, compelling services for enterprises and consumers. In addition, the warm, decades-long relationship between carriers and equipment vendors is cooling as manufacturers use music delivery and exclusive offers to attract wireless customers and marginalize carriers."

To strike back, wireless carriers can strengthen their competitive advantage with these weapons:

- New classes of premium, one-to-one and one-to-many voice services that generate new revenue streams and leave plain-vanilla, commoditized voice behind
- Service-level agreements that ensure quality of service, not just quality of the network providing it, to attract and retain high-value enterprise customers
- Better in-building coverage and "seamless mobility"--across the hallway as well as down the highway
- High-quality audio and video service with music, TV news and programming on mobile phones

In addition, the special role that wireless has played in public safety and homeland security will become even more important and visible. More government funding finally will be available for identifying the location of mobile subscribers who dial 911, enabling first responders to send help faster. inCode expects progress on technology issues that hinder implementation of a national citizen alert system over cellular. Further, use of Radio-Frequency Identification (RFID) tags—

electronic seals that detect tampering—will enhance homeland security and speed container movement through international ports.

(The full text of inCode's Top 10 Wireless Predictions for 2005, including a bonus prediction, follows this release.)

About inCode

inCode (www.incodewireless.com), a global wireless technology and business consulting firm, develops and implements high-impact strategies and solutions that increase the profitability and performance of wireless networks. In addition, inCode guides enterprises in harnessing the power of wireless communications for productivity and competitive advantage. inCode's innovative Next Generation Wireless Technology Lab enables wireless carriers and enterprises to test advanced wireless solutions prior to making major capital investments.

Founded in 1998 by wireless business veterans and technology pioneers, inCode understands where the wireless world is going and how to get there first. Headquartered in San Diego, California, inCode has offices in Atlanta, Georgia; Maidenhead, United Kingdom; Paris, France; and Sao Paulo, Brazil. inCode is an ISO 9001 certified company.

inCode Top 10 Wireless Predictions for 2005 (Plus a Bonus Prediction)

1. The Role of Wireless in Public Safety Takes Center Stage

The key public-safety communications tool for decades, wireless becomes even more significant in the wake of the 9-11 Commission report, which highlighted weaknesses in U.S. telecom infrastructure. Behind-the-scenes issues, including priority access for first responders, network interoperability and reliability, spectrum requirements for public safety and critical infrastructure concerns move to the forefront. That's not to mention implementation of a national citizen alert system over cellular. In addition, more government funding will finally be available to increase Phase II wireless E911 compliance, eventually benefiting location-based services.

In the interest of homeland security, the government will move closer to allowing Radio-Frequency Identification (RFID) tags on containers that pass through customs at international ports and national borders. Use of these electronic seals that detect tampering also would speed container movement, benefiting shippers and trade. Did we say that wireless in public safety is important?

2. Wireless 411 Directory Gets a Wobbly Start, but Wins Over Small Businesses

Opposition to a full-blown white pages directory of wireless subscribers is widespread and strong with Verizon leading the charge. Based on privacy and spam concerns, it's unlikely that this project will get far. However, a Yellow Pages cellular directory, in which home-based and small business owners can purchase listings, proves popular and profitable. Think of all those small-biz subscribers who are away from their offices most of the day—electricians, consultants, limousine drivers, pet groomers, florists, etc. Their cell phone is their primary mode of voice communication and a Yellow Pages listing is valuable to them.

3. The Killer App is Dead, Differentiated Voice Lives

In a highly penetrated and segmented market, a single killer application doesn't exist and carriers should stop looking for it. Plain-vanilla voice represents about 95 percent of wireless carrier revenue, but it has become a commodity. In 2005, network operators finally begin to offer different classes of voice services, including priority communications, and one-to-many or many-

to-many services, such as network-based cellular conferencing, group voice messaging and more. Enterprises and consumers value better, faster communications by paying for tiered, premium voice services. The trend begins in Europe, but rapidly pops up in North America, Asia and Latin America as well. No new wireless voice services have appeared since the introduction of commercial push-to-talk services and cellular voice mail in the 1980s. These fresh service options surprise and delight subscribers, bringing new revenue streams to carriers.

