

# INCISOR™

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Video enabled  Issue 138

September 2009



## SHOULD WE BE MORE SOCIAL?

### THIS ISSUE

INCISOR WPANEL REVIEW: THE IMPACT OF SOCIAL MEDIA  
ON WIRELESS MARKETING

THE FUTURE OF THE IN-CAR GPS DEVICE

THE ONLY ALTERNATIVE: BLUETOOTH & UWB

THE EMERGENCE OF THE THREE SCREENS PLATFORM

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# please be my friend

Last month you may remember that I made a fuss about the fact that Incisor was extending its reach across the web by embracing social media – Twitter, Facebook, LinkedIn etc. Well, it seems to be working. My personal reach on Twitter, as of earlier today, was more than 6.5 million people across the world. And our work on sites such as LinkedIn, and my own blog site, have been encouraging lots of people to interact with Incisor. Maybe there is something to this social networking business after all.

I decided to involve the Incisor WPANel executives in the discussion too. You can read their thoughts in our feature on page 12.

While all of is going well for Incisor, the same cannot be said for one of the technologies we have been tracking for many years. UWB, which is a really clever high-speed, low-power technology that can do things that Wi-Fi can never do, is having a really hard time. I have been a supporter of UWB for many years, and I think that it will be tragic if the potential of the technology is lost to the industry for reasons that are largely political.

Dean Gratton has been looking at the Bluetooth High Speed/UWB/Wi-Fi sector for his feature in this issue. You can read his findings on page 16.

**Vince Holton**  
**Publisher & editor-in-chief, Incisor / IncisorTV**

## INCISORTV FOCUS THIS MONTH:



IncisorTV commercial for CSR & SiRF to mark the merger of the two companies.

## FROM INCISOR'S READERS

"I wanted to say thanks for all of the great work that you have done with Incisor. You have built a fantastic resource for the short range wireless community and you have definitely helped me stay up to date with a minimal investment of time".

**- Bryan Hall, Technical Lead,  
 A7 Engineering, San Diego,  
 California.**

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## Microsoft & Nokia sitting in a tree ....

In the scheme of unlikely – nay, potentially dangerous – liaisons, this one is up there. Under the terms of a recent agreement, Microsoft and Nokia will begin collaborating immediately on the design, development and marketing of mobile productivity solutions, bringing Microsoft Office Mobile and Microsoft business communications, collaboration and device management software to Nokia's Symbian devices.

Yes, you read that correctly, Microsoft is porting its software to the Symbian platform.

These solutions will become available for a range of Nokia smartphones starting with the company's business-optimized range, Nokia Eseries. The two companies will also market these solutions to businesses, carriers and individuals.

"With more than 200 million smartphone customers globally, Nokia is the world's largest smartphone manufacturer and a natural partner for us," said Microsoft Business Division President Stephen Elop. "Today's announcement will enable us to expand Microsoft Office Mobile to Nokia smartphone owners worldwide and allow them to collaborate on Office documents from anywhere, as part of our strategy to provide the best productivity experience across the PC, phone and browser."

"If you are going to provide a seamless and integrated productivity experience on a mobile device, Microsoft is an ideal partner," said Nokia's Executive Vice President for Devices Kai Öistämö. "Together with Microsoft, we will develop new and innovative user experiences for employees of small and large businesses alike, ensuring Nokia's smartphones are an integral part of the office and home-office environment, and addressing the significant opportunity in mobile enterprise productivity."

This can also be seen as a move by Nokia to

strengthen its position against other smartphone vendors, who have been chipping away at its leading share of the smartphone market, particularly RIM with the Blackberry range. In the North American market in particular, RIM has been hurting Nokia as it has tried to establish its smartphones in the business and enterprise market.

Whether the collaboration will mean better, easier to use and more interoperable software and applications on our smartphones remains to be seen. Hopefully that blissful situation is a major goal.

Another interesting factor is the impact that this collaboration will have on the relationship that Nokia (and all the handset manufacturers) has with the major network operators. In a quote from the Nokia/Microsoft press release, Diane Sanchez, head of Telefonica USA commented, "Having these two major players cooperating at this level will help us continue to meet our customers' needs and reinforces our future business mobility strategy."

Presumably, Sanchez and execs at other net ops were also quietly thinking "OMG – we have had enough trouble controlling the handset companies already, now we also have to fight Microsoft to get our own way".

Tee hee.

## Telecoms, media and tech companies sense recovery

There's no doubt it has been tough out there for a while now, but maybe, just maybe, there is a glimmer of hope on the horizon. According to new research from accountants and business advisers BDO Stoy Hayward, which looked at confidence levels in the sector over the next six months, TMT companies are showing some signs of

confidence over the economy. The survey covered technology, media and telecoms companies across the UK, with worldwide revenues ranging from £10m to £5bn.

When asked how confident they were over economic prospects in the next quarter, nearly 30 per cent of respondents said they were "slightly or more confident" about economic prospects facing the sector over the next quarter, with 38 per cent saying they were "as confident" as in the previous quarter. The remainder, 32 per cent, were "slightly less confident" or "much less confident."

Companies in the survey also said that in addition to staff reductions, they were introducing other measures in order to survive the recession, including re-negotiating with suppliers, reducing research and development, merging/acquiring competitors, putting more emphasis on closing new contracts, focusing on sales productivity, closure of non-productive business segments and outsourcing of core functions

Just over 42 per cent of respondents said their biggest risk factor was projects being deferred, followed by 30 per cent of respondents whose biggest worry was falling customer demand. Other chief concerns included customers defaulting on payments and asking to have credit terms extended; price cutting from competitors; lack of availability of credit and the cost of borrowing; talent retention; and public sector cutbacks.

Julian Frost, Head of TMT at BDO Stoy Hayward, summed up by saying, "TMT has undoubtedly felt the impact of the economic downturn and the resulting slowdown in technology spending. However, companies in this sector have worked hard to introduce a number of cost cutting measures in order to reduce overheads across the full range of business functions. Although confidence levels have declined, the fall has been less severe than might have been expected and companies now appear to be looking to the medium and long-term future with a reasonable degree of optimism."



## Cambridge Consultants / A&D Medical launch wireless health devices

Cambridge Consultants has deployed its Vena software platform for A&D Medical, which makes advanced measuring, monitoring, controlling and testing instruments, including the next generation of telehealth devices. A&D's blood pressure monitor and weighing scales are amongst the first wireless Continua Certified devices to be made commercially available. The Continua Health Alliance will be familiar to many Incisor readers, but to re-cap, it is an organisation of more than 200 healthcare and technology companies that is working to improve the quality of telehealth and healthcare in general by establishing an ecosystem of interoperable health device communication based on common standards.

"It is part of A&D's strategy to offer innovative, easy-to-use and standards-based telehealth products that offer clearly better value to all those we serve," said Jerry Wang of A&D Medical. "We anticipate that the wide ranging compatibility that this certification allows will encourage the development of advanced and innovative telehealth solutions, which will ultimately benefit the patient."

Cambridge Consultants has installed the Vena software platform onto the existing hardware and sensor of A&D's blood pressure monitor and weighing scales. The platform embeds the Bluetooth Health Device Profile (HDP), optimised for the secure transport of medical data, onto a single chip. Vena also offers the IEEE 11073 standard for compatible exchange of information between health devices.

"The Vena platform has been specifically developed to be easily built into devices at any stage of the design or production process," said Paul Williamson, Head of Wireless Medical at Cambridge Consultants.

"It is this ease of implementation, combined with our own expertise in wireless communications, which has made it possible for A&D to quickly bring to market two Continua -certified wireless devices."

"Interoperable, Continua-certified devices such as A&D's blood pressure monitor and weighing scales are another step in a healthcare revolution where technology and communications provide a network of care, allowing patients to be more independent while being unobtrusively monitored for any danger signs," said Rick Crossen, President of Continua Health Alliance.

## More than 300m DLNA CE Devices to Ship in 2012

A growing number of digital media devices for home entertainment are receiving DLNA (Digital Living Network Alliance see [Incisor issue 109 – "DLNA goes global"](#)) certification. According to a new study from ABI Research, nearly 200 million such products shipped in 2008; that number will rise to more than 300 million in 2012, and the growth curve accelerates even faster in the years that follow.

ABI's digital home practice director Jason Blackwell told Incisor, "Consumers increasingly desire ways to connect their various home entertainment devices and distribute digital media content around their homes. Without standardization, that is a nightmare. Fortunately, specifications developed by the DLNA, which are based on the UPnP (Universal Plug and Play) standard, enable easy, seamless connections in a wide and growing range of consumer electronics devices."

As of today, more than 5,500 devices, including products bearing many famous brand names, have received the DLNA seal of approval. Digital TVs are a huge part of this growth, with more than 170 TVs certified in the first six months of 2009 alone.

Blackwell expects the inclusion of DLNA support in the upcoming Windows 7 operating system to give DLNA a further push into the living room and beyond. Windows 7 is scheduled to make its public debut in October.

The next phase of this developing market will see increased participation by broadband service providers, with set-top boxes and gateways becoming an important part of the home network.

## New module for concurrent WLAN & Bluetooth from SiGe

SiGe Semiconductor has expanded its Wireless LAN and Bluetooth product range by introducing the SE2579U Front End Module (FEM) that is targeted at the embedded and module applications markets.

Sanjiv Shah, director, product marketing WiMAX, & embedded WLAN at SiGe said, "We designed the SE2579U to address the specific challenges faced by OEMs needing to operate "direct-to-battery", and to facilitate Bluetooth/WLAN concurrent mode operation solutions". Shah added, "The direct-to-battery operation does not require additional voltage regulation circuitry."

The SE2579U is an 802.11 b/g/n 2.4 GHz WLAN RF FEM with a Bluetooth port in a compact form factor (3 x 3 x 0.5 mm). It is claimed to be capable of simultaneous operation in both WLAN and Bluetooth receive mode without signal degradation. The device provides the functionality of the power amplifier, power detector, filter, switch, low noise amplifier, 2170 MHz notch filtering and associated matching.

The SE2579U is a complete solution from the output of the transceiver to the antenna, and from the antenna to the input of the transceiver, including a 50  $\Omega$  interface to the antenna



## “Recession impacts Bluetooth” – In-Stat

Market research company In-Stat says that nothing has escaped the global recession that started in 2008 and continues to plague markets today, not even Bluetooth, which is usually a constant and steady performer.

