

## **This Week's Stories**

### **iPads Fuel Flight of Paperless Planes**

March 21, 2011

Tablet computers such as the iPad are revolutionizing aircraft cockpits as tens of thousands of private pilots bring the powerful mini-computers into planes. Several of the nation's largest airlines are poised to follow suit.

The Federal Aviation Administration this year for the first time granted approval for two charter companies to use iPads instead of the bulky paper charts and manuals that pilots have been required to carry since the birth of modern aviation. Alaska Airlines is testing iPads in some of its planes, and Delta Air Lines and American Airlines say they're planning on launching tests soon.

Safety advocates also are enthusiastic about tablet computers, but they warn that there could be a downside: more distractions in the cockpit. "It's a two-sided coin," says National Transportation Safety Board Chairwoman Debbie Hersman.

While the devices could become inexpensive safety warning systems for weather and other uses, distractions have increasingly played a role in NTSB accident investigations. On Oct. 21, 2009, pilots on a Northwest Airlines flight working on their laptops stopped talking to controllers and flew past their destination.

Concerns about distractions have not slowed sales of the devices. Private pilots, who do not need FAA approval to use the devices, have vaulted aviation software firms into the top-seller lists at Apple's App Store. Pilots say the iPad is faster, lighter and more versatile than paper. Another attraction is cost: airlines are hoping to save millions of dollars a year in reduced fuel and paper.

"Any pilot who looks at it, wants it," says Michael Klein, president of OpenAir, a Gaithersburg, Md., charter operator. "It's better than paper. It does everything for you. It's amazing."

Klein says he uses the iPad on all his personal flights and is hoping to receive FAA permission soon to use it while carrying paying customers.

Before commercial operators can use the iPad, they have had to demonstrate to the FAA that it can withstand an explosive decompression, that it doesn't emit radio waves that could interfere with a plane's electronics and that it is reliable.

The FAA also shares the concern about the device becoming a possible distraction, says spokesman Les Dorr. Under a directive issued after the Northwest incident, airlines are expected to improve training and review internal policies to ensure that electronic devices do not create distractions, Dorr says.

The rush to bring iPads into the cockpit has helped the fortunes of aviation companies, large and small.

[www.mobile-tech-today.com](http://www.mobile-tech-today.com)

### **Google Objects to China's Acts**

March 22, 2011

Weeks of government disruption of Google Inc.'s email service and of services used to circumvent Web censorship is fueling frustration among Internet users in China and raising concerns the curbs may be long-lasting.

Google, after getting complaints for weeks, on Monday accused Chinese authorities of interfering with its Gmail in a way "carefully designed to look like the problem is with Gmail." The site isn't entirely blocked, but users report problems ranging from inconsistent access to difficulties loading their inboxes, sending emails and using the chat function. Subscribers also have had problems with Google Reader.

At the same time, many users have had difficulty accessing what are called "virtual-private network" services like WiTopia, 12vpn and Strongvpn.com. Such services, which encrypt Internet traffic and route it through servers outside China, are increasingly used in China to circumvent government Internet controls.

The recent increase in disruption follows online calls for "Jasmine Revolution" protests in China last month, which triggered a heavy government response.

Internet users in China are accustomed to increased difficulties accessing overseas websites and Web services during politically sensitive times. But the Internet curbs have persisted even though protest threats have ebbed and the annual session of the legislature, the National People's Congress—always a politically sensitive period—concluded last Monday.

"Disrupting Gmail is equal to blocking our business correspondence," a user named Zhang Yuming complained on Sina Weibo, a popular Twitter-like microblogging services.

China's Ministry of Foreign Affairs and Ministry of Industry and Information Technology didn't respond to

requests for comment. Officials rarely explain the workings of their Internet controls

[online.wsj.com](http://online.wsj.com)

## Concerns About Japan to Preoccupy Conference

March 21, 2011

Japan, and not the latest mobile applications and devices, will likely be the major undercurrent to conversations held this week at the U.S. wireless industry's annual confab in Orlando, Fla.

The CTIA Wireless show has long played third fiddle to the higher profile Consumer Electronics Show and Mobile World Congress trade shows, which kick off the first two months of the year with major gadget and mobile-related announcements.

