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Spring 2007

# Wireless World<sup>TM</sup>

***Candid Cameras:  
Helping Dallas  
Cops Bust  
Criminals***

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Spring ISD

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**BEARCOM®**  
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Spring 2007

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productivity opportunity for businesses and  
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**Mike Lazaridis**  
President, Founder & Co-CEO  
Research In Motion



## OPENING THOUGHTS:

# Wireless Technology is More than Just a Convenience

By John Watson and Jerry Denham

Just about everyone who reads *Today's Wireless World* recognizes that wireless technology promotes convenience and efficiency. It saves time and money—two powerful ingredients in making a profitable company or well-run organization. What we too often forget, however, is that wireless technology also has the ability to save lives.

The cover story in this issue highlights the Dallas Police Department and how it recently implemented a wireless video surveillance solution that is rapidly becoming the envy of the law enforcement industry. That solution is also a model for other police departments because of its long-term prognosis. The Dallas PD took a very deliberate path in determining what it wanted and how it would get there. It knew it wanted one project manager that could blend the best of all possible wireless technology solutions. It found that partner, we're proud to say, in BearCom. In addition, the Dallas PD wanted a solution that could easily be expanded beyond its original scope to encompass a wide swath of the city of Dallas. As we write, the department is fulfilling that objective—introducing this life-saving tool to new residents with each passing day.

This issue of *Today's Wireless World* is overflowing with other examples of how wireless technology can, and ultimately will, save lives, such as articles about:

- How mountaineers climbing Mt. Everest rely on their mobile wireless devices as a lifeline to safety
- How Oregon's House of Representatives passed a measure that would require the use of such devices for Mt. Hood, where the tragic deaths of three stranded climbers made national news this winter
- Why officers in Midland County, Texas are excited about FreeLinc's new wireless speaker-microphone because of its durability when they give chase

In addition, there are plenty of other compelling stories in *Today's Wireless World* that address the economic benefits of wireless, including the arrival of MOTOTRBO, how the construction industry is embracing wireless technology, a look at what is on the horizon with batteries, a case study that illustrates how a school district benefited from wireless technology, and many more.

The bottom line is that the benefits of wireless technology should never be taken for granted. For proof, thumb through these pages and see for yourself. ●

In addition to publishing *Today's Wireless World*, BearCom sells, rents, and services a broad line of quality wireless communications products and designs and implements complete mobility solutions. Thousands of organizations around the world depend on BearCom to help keep them connected... everywhere, all the time.

*"The bottom line is that the benefits of wireless technology should never be taken for granted."*



JOHN WATSON  
Chairman, BearCom

JERRY DENHAM  
President & CEO, BearCom





## COVER STORY:

# Candid Cameras: Helping Dallas Cops Bust Criminals

By Holt Hackney

The conference room was eerily quiet as the men fiddled with the equipment. A few seconds later, Deputy Chief Tom Lawrence of the Dallas Police Department, along with the other members of the committee who were there to evaluate the proposed video surveillance system for downtown Dallas, watched with amazement as the men orchestrated a flawless demonstration of their company's wireless solution.

"They did the demonstration right there in the room and made it work very well," said Chief Lawrence. "At the time, we were collectively wondering whether they could pull it off."

In this instance, the "they" was BearCom, a nationwide provider of wireless equipment and solutions. With the help of key partners—Sony Electronics, Firetide, BridgeWave Communications, and On-Net Surveillance Systems (OnSSI)—BearCom has gone on to implement a state-of-the-art solution in Dallas that is rapidly becoming the envy of dozens of other cities around the country. It's not only a solution that holds criminals accountable for their actions but is rapidly becoming a significant deterrent to other criminal activity.

### How It All Got Started

The idea to create such a solution was hatched long before the meeting between BearCom and the Dallas PD. In 2004, the department began working on a video surveillance project in Deep Ellum, the trendy warehouse district in Dallas. In early 2005, cameras were deployed and the feed was transported to various privately owned buildings in the area where it could be routed back to the department. It was definitely an educational experience for the Dallas PD.

"What we learned was that it was very effective as a deterrence tool," said Chief Lawrence. "But as an investigative tool, it

was not useful. The pilot taught us what we didn't want to do. It taught us where we needed better technology."

The department took what it learned in the pilot and made the decision to pursue a downtown project. The next step was to identify one company that could provide a blended, best-of-breed technological solution.

BearCom, one of six wireless technology integrators to submit a project proposal, turned to its community of partners and their technologies to identify the most appropriate solution.

In evaluating wireless camera and networking technologies for its proposal to the Dallas PD, BearCom selected Sony's IP video surveillance cameras with single- or dual-streaming codec (encoding/decoding) modes, advanced motion detection, and day/night functionality for the highest image quality at all light levels.

*Continues on page 4...*



OnSSI's software enables the Dallas PD to monitor and control the wireless video cameras throughout the downtown area from one central location at City Hall. The management and archiving capabilities of the software also help to ensure the department's ability to hold criminals accountable.







*"...BearCom now has an integrated team that can offer similar solutions to other municipalities and public safety organizations that want to leverage wireless technology as an effective and efficient way to combat crime."*

*...Continued from page 3*

Firetide HotPort mesh nodes provide high-bandwidth, wireless connectivity for all the Sony IP video cameras in downtown Dallas. An outdoor or indoor node was installed for each camera, depending on the specific requirements of that location.

The team also sought a scalable wireless networking infrastructure with substantial bandwidth, since the Dallas PD's existing wired infrastructure was insufficient for carrying a large amount of bandwidth-intensive video traffic. Firetide's fast and flexible mesh network nodes connect the Sony cameras wirelessly, eliminating the need to install expensive video cabling to each camera.

The Firetide nodes are linked via seven mesh zones, where video traffic is aggregated and then backhauled to the Dallas PD's monitoring stations using BridgeWave's high-capacity 60GHz point-to-point Gigabit and 100Mbps wireless links. The BridgeWave radios also allow direct attachment of cameras through their additional "add/drop" copper Ethernet port.

#### **Assembling and Installing the Various Components**

Not surprisingly, BearCom's proposal proved to be a winner. Installation began in the late summer of 2006 and was completed in December of the same year.

Today, the solution flows seamlessly, beginning with the Sony cameras that monitor and record the data on the street below. From there, Firetide enters the picture with its mesh nodes that link to each other wirelessly, eliminating the need to install video cabling to each camera location, which would have been too difficult and cost-prohibitive for the City of Dallas. The nodes form a video network that spans the entire area selected for surveillance, and the system is self-healing—should one link be blocked or lose power, the video

signal will still go through without any interruption in service. The BridgeWave long-range wireless backhaul links connect the mesh network to the monitoring stations at Dallas City Hall and the Jack Evans Police Headquarters.

All of the system components are mounted inside protective, weatherproof enclosures, which are installed on the exterior of buildings and on traffic signal and street light poles in downtown Dallas. Most of the cameras have motorized controls, enabling officers or public safety staff sitting in a remote monitoring location to move the camera lens in any direction and zoom in for a closer look.