Using its own numbers, presumably, In-Stat comments that Bluetooth-enabled device shipments did grow in 2008, but not at the rate projected, as the sluggish worldwide economy didn't begin to kick in until the second half of the year. Unfortunately, 2009 is a different story. As the year began, the economy was in the midst of a serious recession, and while Bluetooth actually managed to increase attach rates in many key market segments, overall total available markets (TAMs), especially mobile phones, shrank and had a negative impact on Bluetooth growth rates.

Within the Bluetooth market, however, there are bright spots. In fact, 2009 looks to be an interesting year for the technology. Already announced in April, the Bluetooth 3.0 + High Speed specification has become the next official standard (See [Dean Gratton's article “THE ONLY ALTERNATIVE: BLUETOOTH & UWB” in this issue](#)). Additionally in 2009, the Bluetooth low energy specification is expected to be ratified.

Overall growth of Bluetooth-enabled devices is expected to decline by 4% in 2009, predicts In-Stat, before resuming its growth curve in 2010.

Incisor also spoke to Fiona Thomson, Research Director at IMS Research. Thomson suggested that IMS' research contradicted these findings: “Growth was small and limited to certain applications. The decline in TAMs contributed most to the small level of growth, as well as reduced penetration

rates of Bluetooth.” IMS is about to publish its annual Bluetooth and Bluetooth low energy report, which this year has been authored by Emma Naudo.

## In-building wireless deployment maintains 21%+ growth

The economic downturn is likely to cause a slowdown in North American and European in-building wireless (IBW) deployments during 2009-10. ABI Research sees flat growth in those regions for '09-10, however typical 20-25% annual growth is expected to return by 2013. Buoyed by constant high growth rates in Asia-Pac and Middle East/Africa, IBW will post a very respectable worldwide revenue growth rate in excess of 21% over the same period.

The recession is global in scope: why are North America and Europe suffering more than other regions? The answer, according to ABI analyst Aditya Kaul, is partly in the scale: “In Europe and North America there is a greater proportion of large building deployments (500K sq. ft. and higher) and when those get postponed or scrapped, revenue is hit hard. NA and European operators have also seen their CAPEX being squeezed, which is not necessarily the case elsewhere. Also in APAC and Middle East/Africa cheaper passive systems and repeaters are deployed to a greater extent.”

In terms of IBW, some vertical industries fare better than others. In North America particularly, the hospitality and financial sectors have been affected badly. Shopping malls have slowed down as well.

In contrast, North American verticals such as healthcare are relatively unaffected. Healthcare is a mature market that has always shown strong growth, and continues to see a high demand for in-building systems that can support not just cellular

but also VoWLAN, telemetry, location-based applications and electronic medical records. University campuses are also seeing large IBW activity with some universities investing in their own systems.

## Bluetooth audio test set

Test equipment company Anritsu has introduced an integrated test set capable of measuring the new generation of products using the Bluetooth Advanced Audio Distribution Profile (A2DP), headset profile, and hands-free profile. Providing frequency coverage of 20 Hz to 20 kHz, the MT8855A is claimed to offer greater confidence in the quality of products shipped compared to alternative multi-instrument test systems consisting of Bluetooth controllers, generators and analyzers.

The MT8855A is for both design verification and manufacturing test of Bluetooth audio products, including headsets, mobile phones, digital music players, integrated and after-market car kits, and desktop speakers. It establishes a standard Bluetooth link with a Device Under Test (DUT) then performs all key measurements, including level, frequency response, and Total Harmonic Distortion and Noise (THD+N), via its internal audio generators and analyzers. Measurements are conducted quickly, as a 5-point frequency response plus THD+N, stereo separation, and stereo phase test is typically conducted in less than 15 seconds, including inquiry and connect time.

Anritsu has developed BlueAudio software for use with the MT8855A. This is used for instrument set up and display of all results in a Windows-style graphical interface. For high-volume production applications, BlueAudio includes an “Auto Test” mode that allows users to define and run a sequence of tests automatically as a “Test Plan” for fast and accurate measurements.

# news



## Bluetooth to be banned in Cambodian to quash porn-sharing?

Incisor learns from the Phnom Penh Post that the Cambodian government and municipal police are ramping up efforts to curtail the distribution of pornographic videos by cracking down on computer-to-phone and phone to phone transmission, officials said. Computer-to-phone and phone-to-phone ..... So that basically means Bluetooth communications then.

Municipal Police Chief Touch Naruth said that officers had confiscated 30 computers in the past four months after finding that their owners were allowing people to upload pornographic videos from them onto their mobile phones. He added that police had been focusing in particular on "places that allow for the copying and transferring of data onto cell phones".

Khim Sarith, a secretary of state at the Ministry of Culture and Fine Arts, appeared on CTN to warn viewers that the penalties for transferring pornographic videos could include one month in jail and a fine. Touch Naruth said fines would vary in amount depending on "the severity of the offence".

Khim Sarith argued that pornographic videos can cause viewers to commit sex crimes. "We would like to call for all parents, students and civil servants to be active in preventing the transferring of pornographic movies and pictures onto cell phones," he said.

Rong Chhun, president of the Cambodian Independent Teachers Association, said Thursday that he hopes the crackdown is successful. "If it is not effective, the youth will be spoiled," he said. "They will abandon their studies, and the whole of society will suffer from disorder."

Quite whether Cambodia really intends to

try to ban Bluetooth isn't clear. We would like to think that the country is just trying to keep moral standards up.

## Healthcare to go

The market for wireless devices that monitor patients' condition and report that data to healthcare providers is on the verge of explosive growth, according to a new study from ABI Research. Over the next few years it will show a remarkable 77% compound annual growth rate (CAGR) resulting in global revenue of almost \$950 million in 2014.

"Hospitals and other healthcare providers are being economically squeezed," commented ABI Research vice president Stan Schatt. "The demands on the medical system are exacerbated by the aging of populations in most developed nations. Doctors and hospitals are looking for ways to save money, and wireless patient monitoring has a huge potential to do that, for both in- and out-patients. It's a lot more economical to monitor patients remotely at home than to have them come in personally for checkups that consume time and resources."

The variety of sensors available is growing rapidly, measuring a growing array of vital signs and symptoms. Devices are getting smaller. There is even a prototype of a pill containing a digestible radio that will confirm the medication has been taken.

However future savings require present investment, and adding wireless communications to equipment adds cost. This is a significant hurdle, says Schatt, so, "In the future we will see entire cellular networks designed as managed services for handling these machine-to-machine communications. The whole process will be outsourced, and software will monitor the incoming measurements. Medical staff will be alerted when the data indicates their intervention is needed."

While wireless healthcare is a global market, the cost of the equipment means that much of the activity in this segment so far is in the United States.

## Cambridge Consultants aids Bluetooth 2.1 software development

Cambridge Consultants has released the latest version of its embedded Bluetooth application development toolkit, xIDE for Interface Express, which enables developers to create multi-profile Bluetooth 2.1 qualified products and accessories. xIDE for Interface Express applications run natively on a single BlueCore chip from CSR.

The software development environment includes a set of Bluetooth profiles and a complete protocol stack. Supporting CSR's BlueCore4 and BlueCore5-Multimedia devices, it also provides an application support library that includes MMI widgets for menus and icons, etc., colour and monochrome display drivers, keypad scanner functionality, access to the USB port, and an interface to on-chip Kalimba DSP (Digital Signal Processing) for audio processing and codecs as well as other signal processing functions.

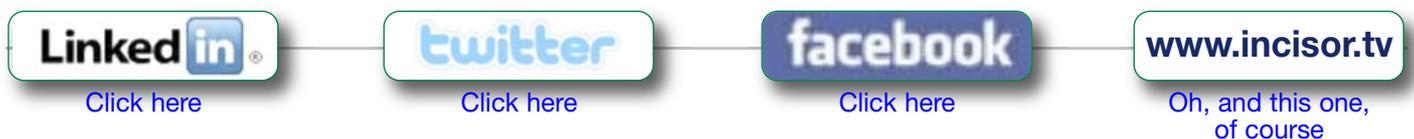
"Our new toolkit lets developers push the envelope for more sophisticated, feature-rich and multi-application Bluetooth-enabled devices," said Tim Fowler, Commercial Director at Cambridge Consultants' Wireless Division. "By enabling applications to run on a single CSR BlueCore, costs are dramatically reduced for developers of new products with differentiated functionality and value. Software running natively on the XAP2 processor within BlueCore also means more processing power and RAM for applications."

# Follow Incisor on LinkedIn, Facebook and Twitter

Vince Holton represents Incisor on a number of Internet networking sites. Many interesting discussions take place, and this feature will allow Incisor to keep its readers in touch with diverse - and different - viewpoints from experts all across the world.

From this point forwards, you can read a selection of these views in Incisor, and you can follow the discussions as they happen on the various sites. And why not join in!

Currently, Incisor is represented at these sites:



## ON THE FORUMS:

### INCISOR.TV BLOG DISCUSSIONS DURING AUGUST:

**[Why does Bluetooth still not work the way it should?](#)** - Hard-hitting comments from across the WPAN space – many anonymous (who doesn't want to be found out!?) and an official response from Mike Foley, exec director of the Bluetooth SIG

**[Which smartphone would Paris Hilton use?](#)** – a light-hearted look at whether a traditional, Nokia-style smartphone should be the next acquisition, or should it be a Blackberry or an iPhone?

**[Twitter versus Facebook Face-off](#)** – As Incisor builds its web presence, we examine which social networking sites work best for business. This is a topic covered in this month's WPANel feature in this issue. Oh, and in the three weeks since the blog was posted, Twitter followers have increased from 100 to about 800 and maybe more by the time you read this. Strewth!

### INCISOR.TV WPAN WORLD GROUP DISCUSSIONS AT LINKEDIN:

To view these discussions you need to be part of **[Incisor's WPAN World group](#)** on the LinkedIn business networking site. This group is free for all LinkedIn members to join – **[www.linkedin.com](http://www.linkedin.com)**. LinkedIn members can go straight to the group here.