But this year's show will be the first gathering of major technology companies since an earthquake and subsequent tsunami struck Japan, providing a forum to weigh the impact of the disaster. Technology is intimately tied to Japan because the country is among the world's largest suppliers of components crucial to gadgets such as smartphones and computers.

"It will be interesting to see what the tenor of the conference is," said Phil Asmundson, a technology consultant with Deloitte. "With the crisis in Japan, there's a lot of distractions."

Japan accounted for 13.9% of all global electronic equipment revenue and one-fifth of global semiconductor production last year, according to research firm IHS iSuppli. With many chip-manufacturing facilities shut down because of aftershocks in the region, the firm said that many electronics manufacturers could potentially rush to buy up supplies.

Companies are already bracing for the impact. Sony Ericsson, a joint venture between Sony Corp. and Telefon AB L.M. Ericsson, said that it expects a disruption to its supply-chain operations, and is looking at secondary sources for components.

"It's a global disaster with strong ties to this industry," said Avi Greengart, who covers consumer gadgets for Current Analysis.

As with other major tech shows, Apple Inc.'s presence will be strongly felt, even if the company itself isn't there. Companies such as Samsung Electronics Co. Ltd., Motorola Mobility Holdings Inc. and LG Electronics Inc. will be showing off new and updated versions of their competing tablet computing devices.

But the products will be immediately compared to Apple's iPad 2, which launched March 11 to long lines and much fanfare. Other technology companies, including Research in Motion Ltd. and Hewlett-Packard Co., haven't yet released their previously announced tablets.

"The iPad 2 is going to be an underlying theme," Mr. Greengart said. "We know that this is going to be what people are talking about."

The other hot topic will be the migration to a speedier 4G wireless network. On Thursday, Verizon Wireless launched its first smartphone running on a fourth-generation network, the ThunderBolt by HTC Corp, and analysts expect the carrier to continue to drum up excitement for the service.

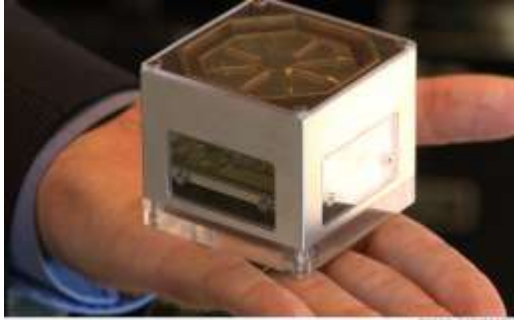
A highlight of the show will be when the heads of the four major national carriers sit together for a round-table discussion that formally kicks off the conference on Tuesday. The carriers have traded barbs over the quality and speed of their respective networks, and have disputed their rivals' opinions on the definition of a true 4G network. Verizon Wireless recently began selling the iPhone, nullifying AT&T Inc.'s largest edge. The discussion also will include Philipp Humm, CEO of T-Mobile USA, which AT&T agreed to buy in a \$39 billion deal announced Sunday, and Dan Hesse, CEO of Sprint Nextel Corp., which had been in talks on a combination with T-Mobile.

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## **Emerging Technology**

### **The Tiny Cube That Could Cut Your Cell Phone Bill**

March 21, 2011



As mobile data usage skyrockets, wireless companies are spending billions each year to maximize capacity, and consumers end up footing the cost in the form of higher cell phone bills.

But a cube that fits in the palm of your hand could help solve that problem.

It's called lightRadio, a Rubik's cube-sized device made by Alcatel-Lucent (ALU) that takes all of the components of a cell phone tower and compresses them down into a 2.3-inch block. Unlike today's cell towers and antennas, which are large, inefficient and expensive to maintain, lightRadio is tiny, capacious and power-sipping.

As tiny as it is, it has been tasked with solving an enormous problem.

The global wireless industry is spending \$210 billion a year to operate their networks, and \$50 billion to upgrade them, according to Alcatel-Lucent and PRTM. Networks are dealing with that cost by putting data caps in place with heavy overage charges and by raising prices on their smartphone and tablet plans.