"This project would not have been possible were it not for the cooperation of our partners," said John Watson, Chairman of BearCom. "Not only are Firetide, Sony, BridgeWave, and OnSSI innovators and leaders in the wireless industry, but more importantly, they worked closely with us to develop a solution that was a perfect fit for the needs of the Dallas Police Department and the City of Dallas. As a result, BearCom now has an integrated team that can offer similar solutions to other municipalities and public safety organizations that want to leverage wireless technology as an effective and efficient way to combat crime."

As a key component of the Dallas PD's crime reduction efforts, the surveillance system covers approximately 30 percent of the downtown area and is being used as a crime deterrent with live, 24-hour

*Continues on page 7...*

*"The wireless camera system from BearCom will dramatically improve our ability to monitor this area of the city..."*

**Tom Lawrence**  
Deputy Chief  
Dallas Police Department

# What's happening here – right now?

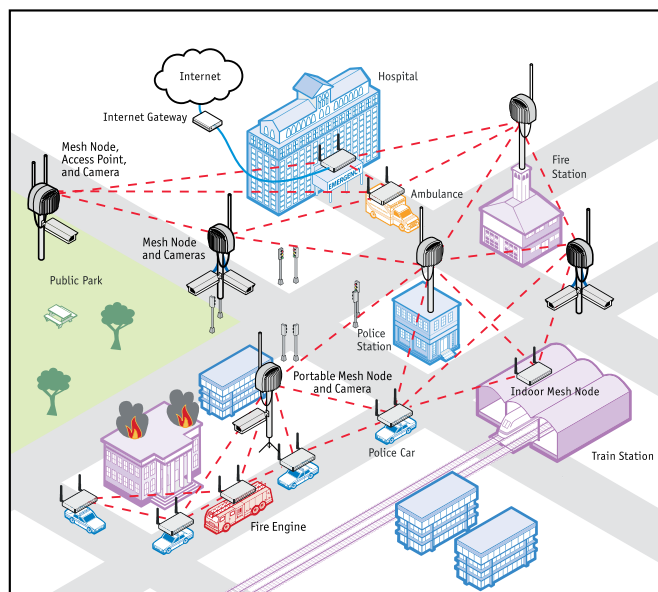
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## Dallas SWAT Team Gets Upper Hand on Bad Guys by Using Wireless Devices

In addition to the benefits that the Dallas Police Department is seeing from its newly installed wireless camera system, the Dallas SWAT team is benefiting from another kind of wireless technology—headsets.

FreeLinc's FreeMotion 200, a wireless headset with push-to-talk capability that allows for cord-free operation of a two-way radio, is being warmly embraced by municipal SWAT teams around the country. The most famous SWAT team west of the Mississippi River—Dallas SWAT—has already deployed more than a half-dozen units.

Being a member of a SWAT team is arguably one of the most dangerous jobs in law enforcement. So it should come as no surprise that the men and women who serve in that capacity are constantly on the lookout for equipment that enhances their ability to do their jobs.

"We've been using FreeLinc's wireless equipment for several months," said Dallas SWAT's Terigi Rossi. "The fact that it's wireless saves us time, since we don't have to run a cord up our vests. It's not only more convenient, but we can get out into the field quicker. That can make a huge difference in critical life-and-death situations."

*...Continued from page 4*

monitoring at City Hall and at police headquarters. The video streams are also being recorded to assist with criminal investigations. The overt system is designed with strict adherence to applicable laws and is used only in public areas with visible camera placement and street level signage.

"Our goal is to reduce crime in the area and to increase the overall satisfaction with public safety for our citizens," said Chief Lawrence. "The wireless camera system from BearCom will dramatically improve our ability to monitor this area of the city, and we can now provide our officers with critical, real-time information they can use to protect the public and themselves whenever an incident is detected."

"A lot of crime is perception," added Chief Lawrence. "We are trying to do things to make people feel safe when they come downtown. The system enhances our ability to do three things: detect the criminal activity, deter it, and investigate it."

### Planning for the Future

The Dallas PD hopes to expand its solution to other areas of the city once additional funding becomes available. While the initial round of funding came

from the Meadows Foundation, a not-for-profit organization that helps projects that ease suffering, Chief Lawrence believes future funding could come from any number of sources—even the business community, which has been very supportive. "We were willing to sacrifice quantity for quality," said Chief Lawrence. "Being able to expand was more important to us than having a huge number of cameras. We didn't want to have to come back a few years down the road and redo it, but instead build on it."

Not surprisingly, the Dallas PD signed with BearCom to maintain the solution. At every turn, Chief Lawrence said he has been impressed with the Dallas PD's partner, noting BearCom's expertise in all components of the solution, the ability to complete the project ahead of schedule, and the thorough effort (in training police officers how to use the system, for example).

"That day in the conference room," Chief Lawrence said, "was a harbinger of things to come." ●

*Holt Hackney is Managing Editor for Today's Wireless World magazine.*

*"Motorola's new digital communications platform combines the best of two-way radio with digital technology..."*



*"This is a major leap in two-way communications, the likes of which typically only comes around every couple of decades."*

**Mike Butler**  
Engineering Manager  
BearCom

## **PRODUCT REVIEW (Motorola Digital Two-Way Radios):** **MOTOTRBO Puts Corporate America in the Passing Lane**

**By Hugh Johnston**

In an age when manufacturers frequently force existing customers to upgrade to new technology or be left on the side of the road, Motorola took a much different and more aggressive approach.

This spring, the wireless technology leader began shipping the MOTOTRBO digital two-way radio system, which represents a powerful and compelling improvement on the industry's existing platforms. And yet Motorola has made it possible for those organizations that still use analog and remain wedded to that technology to take small, cost-efficient steps toward the inevitable transition. No one is twisting their arms for a decision.

But boy, is it compelling to make the switch. Motorola's new digital communications platform combines the best of two-way radio with digital technology to deliver increased capacity and spectral efficiency, integrated data applications, and significantly enhanced voice communications.

"This is a major leap in two-way communications, the likes of which typically only comes around every couple of decades," said Mike Butler, Engineering Manager at BearCom. "What is impressive to me is the IP connectivity. You expect the voice quality with these radios, but what is stunning about them is that they move data just as well. For example, I can type an e-mail that comes up on my portable. We're already seeing a different kind of reaction when we call on customers and prospects with this platform."

### **How It Works**

MOTOTRBO utilizes a two-slot Time Division Multiple Access (TDMA) digital technology to improve basic functionality and system performance, including increased system capacity, improved audio quality, longer battery life, built-in privacy, and enhanced call signaling

and control capabilities for future enhancements to the platform, such as emergency pre-emption.

In addition, users have access to various integrated data applications, such as global positioning system (GPS)-based location tracking, text messaging, and other IP data applications. And it doesn't end there. Motorola's published Application Programming Interface (API) enables the development of customized applications by third-party developers, creating additional versatility for all MOTOTRBO owners.

"That's another thing that's very exciting about MOTOTRBO," said Butler. "Yes, you have the GPS application with text messaging and an e-mail interface. And yet you also have an open API. Developers can get a kit from Motorola just like you would from Microsoft, so that they can write additional applications (for the platform)."

Indeed, Craig Chenicek, Motorola's Director of Radio Products, said the integrated applications and the ability to write additional applications represents "the real sizzle of the MOTOTRBO platform. A couple of these applications—GPS and text messaging—are very powerful. But we are also working on many, many more applications." That feature—and the many others—will go a long way toward attracting new customers as well as encouraging existing customers to upgrade.