**[Seeking advice on the UWB PAN](#)**. A group member asks “What is the future outlook and commercial values?”

**[Streaming video – Bluetooth High Speed? Wi-Fi? Or what?](#)** This links to Dean Gratton's feature in this month's issue.

**[Do you think the 2.4/5GHz spectrum has the potential to be saturated by video traffic? Why? What are the implications?](#)** A question posted by Stephen Wood, technology strategist, industry guru and former president of the WiMedia Alliance.

**[What is the future of the Femtocell?](#)** Vince Holton remains unconvinced of the future for this mysterious product.

# new products



## I'll ring your ring

Here's something genuinely different in the world of Bluetooth headsets, courtesy of a company called AbsolutelyNew. This is a company that partners with innovators to bring their best ideas to market, and the latest is the ORB wireless earpiece ring.

Developed by Hybra Advance Technology in partnership with AbsolutelyNew's Science+Technology Division, the ORB is a finger-worn ring that twists open to become a Bluetooth headset.

The ORB isn't short of high-tech features. It uses bone conducting technology to deliver high-quality sound without the need to place a device inside the ear. The deluxe edition features a FOLED (Flexible Organic Light Emitting Diode) screen so that caller ID and calendar reminders can be seen while the device is being worn as a ring, and it also offers voice-to-text for communication without taking the ring off the finger. The base model has no screen or display. All models come in multiple ring sizes.

Hybra plans to start selling its first ORBs in the U.S., Asia, and Europe as early as January 2010, at a suggested retailer price of \$129 USD for the aluminium base model. Deluxe edition Orbs with displays will around April 2010, at a suggested retail price of \$175 USD.

This is a little pricey for a Bluetooth headset these days, but the company would probably say that they are selling clever jewellery as well as a headset. It remains to be seen whether the buying public agrees. Well, the buying public that is the 50% of the population that can be considered as a market for this product, anyway.

The designers are also planning limited edition models featuring decorative gemstones, to be priced based on the value of the gemstones. (Yes, Paris, we've got yours reserved.)

## Time for a BlackBerry (groan)

The concept of the Bluetooth watch, which lets you see who is calling your cellphone without you needing to find the pesky thing, and/or control your music player, was a trail blazed by Sony Ericsson, which has given the world about half a dozen nicely executed watches. These were produced alongside established watch company Fossil. Despite the fact that this is a neat idea, other manufacturers have been slow to follow, with only a few strange concepts from no-name or don't-know-name companies. Incisor is aware that Suunto and Casio, both companies that have extensive ranges of 'activity' watches that are generally stuffed full of technology, have looked at this market, but have yet to dip a toe.

That could all be about to change, as we hear that Antoine Boucher, vice president of accessories at mobile email king Research In Motion (RIM) has been talking up plans for a BlackBerry Bluetooth watch. Details are sketchy at the moment, but in addition to Sony Ericsson -style basic functionality, the BlackBerry watch (Blotch?) might include a series of functions similar to those available on BlackBerry phones, and will apparently also add streaming audio and the possibility to display e-mail, BlackBerry Messenger, Twitter and Facebook updates.

Another accessory that RIM is planning to launch is a Bluetooth headset that is being called the Alpha 1. It will support audio streaming and come equipped with noise reduction technology (this year's must have) and is fitted into a black chrome shell with BlackBerry logo and buttons.

Will RIM's entry to the Bluetooth watch market kick-start this sector? Will the traditional, chino and polo-shirt wearing BlackBerry user embrace this idea?

Only time will tell (you can groan again).

## 3M Bluetooth stethoscope

Claiming that it is taking the stethoscope into the 21st century, 3M has launched the Littmann Electronic Stethoscope Model 3200, a next-gen device featuring Bluetooth technology that wirelessly transfers heart, lung and other body sounds to software for further analysis.

The company partnered with Connecticut-based Zargis Medical to develop two companion software packages exclusively for the Littmann 3200. The Zargis Cardioscan software pairs with the stethoscope to guide the clinician through four main cardiac sites, then after approximately one minute, indicates whether or not the patient possesses a suspected diastolic or systolic murmur—and whether or not the murmur is suspected to be a Class I indication for echocardiography referral.

The second piece of software, Zargis StethAssist, allows clinicians to visualize heart, lung and other body sounds, play recordings at slow speeds to hear more clearly, and save recordings for comparison to future auscultations.

StethAssist and Cardioscan recordings and related patient notes are stored electronically and can also be sent to colleagues for a second opinion.

"The ability to record and automatically analyze heart sounds can help improve a clinician's confidence, document complex auscultations, and may keep some patients from going through additional, unnecessary testing" said Joseph Tartaglia, MD, a practicing cardiologist in White Plains, New York.

The Littmann 3200 is part of a line of electronic stethoscopes that also includes the recently introduced 3100. Although the model 3200 is the only stethoscope that utilizes Bluetooth, both stethoscopes feature 24x sound amplification and proprietary Ambient Noise Reduction (ANR) Technology, which reduces, on average, 85 percent of ambient noise that can interfere with the auscultation experience.

# new products



## Nokia bites netbook bullet

After more than 25 years of knocking out mobile phones, Nokia finally gone public with its much-rumoured, Windows based, Nokia Booklet 3G. A netbook, in other words. Yes, Nokia is entering this fiercely competitive market.

Powered by the Intel Atom processor, the Nokia Booklet 3G delivers up to 12 hours of battery life. This is a full-function PC inside an aluminium chassis. It weighs 1.25 kilograms, measures slightly more than two centimetres thick, and has, says Nokia, the features one would expect from the world's leading mobile device manufacturer. There are a broad range of connectivity options - including 3G/ HSPA, Bluetooth and Wi-Fi.

"A growing number of people want the computing power of a PC with the full benefits of mobility," said Kai Oistamo, Nokia's Executive Vice President for Devices. "We are in the business of connecting people and the Nokia Booklet 3G is a natural evolution for us. Nokia has a long and rich heritage in mobility and with the outstanding battery life, premium design and all day, always on connectivity, we will create something quite compelling. In doing so we will make the personal computer more social, more helpful and more personal."

The mini-laptop also comes with an HDMI port for HD video out, a front facing camera for video calling and an SD card reader. Other features include a 10-inch glass HD ready display and integrated A-GPS. The Nokia Booklet 3G is, inevitably, factory-fitted with access to Nokia's online store, Ovi. This resource, which has received a mixed response so far, provides access to music tracks through the Nokia Music Store.



It is hard to see now Nokia can be expecting to make huge amounts of money selling this netbook, when there are so many other well-established and highly cost-conscious players in the market. Maybe, just maybe, Nokia is going to use its clout with the network operators to secure agreements whereby it is part of airtime revenue-streaming arrangement? This is the Nokia Booklet 3G, after all.

## High-end headsets

German company Sennheiser, which has a reputation for building quality headsets, seems to be getting serious about Bluetooth. During the IFA event, which will be held in Berlin during the first week of September, the company will be showing four top-of-the-range Bluetooth-enabled products. These are the PX 210 BT, PXC 310BT, MM 400 and MM 100.

The PX 210 BT headphones, which have been specially designed for enjoying music from portable players, provide a frequency response of 15 to 22,000 Hertz and use the new Bluetooth apt-X audio codec for outstanding audio quality. The PXC 310 BT is described by Sennheiser as a travel headphone and includes the apt-X audio codec and NoiseGard 2.0 noise cancelling technology.

The MM 400 headset is intended to be used not only with mobile phones but also with laptops, and the MM 100 Bluetooth headset with its fixed neckband is for those who want to enjoy sports and other activities and still remain reachable.

"Both Bluetooth headsets are easy to operate and very comfortable," says Guido Karbautzki, Head of Sales and Marketing from Sennheiser Communications. "With the MM 400 and the MM 100 we provide music lovers with



stereo headsets, which give them freedom to move and excellent Sennheiser sound. Enjoy music and never miss a call."

Incisor hopes to review these soon!

## Super "Sunny Song" speaker system

Forgive us the alliteration opportunity. Here at Incisor we sometimes see new products that grab the attention, and which warrant inclusion in the new products review, but we aren't able to tell you much about them. This is typically because they have been designed and developed in Asia, and the amount of English-language collateral is limited. No offence meant to our contributors and readers from that part of the world, of course – the failing is on our part for not being more multi-lingual.

The charmingly – and cheesy but accurately – named SunnySong is just one of those. It is an eco-friendly Bluetooth speaker system concept that is powered by sunlight, supports the A2DP/AVRCP profiles and uses NXT flat-panel speakers.

The system is specially designed to save energy by comparison with the traditional speakers. What information that we could find told us that "SunnySong with its beautiful outlook and handy features will become an inseparable part of future human life." OK.

The designer is called Tri Yeh, and we believe that Altec Lansing may be the client. More than that we can't say, but if you need a self-powered speaker system to sit besides your barbecue in the garden, SunnySong could be just the product for you.



# The future of the in-car 'GPS device' and co-operation of in-car wireless technologies

By Thomas Carmody, Head of Automotive Marketing, Audio and Consumer Business Unit, CSR

## Industry trends in in-car navigation devices

The world of in-car wireless technologies is undergoing some fascinating changes right now. Not least amongst these is the world of in-car GPS-enabled devices. In-car GPS was once a luxury item. But over the last few years, thanks to the pioneering efforts of companies such as CSR and SiRF (now merged), GPS-enabled chip technology has become smaller, faster and more cost-effective. GPS systems, whether factory-fit in-dash, or aftermarket PND or car stereo-based, are now comfortably within the reach of everyman.

Moving forwards perhaps the biggest change on the horizon of in-car navigation is the 'coming-together' of different wireless technologies. GPS systems have now progressed to a point where they can bring in elements from other technologies to achieve a system that is greater than the sum of its parts.

The merger of CSR and SiRF has also seen a 'coming together': the market leader in short-range mobile handset connectivity technologies with the market leader in GPS chipsets. This combination of skills makes the new enlarged CSR the best qualified company to address this brave new world of in-car GPS.

## Increased interconnectivity in converged navigation devices

Much like mobile phones, in-car GPS-enabled devices are fast approaching the point where it no longer makes sense simply to speak of separate 'a GPS unit' or 'media centre'. Such devices are converging to fulfil multiple functions; a trend that will only continue as components become smarter through



increased integration of multiple technologies and ultimately incur less cost to incorporate into designs. Forward-thinking companies are already starting to view in-car radios in terms of their overall potential, and looking at how to integrate additional connectivity technologies to ensure the functions co-operate to best effect. This opens up many fascinating possibilities.