Despite all that spending and pressure on consumers to curb their data usage, the networks are fighting a losing battle. Mobile data usage is expected to grow 30 times in the next four to five years and 500 times in the next ten years, according to Alcatel-Lucent.

With a combination of miniaturization and cloud technology, lightRadio just might be able to help wireless carriers keep pace with their customers

[money.cnn.com](http://money.cnn.com)

## **Mergers & Acquisitions**

### **AT&T Outlines T-Mobile Acquisition**

March 21, 2011

AT&T says the time is right for an acquisition of rival T-Mobile USA. In a conference call this morning with top company executives, AT&T laid out its plans for the \$39 billion buyout of Deutsche Telekom's T-Mobile USA business.

"We've done this before," said Chairman and CEO Randall Stephenson, referring to AT&T's numerous prior acquisitions.

If the deal goes through, it would bring AT&T's subscriber base to about 130 million.

AT&T will have to justify the acquisition to both the FCC and the Department of Justice. The company will be burdened with proving that the transaction will benefit the public and will not adversely affect competition.

Stephenson noted an FCC report that showed that in 18 of the 20 largest markets in the United States, consumers currently have in excess of five choices for their wireless carrier. The company is confident that regulatory agencies will look at the effects the transaction on a market-by-market basis.

Stephenson also cited a 2010 report from the U.S. General Accounting Office (GAO) that states the overall average price (adjusted for inflation) for wireless services declined 50 percent from 1999 to 2009, during a period which saw five major wireless mergers.

Executives on the call said that both AT&T and T-Mobile are facing an impending spectrum crunch and that a merger of the two networks would be beneficial to customers of both companies. AT&T says it has seen an 8,000 percent increase in data traffic over the past four years. AT&T projects the addition of T-Mobile's existing network to increase network density by 30 percent in some of its major metropolitan markets, including Chicago, San Francisco and New York.

AT&T will continue its plan to complete 80 percent of its LTE rollout by the end of 2013. Ralph de la Vega, CEO of AT&T Mobility, said that the acquisition will allow AT&T to bring LTE to 95 percent of Americans.

The company spoke of expanding broadband to more Americans, a definite objective coming out of the

White House recently. In terms of area covered, AT&T says the transaction will enable LTE deployment to an additional 1.2 million square miles, equivalent to 4.5 times the size of the state of Texas.

The \$39 billion purchase price will include a cash payment of \$25 billion with the balance to be paid using AT&T common stock. AT&T has the right to increase the cash portion of the purchase price by up to \$4.2 billion with a corresponding reduction in the stock component, so long as Deutsche Telekom receives at least a 5 percent equity ownership interest in AT&T.

AT&T hopes to close on the deal in a year and says network improvements from the acquisition would be seen a year after close. The company said that the two companies will continue to compete as normal in the interim.

Share of AT&T stock jumped 2 percent in early trading to \$28.55.

[www.wirelessweek.com](http://www.wirelessweek.com)

## Products & Services

### **AT&T flashes 3D-capable LG Thrill 4G phone**

March 21, 2011

AT&T will add two smartphones to its lineup in the coming months, including one with 3D capability, the company said today.

The LG Thrill 4G boasts a 1GHz dual-core, dual-channel processor. It will also feature 16GB of storage, thanks to 8GB on-board and an 8GB microSD card. As one might expect from its name, the device will be capable of connecting to AT&T's 4G network. It will sport Android 2.2 and a 4.3-inch display.

Perhaps the most interesting feature of the Thrill 4G is its 3D functionality. According to AT&T, the device boasts a "glasses-free 3D experience," in addition to the ability to capture 3D video and snap 3D photos. Video recording in 3D is available at 720p resolution, while 2D recording will output at 1080p resolution. The device will also come with access to the LG 3D Space for people to access 3D games, videos, and images, AT&T said. One downer: the only image available so far is too small to actually offer any detail.

But if the LG Thrill 4G sounds familiar, there's a good reason for that. Last month, at the Mobile World Congress in Barcelona, the company unveiled a

smartphone called the Optimus 3D with all the same features as the Thrill 4G. That device is scheduled to be available in Europe in the second quarter.