### **The Right Product for Professionals**

"Professional organizations, such as transportation, education, construction, manufacturing, private security, smaller municipalities, and public service entities, are faced with the need for improved workforce productivity, operational efficiency, and increased mobility,

*Continues on page 9...*



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*...Continued from page 8*

while maintaining constant connectivity with the workforce," said Chenicek.

"MOTOTRBO was designed to meet the expanding needs of these customers, especially those requiring reliable business-critical communications combined with the higher performance capabilities that digital technology can provide. Many of those companies," said Chenicek, "can also benefit from the increased capacity and significant cost efficiencies that are inherent in the MOTOTRBO platform."

By leveraging TDMA technology, MOTOTRBO doubles the effective capacity of a customer's repeater channels within the 12.5kHz channel structure already utilized throughout the world. This straightforward re-use of spectrum allows more users on the system and with no changes to licensing requirements, which can increase the customer's capacity for wireless voice and data communications. In addition,

MOTOTRBO's platform enables a single repeater to deliver the benefits of two analog repeaters, allowing organizations to realize up to a 50 percent reduction in repeater costs compared with equivalent analog systems. And MOTOTRBO provides more talk time with up to a 40 percent longer battery life than other comparable analog radios.

"MOTOTRBO lowers acquisition and operating costs, particularly when compared to alternative technologies that require monthly fees," added Chenicek. "In addition to a lower total cost of ownership, MOTOTRBO can operate in both analog and digital modes, and it is easily integrated with legacy two-way radio infrastructures. Customers can improve basic functionality, add new features, and increase capacity at their own pace, while at the same time leveraging their existing radio system technology investments."

*Continues on page 12...*



The MOTOTRBO platform combines the best in two-way radio functionality with digital technology to deliver increased capacity and spectrum efficiency, integrated data communications, and enhanced voice quality.



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### The Future of Professional Two-Way Radio

*(What follows is the executive summary of a white paper created by Motorola, which is intended to provide an overview of two-way digital technology and the advantages it offers to mobile professionals in industries such as transportation, education, building construction, manufacturing, energy and utilities, private security, public safety, and local government, as well as service-intensive businesses, such as hotels, motels, and casinos. The paper explores the unique needs of mobile workers and discusses the ways that digital technology serves these needs in ways that analog radio cannot.)*

Two-way voice was one of the first commercial applications of radio technology. In 1933, the first two-way mobile radio system was installed in patrol cars of the Bayonne, New Jersey police department. Since then, two-way radio has moved beyond the realm of public safety to become an invaluable tool for mobile professionals in a wide range of enterprises.

The term "two-way radio" conjures up a variety of images. Many people think of public safety officers using expensive equipment and licensed spectrum to convey mission-critical information at the site of an incident. Others think of

hobbyists and sales clerks using low-cost, low-power "walkie talkies" in the unlicensed spectrum to keep in touch over relatively short distances. But there's a growing market between these two extremes for professional users who need high-quality yet affordable equipment that takes advantage of the power, range, and coexistence characteristics of licensed channels.

In transportation, energy, government, retail, hospitality, and many other industries, licensed professional two-way radio systems offer capabilities that no other mobile technology can provide. Unlike competing technologies, only two-way radio can offer professionals instant, private, and cost-effective communication in virtually any environment—anywhere and anytime. With two-way radio, there's no need to deploy supporting infrastructure in a field situation or to rely on subscriber-based public networks that may be unsupported or even unavailable.

For most of its history, two-way radio has been an analog medium, and to this day, the vast majority of systems are still analog. But that's about to change. In the same way that digital technology has transformed other media, it's now revolutionizing the way mobile professionals communicate in the field. Like the digitization of music, TV, and

other traditionally analog media, digital two-way radio technology offers several advantages over the analog systems of the past.

Digital two-way radio also offers many features and capabilities that analog simply can't provide. For example, digital systems can:

- Provide enhanced signaling for user-friendly operation
- Enable longer battery life in the field by requiring less transmit power
- Enable flexible privacy between individual users and groups without degrading voice quality or requiring configuration of add-on hardware
- Combine voice communication and wireless data applications in the same device, literally transforming the way field workers get the job done

Compared to analog two-way radio, digital two-way radio can also offer greater spectral efficiency for higher calling capacity, enhanced voice quality at the farthest margins of the RF range, and more reliable coverage—making it easier to hear and understand conversations, even at long range and in difficult environments. ●

*Hugh Johnston is Purchasing Manager for BearCom.*



## INDUSTRY SPOTLIGHT (Construction):

# Construction Industry Gets a Hand from Wireless Technology

By Holt Hackney

After a decade of strong growth, the construction industry may be tested in future years by high interest rates, the increasing costs of building supplies, and mortgage reform. Becoming more efficient is paramount. But where will those cost efficiencies come from?

Wireless technology will be one enabler. After all, being financially successful in the construction industry means keeping projects on schedule and on budget. And one of the best ways to accomplish that objective is to leverage the latest in wireless technology and its accompanying tools, such as:

- Two-way radios for communicating with employees
- Cellular phones and smart phones for keeping in touch with contractors, subcontractors, and suppliers
- Mobile broadband cards for easy, quick access to the Web or e-mail from trucks or job sites
- IP video surveillance systems for securing on-site materials around the clock

This array of tools was virtually non-existent in the 1980s when Hugh Johnston joined BearCom. Now BearCom's Purchasing Manager, Johnston spent a great deal of his time working with the construction industry. "Traditionally, they had been portable two-way radio users," Johnston said. "Even when cell phones came out in the mid-1980s, those on the job sites continued to use portable radios. To this day, many job sites still use radios, such as those produced by Motorola and Icom. The devices are very rugged and durable and are ideally suited for the industry."

But at the same time, he noted, more managers and supervisors are now embracing cellular, push-to-talk, and

smart phones and their accompanying applications, which facilitate efficiencies around deadlines and budget issues. These devices are being made more rugged and durable as well, making them more practical for use in harsh, unforgiving environments.



"We're moving into a digital world," said Johnston. "The construction industry may not have been the first to the party, but it is coming on strong now." Good examples of this trend are the arrival of Motorola's new MOTOTRBO platform and its GPS capability and the emergence of the notebook computer at the job site. "Where there is no wireless connection, managers are increasingly relying on Sprint's mobile broadband card to connect them to the Internet," noted Johnston.

While the possibilities appear limitless, the industry has been slow to recognize this, wrote IDC Analyst Kevin Burden

in a recent report. "Naturally, we already use our mobile phones for communication, but mobile devices could also be used for certain work tasks, e.g., confirmation, information, and monitoring." Burden, who recently conducted a study at the behest of Research In Motion (RIM), wrote that it became "apparent" during his research "that mobile devices could be used in the construction industry... currently, however, very few companies have implemented mobile applications into their daily routines."

That may be because many of the employees don't have such devices. YouGov, a London-based research house, interviewed more than 380 construction professionals over the winter about wireless technology. It found that the industry's adoption and exploitation of mobile technology has been "limited," at least in the UK, and probably globally. "Forty percent of construction companies do not provide staff with any form of mobile devices, including phones. However, those with access to mobile devices have recorded significant benefits. On average, construction staff that use mobile technology save 34 minutes per day, which equates with a saving of 136 hours per year. Speed of response to customer queries has been boosted by 31 percent, while personal productivity has increased by a fifth (20 percent)."