CSR's existing automotive products such as RoadTunes and RoadRunner already address the growing popularity of wireless audio streaming in-vehicle, and the importance of the car's media player as the hub of in-car electronics functions. CSR predicts that in-vehicle systems will

see an increased coming-together of wireless technologies. Manufacturers of navigation/infotainment devices will have to understand these trends and develop their new solutions to meet user expectations for increased connectivity requirements.

In the near term, improvements to the wireless hands-free calling experience, currently streamed via Bluetooth to a compatible factory-fit or aftermarket in-car device, will be augmented with better, more reliable phonebook synchronisation using the Phone Book Access Profile (PBAP). The market can also expect to see a higher call quality with the adoption of wideband speech and other near-end



enhancements. This will have significant implications for speech-recognition dialling in the car, which reduces physical contact between the driver and his phone and leads to safer driving when making or taking calls on the road. In addition Bluetooth stereo streaming will gain even wider adoption as it has matured significantly in recent years and now features a user-friendly in-vehicle control mechanism with the Audio-Visual Remote Control Protocol (AVRCP) v1.4 specification.

Looking at the future of the PND, the comparatively larger screen and longer battery life make the PND an ideal device to use as a 3rd screen within the car to provide users with easy access to their phone's text messages and emails via Bluetooth connection. This is only the beginning and now the question is what additional functionality can be integrated into the PND to help carve out its future role in the automotive market.

Perhaps one of the most exciting prospects on the horizon for the in-car navigation/infotainment sector is Wi-Fi. Support for Wi-Fi has now been adopted within the Bluetooth specification as of the 22nd April this year. The new Bluetooth specification Bluetooth v3.0 + High Speed (HS) is expected to make it into in-vehicle devices in 2012. With the adoption of Wi-Fi as the first AMP (Alternate MAC PHY) to enable a "fast data pipe" for Bluetooth, a new and exciting array of use cases are

opening up to the navigation/infotainment device designer. Consumers will be able to synchronise a complete music collection, photo gallery, video or other media collection in a fraction of the time it takes traditional Bluetooth radios. For business users maps, telematics, route, diagnostics and a host of other information taken and/or generated on long journeys can now be easily and quickly accessed via Bluetooth v3.0 +HS from the navigation/infotainment device. Files can be transferred to a compatible device without the need for physical wired connections to the vehicle and in a fraction of the time it has taken in the past.

In addition to this CSR views internet connectivity within PNDs via a cellular connection on the horizon. At this point Wi-Fi will have a role to play in connecting portable gaming devices, laptops etc to the internet-connected device. Cellular connectivity will also have a role in downloading and uploading a navigational device's map and telemetry data.

It's truly an exciting time to be working in automotive connectivity. With the range of functions on offer in future devices, and the market-leading capabilities of SiRF and CSR's location and connectivity technologies enabling the development and manufacture of the next generation of navigation plus connectivity products.

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

## Snippets

### Keyless entry, keyless start gain momentum

According to Strategy Analytics, automotive remote keyless entry (RKE) systems will be upstaged in the future by Passive Go (PG)—where the driver needs a key to open the car door, but not to start the car—and Passive Entry Go (PEG) systems—where the car key remains in the driver's pocket for both car entry and car ignition. However, without breakthroughs in cost-reduction and consumer awareness, neither system will be deployed in large volumes, according to the Strategy Analytics report, "Vehicle Entry and Go: Passive Systems Set to Challenge RKE." Findings include: PEG systems may not be deployed beyond an 11M unit niche by 2016. With cost reductions and consumer awareness, PEG could grow to 19M units, valued at \$867M. The more cost-effective PG systems could sell 26M units by 2016.

### Competition for mobile chip market escalates

The battle for the fast-growing mobile semiconductor market will intensify in late 2009 with the introduction of new processors from each camp – ARM and x86, reports In-Stat. Intel will introduce processors that will finally reduce the power consumption of the x86 architecture to acceptable levels for smartphones and other mobile devices. Shortly after, many in the competing ARM camp, including Freescale, TI, and Samsung, will essentially be scaling up performance with multi-core processors that maintain similar power levels to existing single-core products.

## RFID

### French RFID company goes under

If a snippet in a recent issue of a French financial paper is to be believed, Nabastag, the creator of the rabbit-inspired Violet RFID Mirror has filed for bankruptcy, giving any company interested in keeping the brand alive until September 4th to inject a cash infusion. It seems unusual for a company that is deeply embedded in a rapidly growing technology to be having a hard time, but this is a recession ...



# INCISOR W-PANeL

**THIS MONTH: THE VALUE OF SOCIAL MEDIA TO WIRELESS INDUSTRY**

Incisor expert panel of the most influential spokespeople in the short-range wireless industry speaks on short-range wireless technologies in the cellular handset

Introduced by Vince Holton

Welcome to this feature in which the Incisor WPANel speaks on a topic of interest to short-range wireless industry observers.

The members of the Incisor WPANel are the senior executives from the organisations that manage the administration and development of Bluetooth, DECT/CAT-iq, EnOcean, NFC, Wi-Fi, UWB/Wireless USB and ZigBee technologies.

The ongoing WPANel members are Mike Foley, exec director of the Bluetooth SIG, Erich Kamperschroer, chairman of the DECT Forum, Graham Martin, chairman of the EnOcean Alliance, Edgar Figueroa, executive director of the Wi-Fi Alliance and Bob Heile, chairman of the ZigBee Alliance. Each of these is an expert in short-range wireless technology. Due to work pressures, Mr Koichi Tagawa, chairman of the NFC Forum has had to pull out. His place on the Incisor WPANel should be filled soon by another executive from the NFC sector.

Last month the WPANel group gave us their views on high energy WPAN technologies? These can be read in [last month's issue](#).

**This month's topic:**  
**The value of social media to wireless industry marketeers**

In a conversation with a client recently, it became apparent that even to business

people, social media, as represented by Twitter, Facebook and quasi-business/social networking sites such as LinkedIn, were becoming a vital if not dominant aspect of the marketing roadmap. This made me stop and think. It is undeniable that the worlds of marketing and media are changing. We all know that traditional publications are having a hard time, because the business world is no longer sure that printed media is the right channel to use to promote itself - thanks heavens that Incisor has always been an Internet publication!

This paradigm change in marketing tactics applies across the board, from phone companies, to car companies, to fertiliser manufacturers, banks, software companies and yes, even semiconductor companies. Everybody knows that the Internet is where they need to be, but very few know how to use it. And it just got more complicated because all of the attention now is on social networking – the likes of Twitter, FaceBook, LinkedIn, MySpace etc, etc. I am on all of them, and most active on Twitter ([www.twitter.com/vholton](http://www.twitter.com/vholton)) where my 'reach' is now to more than 6.5 million people around the world (don't believe me? Check out my score at independent Twitter analyser: <http://twinfluence.com> - score for →



@vholton - Reach=6,547,477, Rank=#13,066 – that is out of 23 million Twitter users, by the way), Facebook ([www.facebook.com/vince.holton](http://www.facebook.com/vince.holton)) and LinkedIn ([www.linkedin.com/in/vinceholton](http://www.linkedin.com/in/vinceholton)). I welcome all of you to connect with me on any of these sites.

When my client contact told me that her company would be making a sea-change in the way that it marketed itself to the world, and that social networking would be an extremely important facet of the marketing and PR programme, my first thoughts were – how can this possibly be relevant to B2B marketing within the tech industry? Well, my client and several e-gurus whose views I know and trust all tell me that it is. And the industry is already Twittering – EnOcean for one, and even huge, traditional companies like Texas Instruments!

For me this is an extremely important topic and colours the way I will operate my own business from this point forwards. I asked the WPANel member to give me their thoughts on this increasingly important subject. Ideas for consideration included:

- Do you consider that social networking has a role for the short range wireless industry?
- Are you actively using social networking today to promote your technology or your company?
- How important do you consider this technique to be, now and in the next 10 years?
- Is it possible to successfully blend content that a wide audience will find interesting, with the need to distribute your company- or technology-specific messages to the key contacts that you want/need them to get to?
- Do we honestly believe that volume of contacts is important – “our viral video was viewed by 150,000 people on Facebook” or is it getting to the right contacts that is still the most important – “our message got to 1500 people, but we know that they were 1500 people that were really important to us, and we weren’t wasting money chasing tens of thousands of clicks that were of no use to us at all”?

The panel’s views are below. If you have views, or suggestions as to how we can develop the WPANel concept, or topics you would like to see covered, email me at [vholton@incisor.tv](mailto:vholton@incisor.tv).

**Vince Holton**  
Publisher, Incisor & IncisorTV

## The Incisor W-PANel responds

### Will short range wireless technology really change our lives?



**Mike Foley**  
Executive director,  
Bluetooth Special  
Interest Group

Twitter. Facebook. Social media in general seems to be all the rage these days, yet nobody seems to know what to do with it. These questions aren’t limited only to businesses or industry organizations. When I attended the [D7 Conference](#) earlier this year, Biz Stone and Evan Williams, the co-founders of Twitter, were the first speakers and even they didn’t have a clue regarding how to capitalize on social media in general and Twitter specifically. This was discouraging because they clearly have more to gain, or lose, than I do with the presumption being that they have spent significantly more time and energy trying to answer these questions.

Since the Twitter gang isn’t providing any insights, we are left to our own devices. Currently I find social media interesting, but am not yet convinced it is important. We are engaging. We are learning. We are experimenting. I’ve [written a blog](#) for years now. I tweet (@WirelessMike). I have a Facebook page. The Bluetooth SIG tweets (@BluetoothSIG) new products that are qualified. The Bluetooth SIG has a LinkedIn group for people interested in Bluetooth technology. We are exploring a Bluetooth SIG Facebook page, but haven’t implemented that yet.

The obvious question is: “Are these tools returning dividends for the Bluetooth SIG?” Unfortunately, the answer isn’t so obvious. My blog is well read and a great tool to deliver SIG news to a broad audience. However, I find it interesting that my annual pumpkin carving posts, with pictures, are some of the most viewed each year...