As for the LG Thrill 4G, neither AT&T nor LG are saying how much the device will cost when it launches "in the coming months."

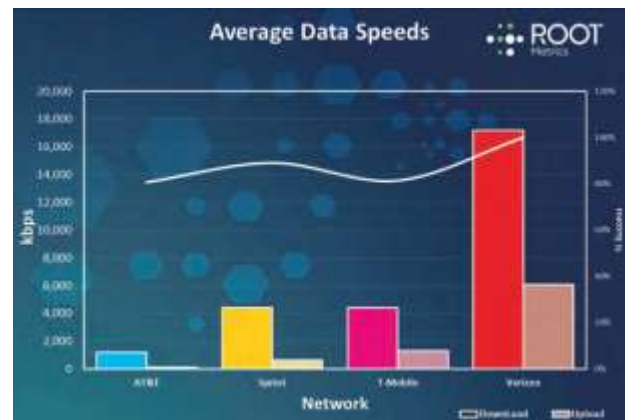
AT&T also unveiled the HTC HD7S today. The device features a 4.3-inch display and a 1GHz processor. It will run Windows Phone 7 when it launches "in the coming weeks." AT&T did not reveal a price for the HD7S.

[news.cnet.com](http://news.cnet.com)

## Industry Reports

### **Study: Verizon fastest among 4G networks**

March 21, 2011



Verizon's 4G network proved the fastest and most consistent among those of the four major U.S. carriers, according to a study (PDF) out today by mobile testing company RootMetrics.

With the four (but soon to be three, what with yesterday's surprise announcement that AT&T plans to buy T-Mobile USA for \$39 billion) major carriers all trumpeting the respective performance of their own high-speed mobile networks, RootMetrics set out to determine which was truly the speediest by testing 4G-capable phones from each one.

Included in the study were the HTC Thunderbolt running on Verizon's LTE network, the HTC Inspire on AT&T's HSPA+ network, the HTC Evo on Sprint's WiMax network, and the Samsung Galaxy S on T-Mobile's HSPA+21 network. The testing was done

solely in Seattle near RootMetrics' offices in Bellevue, Washington.

Though the term 4G is bandied about rather loosely in the industry, for the purposes of the study Metrics referred to each carrier's network as 4G.

Measuring upload and download performance as one part of the test, RootMetrics found that Verizon's LTE delivered the best speeds, averaging between 4 and 14.5 times faster than the competition in downloads and between 4.7 and 49.3 times faster in uploads. Beyond mere speed, though, the test looked at the ability to both achieve and maintain those high speeds. And here, Verizon also scored on top.

RootMetrics discovered that Verizon managed to deliver download speeds above 10 megabits per second almost 90 percent of the time and average upload speeds between 5Mbps and 10Mbps fully 100 percent of the time. Further, Verizon's LTE network was available 100 percent of the time, both in the car and in a fixed location.

In comparison, T-Mobile and Sprint tied statistically for second place overall, though T-Mobile's HSPA+21 network offered a slightly higher average download speed of 4.42Mbps over Sprint's WiMax at 4.4Mbps. T-Mobile's upload speed fared better as well, averaging 1.29Mbps versus Sprint's 605 kilobits per second. Taking up the rear in speed was AT&T's HSPA+ network, which delivered average download speeds of 1.18Mbps and upload speeds of just 123Kbps.

Looking at reliability, RootMetrics was able to access Sprint's network 90 percent of the time and the networks from AT&T and T-Mobile 80 percent of the time. Further, the tests found that WiMax offered the most consistent download and upload speeds after Verizon, followed by T-Mobile and then AT&T.

How do the speeds that RootMetrics found compare with those touted by the carriers themselves?

For its LTE network, Verizon promises average speeds of 5Mbps to 12Mbps for downloads and 2Mbps to 5Mbps for uploads. AT&T points to download speeds up to around 6Mbps. Sprint promises average download speeds of 3Mbps to 6Mbps on its WiMax network. And T-Mobile's testing showed download speeds of close to 5Mbps.