"Unsurprisingly, for a workforce that spends the majority of its time on-site, 40 percent believe that mobiles are vital for communication with colleagues, clients, and suppliers. Use of devices for e-mail or access to information held on the company network is limited, despite the fact that nearly a quarter (24 percent) of construction

*Continues on page 16...*

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### Pantech PX-500

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- PCS connection software



### Novatel Merlin S720

- Rugged antenna
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- Backward compatible
- PCS connection software



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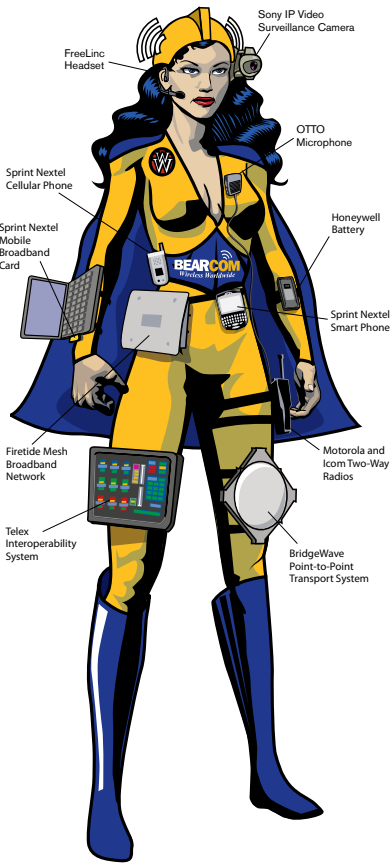
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Meg A. Hertz, the Chief Technology Officer at BearCom, provides innovative wireless solutions to BearCom customers every day. But when a communications problem requires superhuman powers, Meg becomes Wireless Woman—and always saves the day!

...Continued from page 13

professionals believe that mobile technology could have a major impact on work/life balance."

Expanding on the potential benefits, IDC's Burton wrote that the benefit of mobile applications can be powerful. "Because the construction industry relies heavily on subcontracting in its business model, project management is one of its most important business processes," he wrote. "To optimize it, commercial construction companies are using (for example) BlackBerry devices to enable project managers to update project data at the work site, thus keeping clients up to date on project details. Real-time access to project data also enables project managers to solve problems on-site, thus reducing costly delays. Moreover, given the rigors of large-scale construction sites, the ability to employ a more compact device—instead of a laptop—provides the project manager with more flexibility. Mobile application access has also been important in the residential construction market, where mass production makes quality control and assurance critical functions."

New applications are emerging on a weekly, if not daily, basis. Sprint Nextel, for example, announced recently the

availability of the Trimble Construction Manager, a wireless solution that utilizes Global Positioning System (GPS) technology to deliver construction professionals a two-pronged solution: 1) to locate and manage assets at construction sites via Nextel handheld phones, and 2) in-vehicle devices to optimize asset utilization and productivity of mobile assets. The solution effectively connects the office to the job site and is designed to reduce operating costs and improve construction efficiency.

The service available on Nextel handsets uses Nextel's iDEN network to deliver information to workers on job sites, such as the location of assets and employees, allowing them to locate and navigate to the assets needed to complete projects. In addition, job sites boundaries, or "geo-fences," can be sent to the phone, allowing the solution to record site entry and exit events, so site managers are notified if a worker enters a hazardous or unsafe zone. Users can also download maps and site designs to their Nextel wireless phones and view their current location superimposed on the design. ●

*Holt Hackney is Managing Editor for Today's Wireless World magazine.*

## The Adventures of Wireless Woman™



## DID YOU KNOW?

# Shift from NiCad to Lithium Polymer Recharges the Battery Industry

By Ian Torok

Everyone has been there. Maybe you forgot to charge up your BlackBerry one night, and the next day, you're about to lose what little juice was left in your battery. Or perhaps you're in an airport, frantically scanning for a place to plug in an AC cord because your cell phone battery is running low. This is the bane of modern technology.

With every sleek design or additional software application, mobile device and notebook computer manufacturers are putting added pressure on the battery. This makes Honeywell Batteries your best friend.

As you might expect, Honeywell Batteries, among other things, makes batteries. Not the kind you stuff into Johnny's remote-controlled car, mind you, but special batteries that allow you to work longer in areas where you don't have ready access to a wall socket. It was the fact that consumers and business wanted more convenient and advanced electronics that resulted in the company being established in 1998 to respond to a burgeoning need. "It was founded with the idea that mobile computers and wireless devices were becoming ubiquitous," Scott Benezra,

Vice President at Honeywell Batteries, told *Today's Wireless World*. "We also recognized that companies and government agencies were increasingly relying on such devices and that original equipment manufacturers weren't paying attention to batteries, which are the engines for those devices."

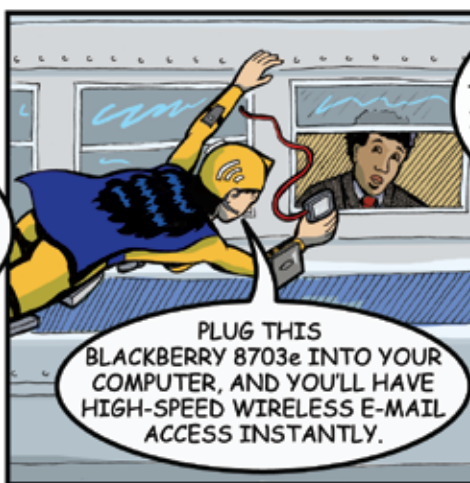
Since that time, there has been "tremendous change," added Benezra. "Mobile devices have continued to shrink with the belief that smaller is better. Meanwhile, as the devices get smaller, the manufacturers are adding more power-hungry features." To combat this, Honeywell Batteries is taking a systems approach to solving the problem by encouraging the use of new approaches in chemistry as well as new chargers to support it. In the past, for example, the companies developing the battery packs have relied on NiCad cells. "The problem, however, is that we have hit the max in terms of how small we can make the batteries," said Benezra. "So we've been building batteries including newer, more energy-dense technologies like Lithium Ion, as well as embracing a new approach called Lithium Polymer in our new line of Honeywell NEOCells™."