My hunch is these social media tools are all going to play a part of our online strategy, but not be our online strategy. One of the challenges we face is getting our messages to the proper audience. For example, when we start a new work group to create a specification enabling a new use case, we want to get related information to our members as well as to non-member companies that may be interested in that use case. This is a vastly different audience than consumers – a group we wish to educate about the enormous assortment of products they can obtain to simplify their lives. Social media can help us to reach

these very different groups. We may evolve our Bluetooth.com web site to directly target the consumer while Bluetooth.org provides a portal into the Bluetooth SIG for members and businesses. A Bluetooth SIG Facebook page could be used to target consumers utilizing that service and guide them to the content on Bluetooth.com. Similarly, the LinkedIn group for members could be used to communicate with business professionals and drive them to content on Bluetooth.org.

I’m hoping that social media, utilized in this way, will prove to be a powerful communication tool for the Bluetooth SIG. Time will tell. I’m sure we won’t get it right the first time and will continually be tweaking our tactics while keeping true to our strategy.



**Erich Kamperschroer,**  
Chairman,  
the DECT Forum

We strongly believe that social networks already play a major role in private and B2B communication today. There will be national elections at the end of September in Germany and at this time all of the political parties that are fighting for voters are intensively utilising Twitter & Co. for their election campaigns. Are we sure that Barack Obama would have succeeded in the November 2008 US elections without having focused on new media and social networking for his very “modern” campaign?

For almost 20 years, DECT as a short range wireless technology has ensured that people can connect, speak to each other and definitely do social networking privately and also for business reasons. With CAT-iq devices and the connection to the Internet the new technology provides not only voice but also text communication. There is definitely a major trend to connecting to friends and business partners from all over the world. It is quite exciting to see what kind of products or devices will be provided by the industry to meet these needs and to guarantee local and mobile access to these platforms.

It seems to be already a fact - if you watch the behaviour of young people - that they are quite familiar with Twitter & Co., and it looks that social networks are already replacing text messaging via SMS, which is quite costly if you use it extensively.

Marketing strategies can use social networks to interact with people or target groups. Not to make money but to use the social communities to spread and leverage your messages, products, and services. With social networking you can benefit from



the advantages of the Internet: it is global, available 24/7, and it is interactive.

Therefore social network marketing will replace classical advertising – in the same way as digital online media are replacing the long-term dominant print media and even TV.



**Bob Heile**  
Chairman,  
ZigBee Alliance

Social networking's role varies depending on communication needs of both the sender and the receiver. If the people you are want to talk with prefer to do so via a social network, then you have your answer. There's no doubt that social networking is transforming how many are communicating with stakeholders – from consumers, analysts, media, government, engineers, developers, etc. This seems quite similar to the way e-mail transformed our lives -- for better or worse. We're definitely in a transition phase right now and I'm sure these new communication channels will stay around, and a few may even fall out of favor and die off.

We're evaluating each social network platform to see what makes the most sense for the ZigBee Alliance. We've launched an official Twitter feed. Outside the Alliance, there are ZigBee forums on social platforms like Facebook and LinkedIn. As for its importance in a few years, I consider it less a technique and more of an evolution on how we are communicating. We will continue to evaluate what channels will bring the most ROI for us. It's important for everyone to know that you can't be everything to everyone. What's important is to prioritize your key audiences and provide relevant information. Am I interested in reaching a graphic designer on Twitter? Probably not.

Am I interested on reaching a potential member with questions about ZigBee? Absolutely.

For some groups, having a viral video viewed by millions of people may make sense. But what it comes down to is reaching the right audience with a message that informs and inspires action. The ZigBee Alliance works to engage with others on a B2B-level and that requires addressing topics that are meaningful to them. Our strategy is not chasing eyeballs on a mass scale, but generating dialogue about ZigBee with companies developing home automation products, and utilities expediting their smart grid development plans. We also want to talk with the engineer that wants to be part of the next ZigBee effort to provide new products and services to a new marketplace.



**Graham Martin,**  
Chairman,  
EnOcean Alliance

When I first looked at some of the new social networking tools such as Twitter I quite honestly thought – what is the world coming to? Do we not have real lives? It is obvious that media and communication is shifting from print to on-line, but do we really want or need to know what somebody just had for lunch or what is the name of his new pet hamster? However, after hiring a top notch young and dynamic PR Manager, I was soon to see a more complete picture and drastically change my tune.

Social networking and media sites such as Linked-in, Xing, Twitter and You-Tube are becoming highly important and effective additional ways of providing messaging and information also amongst business communities. As opposed to thousands of e-newsletters and e-advertisements people receive and rarely have the time to read,

social networking and media gives business professionals and companies the choice of informing themselves on a particular subject or company when they wish to. They can collect relevant information on specific topics, for examples in various forums or groups, and communicate directly with relevant partners in this field. There is also the snowball effect, where various individuals or companies forward interesting information to their contacts which can within a very short timeframe lead to your message spreading virally reaching thousands or even millions of relevant people with minimum cost and effort.

Social networking will not replace traditional PR methods, but is already becoming an innovative addition that will become an important part of any modern PR strategy. This is a very positive evolution and I am sure that we will see a huge growth of this media platform in the near future.

EnOcean was one of the first wireless companies to become active in social media with its own You Tube channel and Twitter account. Others such as Texas Instruments are also actively Twittering and I am sure many more will soon follow these innovative leading companies. If you don't want to be left behind and are looking for more information on EnOcean or an example of social networks feel free to start at [http://twitter.com/EnOcean\\_en](http://twitter.com/EnOcean_en). or [www.youtube.com/enocan](http://www.youtube.com/enocan).



**Edgar Figueroa,**  
Wi-Fi Alliance  
Executive Director

With apologies to Incisor's readership, Edgar Figueroa regrets that he was not able to submit his text in time for this issue. Normal service will be resumed next issue!



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# The only alternative: Bluetooth and Ultra- wideband

by Dean Anthony Gratton

The potential and associated applications for Ultra-wideband have been promised by numerous manufacturers over what may seem to be an eternity. We have all become very excited about the real possibility of Ultra-wideband delivering high-speed connectivity with data rates that are comparable to its USB-enabled counterpart (if not more!). We have to be careful not to portray an obituary listing in this feature, but rather focus more on a reflection of a collage of anecdotes that have led to the current status of the technology. Moreover, we need to address this current status, along with understanding the existing high-speed offering (that is Wi-Fi), and to review the long-term benefits of Ultra-wideband's integration into the Bluetooth specification.

## With good intent

In reality, the WiMedia Alliance has been disbanded and inevitably it will soon cease any administration activities for its former members along with terminating the evolution of the technology completely – this responsibility shall soon be bestowed to the Bluetooth SIG. Likewise, many Ultra-wideband silicon manufacturers have been unable to sustain a presence during an economic crisis where companies have folded and the more steadfast have simply culled their staff. Roberto Aiello, former co-founder and CTO, Staccato Communications concurs “the economy didn't help in the last couple of years, because it made it more difficult to raise the capital required to complete the commercialization.”

As we fondly recall Ultra-wideband's journey, the early days of the technology's promise was filled with extensive paperware slideshows, all demonstrating many use case scenarios. It was these use case scenarios that bestowed our over-active imaginations with the promise of true high-speed wireless connectivity, albeit over relatively short-distances (less than 10m or so). The motivation was a simple one; penetrate as many consumer electronic products as possible.



## A frustrating time for all involved

Ultra-wideband allowed us to conceive, with a sense of proportioned reality, that a digital video camera, for example, could realistically wirelessly stream high-quality audio and video content to the TV. The technology purported ultra low power usage, deeming the technology suitable for most, if not all, electronic products, so the excitement was certainly well-founded. But alas, the technology endured an unfortunate rollercoaster ride in its endeavour to become the one and only wireless high-speed solution. Its early onset was marred by a battle of which is better: orthogonal frequency-division multiplexing (OFDM) or direct sequence Ultra-wideband (DS-UWB)? Indeed, two very different schemes, which are incompatible.

The battle commenced: the two technology camps took their respective corners and burdened the technology's full introduction to market and adoption by other manufacturers for a number of years.

In the meantime, a minority of manufacturers suitably massaged their egos, in turn, stifling the growth of Ultra-wideband – ultimately, this led to uncertainty and frustration for all involved. In the ensuing years two alliances formed, each touting their respective Ultra-wideband flavours, namely the WiMedia Alliance and the UWB Forum – the latter group were advocates of the DS-UWB offering. The eventual “we prefer this one” accolade was handed to the WiMedia Alliance and its first product offering deflated the industry, as the intensely proclaimed data rates of up to 480Mbps were nowhere to be seen. The OFDM frequency scheme assured us of minimal interference from other neighbouring wireless technologies – surely, a wireless utopia steeped with true untethered connectivity. It's like offering an elixir to eternal life in one magic shot – one sip, that's all you need, and a sustainable and unrelenting wireless connection can be yours!

Humph – such a depressing tale, but nonetheless it's all based on true events!



## The elusive high-speed accolade

Meanwhile, the Bluetooth SIG was looking to enhance its technology portfolio. With Adaptive Frequency Hopping (AFH) and Enhanced Data Rate (EDR) the Bluetooth SIG offered the industry several new techniques that potentially reduced interference from neighbouring wireless devices (using AFH); plus a solution with EDR to polish up its high-speed offering (at a modest 3Mbps). Alas, it still wasn't enough to achieve high-speed throughput for streaming video.

It seemed the streaming video trophy still remained elusive and out of its grasp for the Bluetooth SIG. Moreover, the Bluetooth SIG had to react quickly, since the IEEE, with a new and improved flavour of its 802.11 portfolio (despite it being marketed as a 'draft' version), was dangerously clipping the Bluetooth SIG's heels. The 802.11n offering increased data rates, along with backward compatibility with previous generations of 802.11 products – some astonishing foresight not to entirely mark the existing consumer-base! Finally, with 802.11n, the industry had in its possession a viable wireless high-speed solution that would potentially deliver streaming video content for a host of electronic products and gadgets.