4. Integration of Broadband Devices Takes Off

Wireless carriers are making broadband technology choices from the available options, including 1xEV-DO/DV, W-CDMA, TD-CDMA, Flash-OFDM and WiMax. Some of these are personal (Bluetooth and infrared); others local (various flavors of 802.11, fixed wireless and WiMax); and the remainder wide area (UMTS, EV-DO, Flash-OFDM, HSDPA and UMTS-TD). To a degree, each tries to compete in another's space. Manufacturers will begin to integrate devices so they will work across two or more types of networks; devices bridging cellular and WiFi networks will be first. However, WiFi data roaming won't take off to any meaningful degree. Carriers initially protect their networks and their investments in technologies by refusing to let other carriers' customers on their networks.

5. Taking Wireless Seriously, Enterprises Begin to Demand Service Quality

Enterprise CIOs finally begin to mobilize their organizations as device and network performance meet expectations and enterprise wireless applications continue to emerge. With local number portability fully in place, enterprises apply wireline cost reduction strategies to their wireless spend. Corporations move big blocks of employee phone numbers to the carrier that best meets their budget and mobility needs. Using this volume business as leverage, they demand service-level agreements (SLAs) that ensure quality of service, not just quality of the network providing it. Carriers must accept these SLA demands or prepare to lose high-value customers.

Opportunities arise for enterprise network management companies that develop applications enabling enterprises to measure SLA compliance. State public utility commissions continue to keep a watchful eye on service quality, especially since wireless is replacing wireline as the preferred long-distance provider.

6. Wireless Gets into the Multimedia and Consumer Product Bundle

Strong multimedia and cable TV brands must have wireless to round out their service bundles to customers. In addition, big consumer brands need wireless to enhance their customer loyalty programs. To date, few Mobile Virtual Network Operator (MVNO) relationships—in which wireless operators provide turnkey, private-labeled wireless services for major brands—have been announced. In 2005 that changes. Several huge multimedia companies will enter the wireless market by mid-year and dozens of other companies are poised to follow suit.

Bundling is the initial step toward true wireline and wireless convergence across all-IP networks—about five years away. Eventually, Voice-over-Internet Protocol (VoIP) will support delivery of all voice services, whether the subscriber is at home, on the move or at the office.

7. Carriers Battle to Control Content, Which Trends Toward Recorded Programs

High-performance phones and increased over-the-air throughput speeds are supporting a richer set of downloadable content. A new battleground is emerging over who controls the value of this content, and carriers will have to fend off non-traditional players. Instead of courting carriers, equipment vendors now try to marginalize them by directly attacking new revenue streams. For example, Apple and Motorola already have teamed up to deliver music content to iPods, and Club Nokia encourages handset owners to sign up for exclusive offers, event invitations and product information sent directly to phones.

In addition, the trend toward viewing recorded versus live programs, which started with VCRs, continues in the wireless environment. Wireless devices with multi-gigabyte storage enable unprecedented freedom and convenience for customers. They can download, store and view the content they want, when they want and where they want. Those who missed the latest episode of “Survivor” or “West Wing” can record the program and watch it commercial-free from their airline seat during a business trip.

8. Spam Spares Wireless No Longer

The wireless industry focuses aggressively on protecting subscribers from handset spam—limited and out of the limelight until now. However, several high-profile spamming incidents will occur next year. Wireless carriers counterpunch with spam-stopping technologies and policies that could ultimately help clear the way for permission-based, mobile marketing by major brands.

9. The Battle for Customers Moves from the Highway to the Hallway

Increased traffic has degraded overall network quality, and subscribers are far less tolerant of dropped calls. In-building coverage becomes a big differentiator for corporate and consumer wireless users. Customer collateral material begins to include coverage information on the square footage of key indoor spaces--such as large office buildings, shopping malls and stadiums--in addition to the square miles of interstate highways in the service area. Enterprises begin to deploy dual-mode 802.11/GSM devices as a means to save cellular costs and improve their own in-building wireless coverage.

10. Adult Entertainment Stays Mainly in Europe—For a While

All forms of adult entertainment—gambling, games and pornography—provide tempting revenue sources for carriers. However, manufacturers and carriers must first devise a way to block adult content to under-age subscribers. Due to the current lack of such effective parental controls, as well as cultural and social issues, evolution of these services on wireless occurs primarily in Europe for the time being.

Bonus Prediction

11. Carrier Consolidation Continues, but Competition Heats Up

The industry finally has arrived at another inflection point. At least one additional consolidation will occur among network operators in the United States in 2005. Regardless, hyper competition will continue in the form of MVNOs.

###