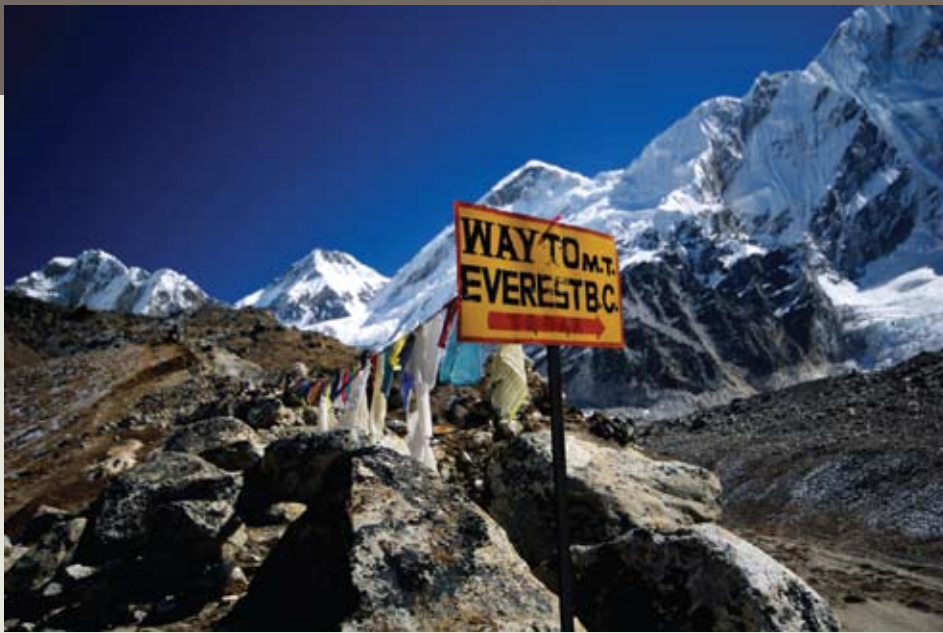
Benezra noted that Lithium Polymer represents an improvement over the old NiCad approach because it is the "best way to work within the form factor that the OEM has created, and the batteries are lighter in weight." The shift has raised Honeywell Batteries' profile in the industry because it can much more readily embrace new processes. "We're focused exclusively on batteries, chargers, and power management, which allows us to react much faster than an OEM," said Benezra.

But the race isn't over, not by a long shot. "We're constantly being asked to trim weight off OEM batteries," added Benezra. "This and other challenges only serve to encourage us to use new chemistries to create the best, most cost-efficient batteries in the industry." ●

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*Ian Torok is Technical Services Director for BearCom.*





Mt. Everest is the tallest mountain in the world, is part of the Himalaya mountain range, and straddles the border of Nepal and Tibet. It was named for Sir George Everest, a British Surveyor-General of India and was first climbed by Sir Edmund Hillary of New Zealand and Tenzing Norgay of Nepal in 1953.

## **WIRELESS LIFESTYLE (Mt. Everest Expedition):** **Climbers Depend on Mobile Devices at the Top of the World**

By Holt Hackney

At an elevation of 29,035 feet with hurricane-force winds and sub-zero temperatures, Mt. Everest would be the last place you might think you could make a clear call. But thanks to Icom's two-way radios, a call made while scaling up the world's highest peak can be crystal clear.

With the help of Mountain Link's guide services, an Oregon climbing team ascended the 60-million-year-old peak in May 2006 with Icom F14 portable radios in hand.

After spending nearly four weeks traversing from base camp up the mountain, taking time to acclimate to the altitude and waiting for good weather, 13 members of the team finally reached the summit. During the climb, each team member carried an Icom radio. Worn inside their coats with a clip-on microphone hooked to the collar, the climbers were able to use their radios without having to remove their gloves or expose their skin to the bitterly cold air.

The wide-range frequency coverage of the Icom radios allowed the Oregon climbing team to communicate on one channel for intra-team communications while also tuning to the central, shared channel to communicate with the other expeditions on the mountain. The shared channel feature allowed the team to stay connected to base camp and other expeditions, sharing information on weather conditions and route changes.

Mountain Link owner Robert Link chose Icom radios for the expedition because of his previous positive experiences with the brand. The radio had held up well for Link under harsh operating conditions due to its proven resistance to shock, vibration, and bitter cold temperatures. "Icom's F14 is the perfect model for mountaineering guide service," Link said. "It's lightweight, durable, and easy to use."

More and more climbers are switching from CB radios to two-way radios because VHF is powerful enough to

allow climbers to communicate from the summit to base camp. VHF is also less sensitive to geographical obstructions that might cause line-of-sight problems for CB radios. "For Mt. Everest, CB just doesn't cut it," Link said. "In the Himalayas, it would be nearly impossible to reach from base camp to the summit. It simply doesn't have the power."

Once, Link used his Icom radio to talk a helicopter pilot through a mountain rescue. "Without good communication, a rescue like that can be very, very dangerous," Link said while describing the hazardous weather conditions in which the helicopter was forced to land.

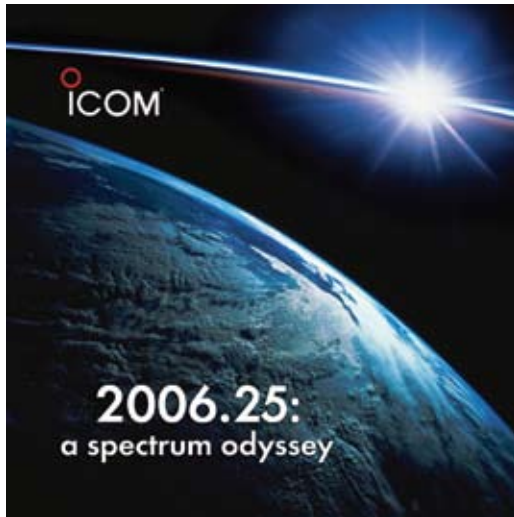
### **Two-Way Radios Can Help with More than Just Weather Reports**

While providing up-to-the-minute weather and news reports can help prevent accidents from occurring, two-way radios can also be used in case something does go wrong and help needs to be summoned. "On every

*Continues on page 20...*



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During a mountain climbing expedition, portable two-way radios are often carried inside the climbers' coats.

...Continued from page 18

expedition, we rely on our two-way radios because they are crucial to the safety of the team," said Jeff Justman, a Mountain Link guide who helped lead the Oregon climbing team's Mt. Everest expedition. "Clear communications are essential."

Using Mountain Link's Icom radio system, Justman was able to communicate from base camp to two team members on the summit of Everest. "Communications were clear, and I was 12,000 feet below them," Justman says. "It sounded like they were right next to me."

Radios were also critical for maintaining morale when team members were at different camps and climbing at different locations. "People were progressing at different speeds, and we relied on radio communications to keep the team together," Justman said. "You've got to be a team and look out for each other. Radio communications lets you know how everyone is doing. It's the comfort factor."

## Mt. Hood Tragedy Produces a Silver Lining

Back home in Oregon, the tragedy this past winter involving the deaths of three mountain climbers on Mt. Hood may have a silver lining.

In late March, the Oregon House of Representatives voted by a count of 33-22 to require all mountaineers to carry locator devices on their way to the summit of Mt. Hood. If the bill is approved by the Senate and signed by the governor, Oregon would become the first state to adopt such a law. The requirement would go into effect on January 1, 2008. Supporters of the bill compared the law to the requirement that boaters wear life jackets and that motorcyclists wear helmets.

Oregon House Bill 2509 states that "an individual, or at least one individual

*Continues on page 21...*

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**2006 INNOVATION  
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...Continued from page 20

in a group, who engages in mountain climbing in the month of November, December, January, February, or March on Mt. Hood at an elevation above 10,000 feet shall carry a two-way, electronic communication device and:

- A global positioning system receiver
- A personal locator beacon transmitter
- A Mt. Hood mountain locator unit, or
- Other comparable device

A person who guides for compensation an organized group that includes children under 18 years of age on any mountain at a point above the timberline shall carry an altimeter, a contour map of the area, and a compass."