## Living with or without you

The kerfuffle of the Ultra-wideband story and associated rumours of its demise have been bubbling around for over a year or so now. In fact, Incisor featured a story titled, *The Tortoise and The Hare* in [November's 2008 issue](#) highlighting the Bluetooth SIG's introduction of its Alternative MAC/PHY layer (or AMP). Indeed, many in the industry were somewhat agog and aghast at the partnering of what was once considered to be two competing technologies – "Wi-Fi and Bluetooth are what?" Incidentally, Incisor recalls a conversation with Alan Woolhouse, former Vice President of Marketing & Communications at CSR, who shed some further insight "Bluetooth over 802.11 is not done through a merger of technologies. Bluetooth is just using 802.11 as a fast radio to transmit Bluetooth data." Woolhouse intimated at the time, "Testing for the new specifications is already ongoing - when this will be completed is unknown at this point, as three interoperable prototypes have to be shown to work and pass a comprehensive test specification to be "ratified" by the Bluetooth SIG." Initial feedback seems to suggest that this would be completed around the second quarter of 2009, although Incisor hasn't been privy to any new announcements surrounding the success (or failure) of interoperability testing.

What is clear however, is that most consumer electronic products use both Bluetooth and Wi-Fi, as part of their standard feature set, so Bluetooth piggybacking, if you like, Wi-Fi to transmit or receive large data, seems to make sense. But, Bluetooth and Wi-Fi serve two very different audiences – two technologies providing different use case scenarios. Well, we have certainly been told that over the last decade or so, right?

## The Only Alternative

Anyhow, what some individuals might not be aware of is that the Bluetooth AMP architecture permits radio independence for the Bluetooth software stack. In other words, the AMP architecture is an hardware abstraction layer (or HAL) permitting any radio, along with a suitable abstraction interface, to coexist. The AMP proposal suggested that no modifications were required to the actual Physical (PHY) or Media Access Control (MAC) layers, but instead, the solution offered a "four address" packet format, which would be used to transmit Bluetooth-specific data. Naturally, this would ensure that a Wi-Fi access point could coexist in harmony, allowing both devices to transmit and receive data simultaneously (at this time, it's a theoretical assumption).

So, in essence the Bluetooth SIG could plug in either a Wi-Fi or an Ultra-wideband radio assuming that a suitable abstraction layer was present. The intent of the architecture proposed by the Bluetooth SIG would suggest that it perhaps wanted to integrate Ultra-wideband into its future specification, but when we spoke with Mike Foley, Executive Director of the Bluetooth SIG, he commented "UWB could become a part of the Bluetooth specifications if the WiMedia members agree to contribute that work to the Bluetooth SIG such that it can be adopted as a Bluetooth specification. If and when that occurs is up to those companies that participated in WiMedia. Since this occurring is such an uncertainty, UWB is not on the Bluetooth SIG roadmap. It can't be added until it is known that the technology can be used in a Bluetooth specification. Doing so before then would be premature." Eh? What was that Mike? Nonetheless, Roberto Aiello, former co-founder and CTO, Statacco Communications, vehemently supports the technology transfer to the Bluetooth SIG, saying "the WiMedia [Alliance] made the right decision to offer the technology transfer to WirelessUSB and Bluetooth, because with all the standardization heavy lifting behind us, those groups can control the whole product certification."

## If you build it, they will come

The AMP architecture may paint an idyllic picture, but the Bluetooth SIG can't surely expect to utilise Wi-Fi as a long-term high-speed solution? It would imply that products targeted as high-speed would need to incorporate both Bluetooth and Wi-Fi, and Wi-Fi is sometimes notorious for being power hungry and an application overkill. The advantages and future for Bluetooth wireless technology must lie with Ultra-wideband being the only alternative. It enables the Bluetooth SIG to truly offer an independent high-speed solution (that is, away from Wi-Fi) and offer more bespoke applications that can ultimately take advantage of the inherent low power characteristics of Ultra-wideband and not just its high-speed attributes. Nevertheless, Aiello is adamant that WirelessUSB-enabled products will continue to move forward despite the WiMedia Alliance's demobilisation, as he reckons "the standard is complete, the certification program is in place, and some products are shipping."

Perhaps, the Bluetooth SIG's hesitation at this stage is simply based on their conclusion that Ultra-wideband still isn't ready for them due to IP transfer issues (as mentioned by Foley ) or perhaps the technology doesn't offer the triumphant oomph in its data rates, as demonstrated by the WiMedia Alliance's early products? Nevertheless, despite the standardisation process being in place for the USB Implementers Forum (USB-IF), the SIG instead provides a short-term solution with Wi-Fi that still meets the need for the ever-so impatient consumer. Moreover, it may be biding its time to ensure that when Bluetooth v4.0 (this is nothing more than pure speculation) appears it's fully prepared to deliver the promise of high-speed wireless streaming audio and video content with ease and, dare we say, simplicity.

## About the Author

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# Notebook PCs - central to the high-speed wireless web

By Filmena Berardi, IMS Research

**In an increasingly competitive environment, the introduction and evolution of high-speed wireless technologies in notebook PCs has been a logical step. The desire to connect notebooks to peripheral devices has led manufacturers to actively look at high-speed technologies as a market-proven solution for these needs. With Bluetooth attach rates nearing significant numbers, and 802.11 already prevalent, notebook manufacturers are looking to more advanced connectivity solutions to differentiate products, and to cater for the ever increasing needs of faster speeds.**

Here at IMS Research we foresee the notebook PC remaining at the centre of the "high-speed web" and believe it to be integral to the future success of the high-speed market as a whole. The relationship between consumer devices and the notebook is becoming ever closer. However, as usual there are many wireless technologies targeting notebook PCs and there simply isn't room for all.

Wireless USB (WUSB) started promisingly with the prospect of using the existing wired platform to form the bases of the wireless infrastructure. Since its launch in 2007, WUSB has failed to deliver for a number of reasons, and despite being a plausible technology has struggled to move into high volume shipments. In light of the newly announced Bluetooth high speed and the proposed Peer-to-Peer 802.11n, some have questioned whether there is really a need for WUSB.

Classic Bluetooth penetration in notebook PCs has now reached an attach rate of over 40% in 2009. However, classic Bluetooth lacks both the data rates and bandwidths needed for use-cases like: photo and video sharing; music streaming; audio file transfer; PC to DVD connection; PC to smartphone synchronisation and so on. With this in mind, it seems a natural progression for notebook PCs to evolve from using classic Bluetooth to using Bluetooth high speed.

In addition, 802.11 standards have had tremendous success in notebook PCs and remain the wireless technology of choice

for PC networking. Previously Bluetooth had the advantage over 802.11 in that it had a greater legacy of devices, and was a P2P solution, however 802.11 penetration into other devices such as cell phones and PMPs has been increasing in recent years. Furthermore, the prospect of developing Peer-to-Peer 802.11n is extremely appealing and is a serious competitor to Bluetooth high speed for Notebook PCs.

Other high-speed technologies such as WHDI and WirelessHD have the initial target of developing an ecosystem around HDTVs. Once established, the aim is to penetrate other products such as DVDs, set-top boxes; then eventually cellular handsets and notebook PCs. Therefore, at this point notebook PCs are not the primary focus but a long-term strategy for an ecosystem which recognises the importance of notebook PCs for high-speed connection.

Many in the notebook PC market are very optimistic with regards to upcoming

60GHz technologies. Many have suggested that WiGig will take the baton from 802.11n, to provide the next generation of high-speed wireless in notebook PC. This is a longer-term strategy as essentially this technology is at the beginning of the long road from inception to completion.

Essentially the notebook PC market is not big enough for all of these standards. In conclusion, IMS Research forecasts that Bluetooth high speed and 802.11n P2P will both capture more of the market than WUSB. In addition, although dependant on penetration into other devices, in the longer-term WHDI and WirelessHD are predicted to feature in notebook PCs.

Notebook PCs are one of the applications covered in IMS Research's new report; "Peer-to-Peer Wireless – Which High-Speed Technology?" The report also includes gaming consoles, portable gaming, portable media players, home audio, set-top boxes, DVD players/recorders, HDTVs and dongles.



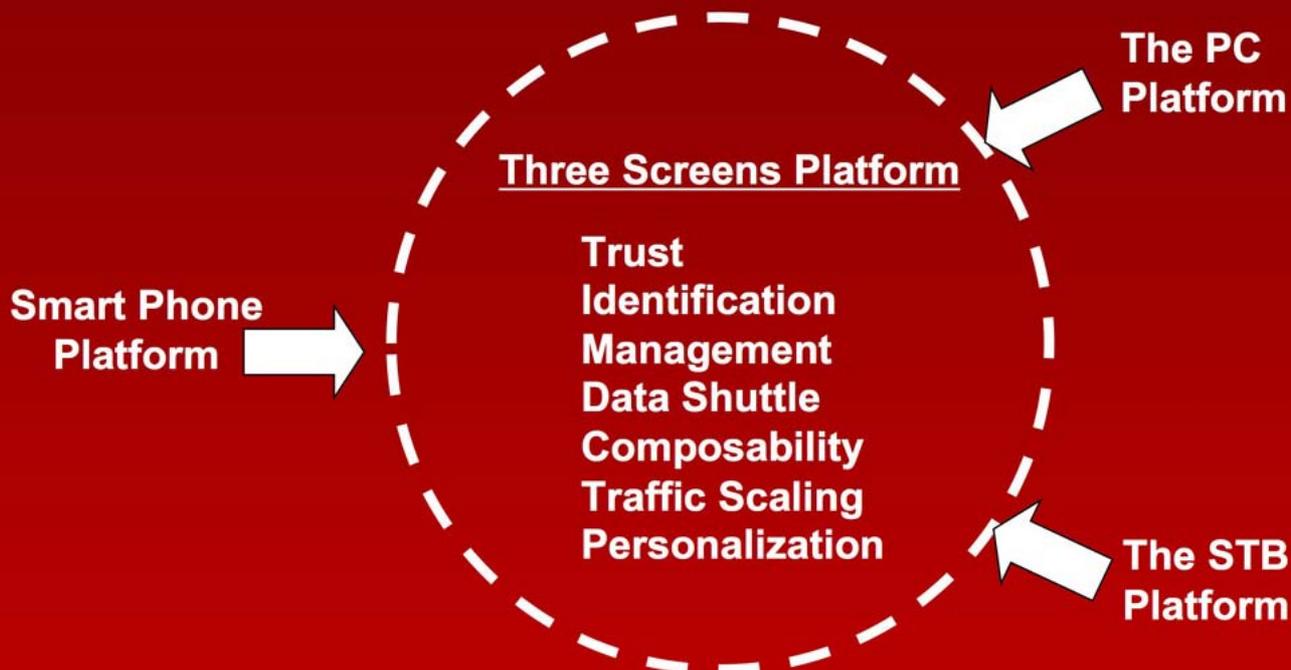
# The emerging three screens platform

By Stephen Wood

This article is the first in a six part series written by Stephen Wood, discussing the convergence of the Smart Phone, Personal Computer, and Television. Each article will discuss an event or technical



capability which is forecast to emerge in the near future. These forecasts were developed for Incisor using new techniques in market analysis that provide a context against which Incisor readers could evaluate the value of innovations entering the market. →



## Objective: Make The Smart Phone, PC and Set Top Box Operate As One System

*The emerging Three Screen Platform.*

In the early 1980s, the personal computer emerged as a platform which combined the microprocessor, memory, display and I/O into a single system. This physical platform transformed the world. In the 1990s, the Internet emerged as a logical platform composed of PCs, browsers, and the telephone network. Like the PC before it, the Internet has radically changed how we conduct business and entertain ourselves. And now, another major platform is beginning to be defined. The Three Screens Platform will connect the smart phone, the personal computer and the television together into a common, collaborative system which blends the capabilities of their respective networks. Over time, it will also connect the automobile and the point of sale into the platform as well.