To conduct its tests, RootMetrics drove around Seattle on March 18 with unaltered, off-the-shelf versions of the four smartphones tested, each outfitted with the Android 2.2 operating system. The

testers also stopped at certain locations to gauge performance in a fixed location.

[reviews.cnet.com](http://reviews.cnet.com)

## Wireless CEOs spar Onstage at CTIA

March 22, 2011

After a slow start, the gloves came off at the CTIA panel of wireless CEOs hosted by CNBC's Jim Cramer here today.

Cramer, who was hosting the panel as part of the morning keynote at the CTIA 2011 trade show, started off the quick-fire discussion with AT&T wireless chief Ralph de la Vega, Verizon Wireless CEO Dan Mead, and Sprint Nextel CEO Dan Hesse by addressing the "elephant" in the room: AT&T's \$39 billion proposed acquisition of T-Mobile USA, which was announced Sunday afternoon--two days before the big industry event here.

"You know you ruined everyone's Sunday," he joked.

The deal, which would make AT&T the largest wireless carrier in the U.S. with nearly 130 million subscribers and would likely give AT&T and Verizon Wireless nearly 80 percent control over the wireless market, could significantly alter the competitive landscape in the U.S. wireless market. Primarily, the deal would eliminate the smallest of the four major U.S. wireless carriers, T-Mobile USA, which has traditionally been a price leader in the industry. It would also create a market in which only one major carrier in the U.S.--AT&T--would have the more widely used GSM cellular technology.

De la Vega said his company's interest in T-Mobile is all about spectrum and expanding coverage of 4G LTE services.

"One of the biggest drivers [for this acquisition] is the need for additional spectrum," he said. "Data on our network has grown 8,000 percent in four years. Few things grow that much in four years. What we saw is this will help alleviate the spectrum exhaust that both companies are facing."

The lack of available spectrum was also something that Federal Communications Commission Chairman Julius Genachowski emphasized during his speech at CTIA right before the keynote panel. Genachowski noted that the FCC is currently working to free about 500MHz of wireless spectrum to be primarily used for wireless broadband in the next decade--a key recommendation that came out of the National Broadband report.

But not every executive onstage agreed that a merger of this size is needed to solve the spectrum crunch. When asked about it directly, Sprint's CEO elegantly avoided the question: "My opinion doesn't matter," he said. "That's for the FCC and DOJ to decide."

overall value of the customer is higher than for non-smartphone users."

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But Hesse said generally he is concerned about consolidation in the wireless market and how it would stifle innovation. As for helping bring 4G LTE services to more Americans, Hesse cracked: "I thought AT&T and T-Mobile already had 4G."

AT&T and T-Mobile have been marketing their HSPA+ market as 4G, a situation which many in the industry say plays fast and loose with the network terminology.

Meanwhile, Verizon Wireless' CEO said he is not concerned at all by the AT&T deal to acquire T-Mobile. Mead said he disagrees with people who call the deal anti-competitive. Instead, Mead brought the issue back to spectrum. And although Verizon professes to have a very strong spectrum position, he advocated for more spectrum to be made available for the market.

"The underlying issue is about having a sound spectrum policy," he said. "We think there is a tremendous amount of competition in the market."

When asked if Verizon had considered buying T-Mobile, Mead flatly said no. (That's not a surprise considering the two carriers use completely different network technologies: T-Mobile and AT&T use GSM, while Verizon and Sprint use CDMA.) But Mead's answer to the question had more to do with the company's spectrum position.

"We didn't think through that," he said. "We didn't think it was a need. We've been through a series of great acquisitions, and we are very confident in where we are at."

While an AT&T acquisition of T-Mobile won't affect Verizon too much, it could have a very negative effect on Sprint. Cramer asked Sprint's CEO how the company can combat such big companies when it comes to subsidizing handsets. Cramer said it is well known that Sprint pays more to handset makers than any other carrier to subsidize the hottest phones. And he implied the situation could get stickier as the industry consolidates and AT&T and Verizon Wireless exert more buying power.

"We can afford to do a lot of things," Hesse said. "There's no question that subsidies will increase as devices get more powerful. But the good thing for us is that in smartphones there is higher ARPU [average revenue per user] and churn tends to be lower. So the



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