Already, the value of such mobile devices has been borne out when three other mountain climbers were rescued from the mountain when they activated a locator unit, leading searchers directly to their location.



Trey Robinson, founder of the popular USTrailrunner.com Web site, suggested to *Today's Wireless World* that advances in technology make it a "no-brainer" that anyone embarking on an adventure in a remote location carry some form of mobile device, ideally with GPS

functionality. That position is being backed by numerous other groups, such as the Oregon Mountaineering Association, which recommends that "in addition to leaving your plans and preparations with a trusted party, it is advised that parties carry some communications, such as a cell phone or VHF radio."

At the same time, some groups worry that climbers will gain a false sense of security when carrying wireless communications equipment. "We believe a law requiring climbers to carry electronic devices will have unintended consequences that will increase the risk to both climbers and rescuers," the Portland Mountain Rescue and several other mountaineering groups from Oregon wrote in an e-mail message to legislators. "When the state mandates specific equipment, it gives the climber a false sense of security. The climber will be more likely to take greater risks because they believe that since the state has required a 'beacon,' they are entitled to a rescue." Countering that, supporters say that the requirement would reduce the cost of rescue operations and the risk to volunteer searchers.

"The fact that there are so many types of devices to choose from illustrates one of the real positives associated with advances in wireless technology," added USTrailrunner.com's Robinson. "The companies that are manufacturing these devices and putting them in the hands of adventurers have a real opportunity to save lives." ●

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*Holt Hackney is Managing Editor for Today's Wireless World magazine.*



### **Satellite Phone Becomes Critical Link in Journey to the South Pole**

Climbing to the top of Mt. Everest is challenging to say the very least, but trekking to the South Pole is no picnic either. Besides the freezing temperatures and limited visibility, those embracing such a journey must often deal with "sastrugi," more commonly known as ice waves.

When Jamie Fitzgerald and Kevin Biggar became the first all-New Zealand expedition to reach the South Pole for 50 years, they told their countrymen all about the sastrugi on their BearCom satellite phone. Biggar said that "to operate successfully in such an extreme environment as Antarctica requires a combination of meticulous preparation, mental and physical fitness, and a measure of good fortune with weather and surface conditions." And, of course, the right wireless equipment.



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## SUCCESS STORY (Spring ISD): Implementing Better Communications for a School District

By Kristin Kirkham

### The Customer

Spring Independent School District (ISD), located about 20 miles north of downtown Houston, Texas, serves more than 32,000 pre-kindergarten through 12th-grade students. The district has a total of 30 campuses, including two 5A high schools, a high school career academy, a ninth-grade center, six sixth through eighth-grade middle schools, one pre-kindergarten through second-grade primary school, one third through fifth-grade intermediate school, and 18 pre-kindergarten through fifth-grade elementary schools.

### The Challenge

For some time, Spring ISD employees had been using two-way radios to communicate with each other, but the costs were rapidly rising. For example, a radio was needed for every teacher in the district, but each one cost upwards of \$500. The school system needed an economical solution that multiple staff all across the district could use without sacrificing communication quality, clarity, or functionality. And they needed to address the issue quickly.

### The Solution

After viewing the Vocera Communications System display in BearCom's booth at an industry trade show, Joel McCotter, Spring ISD's IT Telecom Manager, decided that the problems his district faced with two-way radios would now have a solution. He asked BearCom to provide Spring ISD with a Vocera system, thereby becoming the first educational organization in the U.S. to implement the breakthrough VoIP solution. As well as providing quick and easy badge-to-badge communication, the Vocera solution is now tied into the district's PBX, allowing instant, hands-free communication with any phone or pager within or outside the school system. When a user steps away from the wireless network "cloud" at each

of the district's campuses, the Vocera server intelligently routes calls to that user's cell phone or pager. This gives Spring ISD's mobile professionals reliable and accessible communications at all times.

### The Results

At a price comparable to a fleet of two-way radios, BearCom implemented



Vocera's solution in record time. District officials are very pleased with the performance of the new system. "After an initial purchase of 50 badges, our staff was so impressed that we decided to order 75 more Vocera units from BearCom," said McCotter. "As funding improves and schools continue to be built, we hope to have Vocera implemented in all Spring ISD facilities." ●

*Kristin Kirkham is Marketing & Technical Writer for BearCom.*

*"...our staff was so impressed that we decided to order 75 more Vocera units from BearCom."*

**Joel McCotter**  
IT Telecom Manager  
Spring ISD

Vocera's hands-free, 802.11b wireless solution provides a cost-effective, easy-to-use system for instant voice communication in schools, hospitals, retail stores, and other building and campus environments. There's no need to remember phone numbers—users simply say the name, title, or function of the person they need to reach, and Vocera connects them instantly.

## CALENDAR:

# Upcoming Wireless Industry Events

By Elizabeth Wiseman

### Interop Las Vegas

Las Vegas, Nevada  
May 20-25, 2007  
[www.interop.com/lasvegas](http://www.interop.com/lasvegas)

### Mobile & Wireless World

Orlando, Florida  
May 21-23, 2007  
[www.mwwusa.com](http://www.mwwusa.com)

### World Wireless Congress

Menlo Park, California  
May 21-23, 2007  
[www.b3g.org](http://www.b3g.org)

### The Wireless Event

London, England  
May 23-24, 2007  
[www.thewirelessevent.com](http://www.thewirelessevent.com)

### WiMAX World Europe

Vienna, Austria  
May 29-31, 2007  
[europe.wimaxworld.com](http://europe.wimaxworld.com)

### IASTED Wireless & Optical Communications Conference

Montreal, Quebec  
May 30-June 1, 2007  
[www.iasted.org/conferences](http://www.iasted.org/conferences)

### In-Building Wireless Solutions 2007

Las Vegas, Nevada  
June 11-13, 2007  
[www.iirusa.com/inbuildingwireless](http://www.iirusa.com/inbuildingwireless)

### WCA Summer Convention 2007

Washington, DC  
June 12-15, 2007  
[www.wcai.com/events.htm](http://www.wcai.com/events.htm)

### Wireless & Mobile Expo

Toronto, Ontario  
July 17-18, 2007  
[wirelessandmobile.wowgao.com](http://wirelessandmobile.wowgao.com)

The BlackBerry logo, featuring the word "BlackBerry" in a white, sans-serif font, preceded by a stylized icon of a cluster of dots.

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## AROUND THE WORLD:

# Wireless News and Views

By Holt Hackney

### FreeLinc's Speaker-Microphone Gains Approval from Officers in the Field

A foot pursuit. It is a police officer's worst nightmare. There are so many things that can go wrong, not the least of which is losing your equipment during the pursuit.

In Midland County, Texas, one officer recently recounted how she would repeatedly lose her speaker-microphone, her critical link back to dispatch. Then she was selected to pilot FreeLinc's FreeMic 200 cordless speaker-mic. It didn't take long before the new product was put to the test. The speaker-mic, however, passed the test "...like a champ. The FreeMic 200 held to my uniform and was reliable when I had to transmit. This is a very valuable tool for law enforcement, is definitely designed with safety in mind, and is very officer-friendly."