Just as the PC and the Internet emerged to fill needs that the mainframe and data networks could not readily satisfy, the three screens platform is emerging to address needs which have proven to be challenging for the PC, mobile phone and television to satisfy independently. As an example, consider the PC's track record on ease of use and reliability. Do you ever encounter the "blue screen of death" on your television? Does your refrigerator ever get a virus? How long does your microwave take to boot up? Maybe you have to pay for food repeatedly when you move it from the freezer to the oven. These problems with the PC have been well known for several decades but remain unresolved.

In addition to solving these long term problems, the emergence of the three screens platform will expand the scope of applications that can be addressed. Imagine being able to select music and video to take with you on a vacation trip. This content is quickly downloaded to your smart phone. From there, the content is uploaded into your car. The music becomes part of virtual radio stations that can be selected by pressing radio buttons. Unlike the radio, songs that grate can be skipped. There are also no dead zones to fall into. If you run out of content while on your trip, more can be purchased from kiosks at gas stations, rest stops and stores along the way. The functionality added by the three screens platform will allow for the smooth movement of content between various devices and across various networks with minimum of user intervention.

To do this task, new capability will need to be added to each of the component platforms to allow them to interact in the common system. Here is a description of some of the missing pieces.

- **Trust** - A chain of trust needs to be established from the hardware up through each of the software elements. Trust is required to conduct e-commerce transactions and to suppress malware.
- **Identification** - A combination of hardware and software must be able to identify the user at the user's request in a verifiable manner. This capability

enables reliable access control, improved financial transaction authorization and membership.

- **Management** - The overhead of managing the devices and the network needs to be passed to network administrators to offload work from the consumer and to increase the reliability of the network. The end nodes in the devices must be able to respond to management requests.
- **Data Shuttle Protocols** - Many transactions that will occur should not require the direct input of the user. This includes data exchanges for personalization data collection and context monitoring. A uniform process for making these authorized, but independent exchanges needs to exist.
- **Composability Protocols** - Devices need to be able to share capability to create an optimum user experience. For instance, a smartphone user may wish to temporarily connect to and drive a keyboard and monitor in order to create a short Powerpoint document. Composability protocols allow authorized and available resources to be identified and recruited.
- **Traffic Scaling** - Transferring a HD video stream for viewing on a smart phone consumes both time and power. Methods must be created by which the content transferred can be well matched to the intended user experience. →

- **Personalization /Context Awareness / Privacy** – The options available to the user at any given moment could become overwhelming, requiring almost continuous user input and an unacceptably high level of knowledge on the part of the user. To avoid this, the system must be able to collect data about “normal” use patterns in order to infer how the user intends to use the device. When data is collected, the aggregators must abide by existing laws governing privacy. Where laws do not exist, the privacy policies should still guarantee consumers a responsible degree of protection.

The elements required for this platform were not randomly chosen. To get this list, it was first necessary to assemble the applications which were to be enabled by the new platform. Each of these applications was then broken down into the functional blocks that would be needed to run it. And finally, when the list of functional blocks was aggregated, those which were needed across a significant percentage of applications were considered to be part of the platform. Those listed in a small percentage of applications are treated as options. To get a feel for some of the applications that were used, consider personalization as an application.

### Know me, show me...

Personalization is a hot category of late. This technique involves collecting information about a user's consumption patterns and using that to suggest future consumption. Amazon uses it to recommend books. Google uses it to place banner ads that are related to the search being performed. Tivo uses it to recommend and acquire other television programs that you may wish to watch. Taken to a more extensive level than is being done today, one would collect consumption information from any available point of consumption and use that to perform more exhaustive analysis. This would include gaming use, energy consumption, e-commerce purchases, video traffic patterns, voice call use, etc. Obviously, given the potentially intrusive nature of this development, one would also like to see a strong privacy policy simultaneously introduced.

Personalization of this type requires data collection that performs to agreed levels of accuracy. It requires methods by which to transfer data to an aggregation point where profiles can be drawn. It needs to make sure that the data cannot be spoofed or corrupted. Advertisers will depend upon this data to set rates and to monitor ad effectiveness. Likewise, the data being transferred needs to be secure

to avoid eavesdropping which might potentially allow an unauthorized party to violate user privacy. All of these requirements and more were fed into the platform definition.

### Shifting sands

Just as the technical markets and the business world evolved in response to the introduction of the PC and the Internet, the introduction of the three screens platform can also be expected to generate a lot of change. Some of the changes will be in the form of new applications while others will be in the form of major changes to existing platforms and market ecosystems.

As an example, consider the relationship between the smart phone and the PC. Over the last forty years, the PC has evolved through the desktop and the notebook and is now moving into the handheld generation. The handheld generation of the PC is the smart phone. This step causes telephony and computing to converge. The emergence of the three screens platform will enable the smart phone generation to work with the desktop and the notebook generations more completely.

Recognize that the smart phone has certain limitations in terms of its user interface, its battery size and its memory capacity which make it ideal for mobile applications, but deficient for work which stresses these functional blocks. For instance, it would be inconvenient to create a detailed Powerpoint presentation on a smart phone due to the limitations of the user interface. To compensate for this, the three screens platform functionality needs to allow the smart phone to temporarily exploit the functionality of a desktop or notebook (through docking) to expand the user interface while it is needed and while the user is stationary and then to conveniently disconnect and allow the smart phone to become mobile again when the work is done.

### Operator challenges

As an example of a significant change in the ecosystem due to the three screens platform, consider events from the perspective of a quad play network operator. It benefits the network operator to connect the networks that they have together as tightly as possible. For instance, a wireless mobile operator wishing to create a video service can only deliver video via an expensive WAN link. By contrast, an operator that has wired video operations as well as wireless mobile operations has the option

of creating a video service where video is delivered to a set top box and then transferred to the mobile device via a LAN or PAN link. They have access to more bandwidth and more cost effective delivery to make a business. By connecting the networks closely, customer churn is reduced and profitability can be optimized.

Additionally, a quad play network operator will be in a position to collect more consumption information to use for personalization of advertising. Instead of being limited to just telephony data, a quad play operator will be able to draw upon television traffic, Internet traffic, telephony, any connections which the mobile phone might eventually make (i.e. e-commerce, gaming, applications, location). When this data is combined, it enables much more precise profiling of a consumer and therefore makes a much more attractive solution for advertisers looking to deliver messages to a target audience. This enables the network operator to charge more for its superior targeting ability.

The quad play operator benefits from the three screens platform and is in a position to encourage and direct its evolution. This will tend to move the quad play operator into a control position in the computing ecosystem in a similar manner to the way that they own a control position in the mobile telephony and television ecosystems. The emergence and full development of the three screens platform and ecosystem will take several years to occur, but the speed with which it emerges will accelerate as manufacturers become aware of the market's .

Additional information about the three screens platform and other upcoming market events can be found at [www.mappingthewhitespaces.com](http://www.mappingthewhitespaces.com).

*Stephen Wood has spent the last eight years developing a series of behavioral models which explain the behavior of high tech markets and which provide insights about upcoming events. These models provide the basis for the projections described in this series. Additionally, Stephen has spent the last twenty years doing market analysis and product management in PAN, WAN and LAN technologies. Most recently, he held the role of President for the WiMedia Alliance in UWB personal area networking. Stephen's website at [www.mappingthewhitespaces.com](http://www.mappingthewhitespaces.com) discusses his models and forecast. He can be contacted at [wood.stephen@verizon.net](mailto:wood.stephen@verizon.net)*

# Wireless sensors – coming to an aircraft near you

**Incisor learns that engineers at Scotland's Institute for System Level Integration (iSLI) are to begin work on the development stage of a £3.3million project to design a wireless sensor system set to become a standard feature of the next generation of commercial aircraft.**

The project, which will enable the real-time monitoring of critical components during flight and which could make a vital contribution to improved air safety, is joint funded by the UK Technology Board and aerospace industry companies. With iSLI playing a lead technical role alongside Rolls-Royce, BAE Systems, TRW Conekt, QinetiQ Ltd, QM Systems Limited, GE Aviation Systems Ltd, Bombardier Aerospace Belfast, Ultra Electronics BCF, AgustaWestland and Airbus, the WiTNESS consortium intends to deliver a range of commercial application demonstrators based on the new system by the end of 2011.

"This is a tremendously exciting project. Our development team is delighted to be working alongside some of the most important names in the aerospace business on a prototype system that not only has considerable commercial potential, but is also likely to have a significant impact upon the efficient operation of the whole commercial fleet. The system will give aircraft operators the ability to detect and rectify problems before they lead to serious consequences, so ultimately, these systems could make a significant impact on aircraft safety," said Dr Mark Begbie, director of the Livingston-based Institute for System Level Integration (iSLI).