After the successful pilot, the Midland County Sheriff's Department purchased FreeMic 200 speaker-mics for every patrolman and each member of the SWAT team. With that kind of endorsement, it was no surprise last winter that the product was honored with a first place title in the 2006 Law Enforcement Technology & Law Enforcement Product News INNOVATION Awards program. The prestigious program recognizes outstanding companies, "whose products have best responded to law enforcement's market challenges by offering creative and forward-thinking solutions and products." The INNOVATION Awards were judged by a distinguished and independent panel of law enforcement personnel who evaluated each of the entries on six criteria: innovation, ease of use, cost effectiveness, quality contribution, maintainability, and productivity.

"FreeLinc continues to be recognized as a pioneer and market leader that

enables cordless communications in mission-critical environments," explained Anthony J. Suter, CEO of FreeLinc. "We currently have the only viable solution in the marketplace for cord-free, two-way radio operation, and we're quickly gaining ground in the most demanding markets, such as the U.S. Department of Defense and Department of Homeland Security."

Founded in 2003, FreeLinc is the pioneer and market leader in cordless communication accessories for two-way radios. Its sole focus and mission is to provide technology and products that help mission-critical communicators experience the safety and mobility of a cord-free environment. ●

### Avaya Relies on Firetide for Its Mobile Communication System

When faced with an emergency, those cities with Avaya's Mobile Communication System (MCS) are poised to respond to the challenge.

Avaya, a leading global provider of business communications software, systems, and services, announced earlier this year a broad new series of capabilities for the MCS, which is a full-featured voice and data system packed in a rugged case that is ready to be deployed at a moment's notice to any disaster site, remote location, or temporary command post. The system can also be installed in emergency vehicles, with more than two dozen Avaya-based mobile command centers already on the road serving communities and organizations across the U.S.

The latter value proposition was enough to attract the Maryland State Police as a customer. The department is using the Avaya MCS in two of its vehicles, one of which serves as the largest mobile command center in the nation.

Avaya was quick to credit a host of development partners for extending the

capabilities of the MCS with broader connectivity options, new value-added applications, and endpoints. For example, Avaya turned to Firetide when it wanted to improve the MCS' ability to quickly establish communications capability over a wide geographic area. Firetide, which specializes in wireless mesh networking, is able to provide mesh network nodes wherever network connectivity is needed, both indoors and outdoors. The mesh nodes automatically link to each other to create a wide-area wireless infrastructure for use with any network device, including Avaya IP phones, computers, Wi-Fi access points, and IP surveillance cameras, to name just a few.

"By working closely with partner companies, Avaya is able to help those organizations who are on the front lines during times of crisis better serve their constituents by extending the power of communication well beyond their office walls," said Eric Rossman, Avaya's Vice President of Developer Relationships & Technical Alliances. "They are able to be efficient and effective while on the move and can get far more out of their communications investment." ●

### EnGenius Technologies Launches DuraFon PRO—an Affordable Wireless Solution

EnGenius Technologies has recently unveiled the DuraFon PRO, its newest long-range, industrial cordless product, which made its debut at the National Retail Federation Expo in New York City.

Covering 250,000 square feet to provide store managers and employees not only telephone access but also two-way radio capability, the DuraFon PRO is competitively priced and does not require a monthly bill like cellular plans. The DuraFon systems can also cover 12 building floors or even up to 3,000 acres on a farm or ranch. One industry

*Continues on page 26...*

...Continued from page 25

observer with *CE Pro Newsletter* corroborates this. "EnGenius' claims—that the phones can cover 12 floors of a high-rise or 250,000 square feet—are not mere hyperbole," the publication's Editor-at-Large wrote. "Distributors and dealers will tell you that these babies do in fact go the distance."

In addition, the two-way radio feature is broadcast- and intercom-independent of the base unit. "This new DuraFon model is expandable to 32 ports and 90 handsets, and our new DuraWalkie, a two-way radio-only handset, works as part of the PRO," said Doug Hayter, Brand Director at EnGenius. "In addition, the PRO is designed to take the abuse of demanding environments."

With improved features, the DuraFon PRO provides wireless solutions to numerous industries with similar needs. "You can see how an automobile dealer could use the PRO for its sales and parts departments and DuraWalkie for runners," said Larry Smith, National Sales Manager at EnGenius.

The DuraWalkie allows managers to communicate with employees with a low-cost handset, while employees can increase productivity by responding to inquiries as they continue to stock store shelves, receive deliveries, or assist customers.

In addition to DuraFon's other abilities, the user-programmable functions, which tie into a company's existing PBX, make using the PBX function quite simple for employees. ●

### **Bush and Clinton Highlight Importance of Wireless Technology at Trade Show**

Recognizing the benefits wireless communication has provided American consumers as well as other users across the world, former Presidents George H.W. Bush and Bill Clinton spoke at the CTIA conference in March in Orlando, Florida.

President Bush was the first to speak,

admitting to the crowd that the hour he was spending on stage would be the longest stretch of time he'd be without his personal digital assistant device. Following stories about his own wireless dependence, he then spoke about the impact of wireless technology in China that has allowed people better communication with each other as well as access to universal information. "Since 25 years ago, you can say your industry brought more democracy to China," said Bush, who was an ambassador to China during that time. "We have seen a world divided become a world transformed. There is more democracy, and there is more freedom."

Having been the U.S. president during the period of time when wireless communication was just starting to become indispensable, Bush was an early predictor of the powerful force it would bring to democracy around the world. He knew this to be true when former German Chancellor Helmut Kohl made the prediction that East Germany would soon fall as a result of East Germans seeing television commercials that showed them a better life.

Bush said that in the past few decades, the access to global communications has been unprecedented. He cited an example in which he helped defuse a crisis in the Middle East while using a cell phone from the deck of his boat on a fishing excursion.

Following President Bush, President Clinton spoke to the crowd about how legislation he signed while in office has created a national framework for the wireless industry as well as nurtured a uniquely competitive environment from which consumers are greatly benefiting today. Clinton said this was the case because Americans are communicators by nature. "This country is the oldest democracy in human history because we're in the solutions business," Clinton said, explaining that solutions are only possible through communication. Stressing the vital importance of communication in a time when the world

is becoming more mutually reliable, Clinton said, "The fundamental nature of the world today is interdependence. You are on the cutting edge of the economy."

He cited a study conducted by the World Bank in 2006 that revealed a significant link between cell phone penetration and economic gains in developing countries, and he urged the crowd of more than 4,000 to consider the positive repercussions their work in the wireless industry can have for generations to come.

Following the speeches, Bush and Clinton toured the CTIA show to check out the latest in wireless technology. ●

### **Major Public-Private Partnership to Fight HIV/AIDS Pandemic**

Several leading players in the wireless telecommunications industry and the U.S. government have joined forces to fight HIV/AIDS and other significant health challenges in Africa.

Phones for Health is a cutting-edge, \$10 million, public-private partnership that brings together cellular phone operators, handset manufacturers, and technology companies—working in close collaboration with Ministries of Health, global health organizations, and other partners—to use the widespread and increasing wireless phone coverage in the developing world to strengthen health systems.

The Phones for Health partners—the GSM Association's Development Fund, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), Accenture Development Partnerships, Motorola, MTN, and Voxiva—are initially focused on 10 African countries, building on an already successful deployment in Rwanda. The partnership is also likely to be extended further in Africa and Asia to address tuberculosis, malaria, and other infectious diseases. ●

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*Holt Hackney is Managing Editor for Today's Wireless World magazine.*

## THE BEARWIRE:

# What's Happening at BearCom

By John Czapko

### BearCom Wins Motorola's Coveted Pinnacle of Customer Excellence Award for 2006



Motorola has selected BearCom as the recipient of its 2006 Pinnacle of Customer Excellence Award. One of Motorola's most prestigious honors, the award is given to only one channel partner each year. The winner is the partner that best demonstrates its dedication to going above and beyond the expectations of customer advocacy and applying the best customer processes and practices in the industry.

It is Motorola's belief that the customer always comes first, and the Pinnacle of Customer Excellence Award is the company's way of recognizing those channel partners that embody the same belief.

BearCom was one of more than 850 Motorola dealers across the nation that competed for the award in 2006. The finalists were reviewed by a team of independent consultants before the winner was selected. The award was presented to BearCom in late March at the International Wireless Communications Expo (IWCE) in Las Vegas, Nevada.

Motorola sent a video crew to Dallas to BearCom's headquarters to help document how BearCom excels in its efforts to provide superior customer service. That video has been made available to other Motorola dealers worldwide as a learning tool. ●

### Panel of Wireless Experts at TechSec Solutions Conference Features BearCom and Partners

In late February, BearCom joined with Sony Electronics, Firetide, and BridgeWave Communications to present "Wireless IP Video for Public Safety Applications" at the TechSec Solutions Conference in Dallas. The panel discussion focused on advances in wireless technologies and how they have ushered in a new era for IP video systems.

The presentation included a detailed explanation of how wireless mesh networks connected over high-speed wireless backbones are now being deployed in municipalities to help police, fire, and emergency vehicles keep in contact with each other, with the bandwidth required to help run multiple applications. Also discussed was how voice, data, and IP video applications delivered over this hybrid wireless network can dramatically increase the productivity and effectiveness of public safety personnel. ●



### FreeLinc Accessories Added to BearCom's Growing Wireless Product Portfolio

BearCom announced in February that it had signed an agreement with FreeLinc to provide BearCom the rights to sell FreeLinc's complete line of unique two-way radio accessories to the public safety market.

FreeLinc manufactures a variety of wireless devices, including speaker-

microphones, adapters, behind-the-ear headsets, earpieces, replacement ear gels, wall chargers, and car chargers. FreeLinc's products use the latest generation of near-field magnetic induction (NFMI) technology, which enables highly reliable, secure communications between wireless devices over short distances.

Anthony J. Sutera, CEO of FreeLinc, stated, "BearCom has an excellent reputation in public safety. As more and more organizations become aware of our secure, safety-enhancing product line, BearCom will be an excellent conduit for getting our quality wireless accessories to the customer. We are thrilled to have BearCom represent FreeLinc's award-winning product line." ●

### BearCom to Exhibit at Several Trade Shows in Coming Months

Please stop by the BearCom booth at the following events to learn more about the latest in wireless products and integrated solutions:

- Government Security Expo & Conference  
Washington, DC  
May 9-10, 2007  
[www.govsecinfo.com](http://www.govsecinfo.com)
- Sunrise Senior Living Facilities Management Leadership Conference  
Nashville, Tennessee  
May 30-June 1, 2007  
[www.sunriseseniorliving.com](http://www.sunriseseniorliving.com)
- NRF Loss Prevention Conference & Expo  
San Diego, California  
June 11-13, 2007  
[www.nrf.com/lp07](http://www.nrf.com/lp07)

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*John Czapko is Vice President of Sales for BearCom.*



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## FINAL WORD:

# Global Demand for Wireless Technology Benefits Us All

By Bo Larsson

As the leading provider of multi-service mesh networks for industrial and municipal applications, we at Firetide have experienced firsthand how wireless technology is being embraced in every corner of the world.

In the last year, for example, Firetide deployed a nationwide Wi-Fi HotZone in Singapore, an 80-square-mile wireless weather forecasting network in Korea, and a wireless video surveillance network in Spain.

In Singapore, we are participating in a project to build the eastern portion of the island's ambitious nationwide Wi-Fi initiative. Utilizing our technology, the project will promote high-speed mobility throughout the network. Specifically, we'll install mesh nodes in vehicles that move at high speeds—such as police cars, ambulances, buses, and trains—allowing them to remain connected to the network at all times.

In Korea, we have been working with KT Corporation to install our mesh technology so that it covered portions of Jeju and Woo islands off the southern coast of Korea. The mesh system

provides a fully wireless infrastructure that connects remote weather forecasting equipment and video cameras to the Korea Meteorological Administration's network. By providing a reliable and cost-effective Ethernet solution for remote outdoor areas, KT and KMA can easily expand their data collection capabilities to enhance both scientific research and public safety.

And in Spain, we participated with other partners in deploying a wireless video surveillance network for the Mediterranean city of Peniscola, giving law enforcement officials the ability to remotely monitor suspicious activity during the busy tourist seasons to minimize vandalism, pilfering, and congestion without adding more police officers or overburdening the budget.

This global trend will only intensify, which is why we recently opened a sales office in China. Firetide is already working with regional business partners to develop multiple projects, ranging from large-scale Wi-Fi networks to mobile video surveillance systems. China has a very strong vision for wireless that will drive significant

advancements for years to come. This is also true in other markets, where we are seeing growing global demand for secure and robust wireless networks for video surveillance and other wireless technology solutions. This is good news for us all, as that demand will spark the production of innovative solutions.

Witness the project that is featured on the cover of this issue of *Today's Wireless World*. The Dallas Police Department was determined to find a wireless video surveillance solution that was state-of-the-art and met all of its exacting parameters. The jury is now in. The Dallas PD got what it asked for.

Just as compelling is another related development—the emergence of BearCom as the consummate wireless solutions integrator. Corporations, municipalities, and governments are looking for a company that can blend an assortment of capabilities into one dynamic solution. That search should begin and end with BearCom. ●

*Bo Larsson is CEO for Firetide.*

# Warning: This Ad Contains Strong Language.



In the wireless communications industry, BearCom has always had a **strong** reputation. We've been going **strong** for more than 25 years, but now we're sending an even **stronger** signal than before.

BearCom is committed to **strong** customer service, has **stronger** relationships with the leading manufacturers of wireless equipment, and has the **strongest** wireless product line in the world. If that weren't enough, we also have some of the **strongest** minds in the

business, and our wireless experts number more than 400 **strong**. Simply put, we're **strong** medicine for all your wireless communications needs.

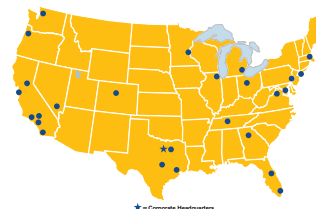
We think we've made a **strong** statement with this ad, but if you're still not convinced, contact BearCom today. We'll show you first-hand how we can help you build a **stronger** foundation for your wireless communications system. And we promise not to mention the word **strong** when you call.

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For more information on Sony's Network Surveillance Recorders visit [www.sony.com/Security](http://www.sony.com/Security).



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