Mark Begbie

Work on the first prototype wireless sensing system will begin during September 09. The whole system is said to be considerably more sophisticated than existing wireless devices, and is designed to gather complex and accurate data from different parts of the aircraft - some of which have to be related to one another. The WiTNESS system will be used to help identify technical faults, optimise performance and monitor the overall health of the aircraft.



Wireless is a key capability to reduce the costs associated with wired sensor cables, which words will be music to the ears of many Incisor readers. Dr Begbie said: "Putting in cables adds to aircraft cost and, crucially, weight and it's not the easiest thing to get in and maintain. If you take Rolls-Royce as an example, when it is developing a new engine it can have upwards of 3000 sensors attached when it is on the testbed. Routing all the wires to the sensors and bringing them all back to a collection point is a big job, and when you have got 3000 cables running over a vibrating engine, you get a lot of difficulty with drop-outs. So Rolls-Royce wants us to look at how the wireless technology can help."

The three-year project will initially see the system developed for lifetime maintenance functions. This market was worth over £6.13bn to the UK in 2006 alone. There is follow on potential for subsequent systems to look at predictive maintenance and ultimately real-time data for safety-critical components. The

system is also expected to be of considerable value in the carbon fibre components being developed to replace aluminium aircraft parts, where sensors can be used to help monitor how they are coping with high pressures and heavy loads. This will allow manufacturers to get better information about super-structural capacity and the life expectancy of each component.

iSLI will retain substantial intellectual property rights emerging from the system, and expects to see the technology exploited by a variety of sectors in the future. The institute is already in discussions with Strathclyde University's Institute of Medical Devices over forming a consortium of healthcare experts, technology providers and manufacturers with a view to developing the system further, while further opportunities have also been identified in the renewable energy industry.

An interesting project, and one that Incisor will continue to follow.

# wi-fi / wlan news

## Beamforming at the heart of Wi-Fi test success

Ruckus Wireless apparently defeated leading wireless WLAN vendors in a series of “open RF” 802.11n WLAN tests conducted by Tom’s Hardware, an Internet resource for reviews, news and information on technology.

In a collection of range and performance tests across five different locations, the Ruckus ZoneFlex 802.11n Smart WLAN system posted throughput gains ranging from 36 to 180 Mbps over equivalent WLAN systems from Cisco and Aruba. The testing included, for the first time, a review of Cisco’s newest chip-based beamforming technology.

According to Tom’s Hardware: “The future of video-capable Wi-Fi depends on a directional signal-boosting technique called beamforming. The Ruckus approach to on-antenna beamforming could prove revolutionary in inspiring the next wave of wireless networking designs.”

Unlike many wireless LAN tests where access points (APs) are placed in a controlled RF chamber with the antennas detached to eliminate any test ambiguities caused by changes in the environment, Tom’s Hardware conducted a review of 802.11n products in a real-

world, “open air” environment where obstacles, interference and distance play a crucial role, affecting consistent performance at different distances.

To mimic a real world enterprise experience, both UDP and TCP wireless performance were measured in the 2.4GHz and 5GHz spectrum across five different locations ranging from ten to 105 feet. The locations was a multi-story business park in 7,000 square feet of standard office space to conduct the tests.

While most wireless testing reports the average throughput (data-grade) that wireless clients can expect to see 50 percent of the time, these tests included sustained (video grade) throughput that a user would experience 99.5 percent of the time. This is particularly important for applications that require continuous bandwidth, to deliver voice without dropouts or high-quality video without artifacts, for example. It also gives IT managers a more accurate assessment of how their WLAN will perform in a “near worst case” scenario.

In all UDP and TCP testing in both the 2.4 and 5GHz bands, Ruckus told Incisor that the ZoneFlex system outperformed all devices under test. In the closest location, separating the AP and client by 10 to 15 feet, the Ruckus ZoneFlex system delivered TCP/UDP data-grade performance of 133 and 236 Mbps respectively within the 5 GHz band - 95

to 180 percent faster than the nearest competitor. In the 2.4 GHz band, the Ruckus ZoneFlex system delivered TCP/UDP data-grade performance of 67 and 134 Mbps respectively - 27 to 95 percent faster than the nearest competitor.

As distance was increased and obstacles began obstructing the Wi-Fi signals, performance changed dramatically. At the most difficult location, separating the AP and client by 95 feet and six walls, the Ruckus ZoneFlex system delivered TCP/UDP data-grade performance of 62 and 141 Mbps respectively within the 5 GHz band - 58 to 116 percent faster than competitors. In the 2.4 GHz band, the Ruckus ZoneFlex system delivered TCP/UDP data-grade performance of 36 and 78 Mbps respectively - 77 to 110 percent faster than the nearest competitor.

Video-grade TCP/UDP testing across all locations revealed even bigger performance differences. All the competitive test results can be seen [here](#).

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# wi-fi / wlan news



## Fixed mobile convergence still struggling

Fixed mobile convergence (FMC), the transparent and seamless hand-off of active voice calls between cellular and Wi-Fi networks using a dual-mode phone, can be a powerful enabling tool for businesses, reports In-Stat. FMC provides a viable bridge to address the gap between legacy wireline capabilities, wireless networks, cellular services, as well as evolving VoIP and unified communications capabilities. But the technologies driving FMC applications have developed more quickly than business end-user interest.

“A wide sweep of industry announcements trumpeting FMC capabilities have been made in 2009, however, our analysis shows only moderate increases in actual use, or planned use, of most applications,” says David Lemelin, In-Stat analyst. “IT managers, service providers and integrators may have a good understanding of FMC’s benefits, but until workers actually use its capabilities, the benefits will go unrealized.”

Growth in the business IP market has tremendous potential to disrupt the traditional telephone industry on multiple levels. Service providers, equipment manufacturers and systems integrators are increasingly offering different types of business VoIP solutions. IT managers and C-level executives recognize the cost savings and flexibility that VoIP solutions can bring to their businesses, but issues remain before comprehensive adoption takes place, such as security, integration and end-user transparency. Business adoption of IP communications will also be influenced by how companies integrate other communications functionalities, such as wireless connectivity via Wi-Fi and WiMAX, IM, and video applications.



## One billion Wi-Fi chipsets to Ship in 2011

ABI Research is now calling Wi-Fi ‘all-pervasive’, and predicts that in the year 2011 alone, Wi-Fi chipset vendors will ship one billion units. By the end of the following year a cumulative five billion such chipsets will have shipped since the firm began tracking Wi-Fi chipsets in 2000.

In the near term, says research practice director Philip Solis, “802.11n will be the dominant protocol shipped during 2010, and there will be no looking back as single stream 11n chipsets (those not employing MIMO technologies) increasingly replace 802.11g products.”

Wi-Fi is penetrating an ever-widening array of devices. Wi-Fi chipset shipments will total well over 100 million just for smartphones this year, and smartphones, netbooks, and a wide variety of consumer electronics devices such as portable media players, TVs, and cameras will become increasingly important market segments.

“Although ASPs are falling,” says Solis, “the market is growing fast enough to keep revenues increasing.”

Among other interesting recent industry developments is Qualcomm’s entry into this market with a 4x4 MIMO 802.11n chipset.

Meanwhile, Broadcom continues to be the vendor to catch: “Broadcom’s market share may fluctuate from quarter to quarter,” notes Solis, “but the company continues to remain firmly on top of the Wi-Fi chipset market, and will likely continue to do so for the foreseeable future.”



## 2.4 GHz WLAN power amp with ultra-high linear output

SST Communications says that it has doubled the output power of its 2.4 GHz WLAN power amplifier (PA) offering with the new SST12CP11, which is housed in a 3 x 3mm QFN package. The three-stage device achieves 34 dB power gain, 26 dBm and 25 dBm linear output power at 3.5% and 2.5% EVM respectively, at 5.0V bias with less than 470 mA current consumption. With its ultra-high linear output power, the SST12CP11 helps increase the transmission range and data rate of 802.11b/g/n wireless access points and routers in consumer and enterprise environments.

“As a premier high-volume supplier of PAs to the Wi-Fi industry, we are continuously improving our product offering to meet the evolving demands of wireless users,” said Daniel Chow, president, SST Communications. “With our new SST12CP11, we are delivering an ultra-high power, robust linear PA that will help increase the broadcast range of wireless AP/routers to better support broadband applications, such as streaming video and other multimedia-rich content.”

The SST12CP11 device is 802.11b/g spectrum mask compliant up to 29 dBm for added performance. SST told Incisor that the high performance of the SST12CP11 enables wireless network system designers to provide robust Wi-Fi operation in challenging RF environments where building materials and floor plan layouts are often not conducive to RF performance.

# low energy wireless news

## UWB-based wireless presenting

InFocus and UWB pioneer Wisair are showing a new wireless solution that eliminates the need to have wired connections between computers and selected InFocus projectors. The InFocus DisplayLink Wireless system allows presenters to connect to InFocus DisplayLink-enabled projectors and share HD content on a big screen without wires.

The PC's DisplayLink USB connector will connect with an InFocus projector from distances of up to 30 ft. Users to share content and video at high-bandwidth speeds of 99Mbps net data rate.

"Wisair's high-performance UWB and Wireless USB single chip and technology integrated with InFocus projectors frees users from cables and enhances their convenience and connectivity options," noted David Yaish, Wisair's president and CEO. "Users can wirelessly project any content from their laptop, including HD video, graphics and also online video simultaneously, while connected to a Wi-Fi access point for wireless Internet connectivity. They can project any content from anywhere in the room over a robust Wisair-based wireless link. This is an ideal solution for the corporate, education and home segments."

A key feature of the InFocus DisplayLink Wireless solution is said to be the ease of setting the system up. InFocus is using pre-paired adapters, meaning that the PC Adapter and projector are already associated with each other upon purchase. Also, upon initial set-up, an onboard driver in the PC Adapter speeds up software installation. The solution provides peer to peer high speed connectivity that does not load the Wi-Fi network in the office or at home and does not degrade its performance. In addition, the wireless link between the PC and the projector supports the InFocus PC control application, enabling users to control the projector over the wireless link without the need to physically access the projector.

## New certified ZigBee Home Automation products

The ZigBee Alliance has announced the certification of 17 devices from 10 manufacturers using ZigBee Home Automation, plus enhancements to the public application profile.

ZigBee Home Automation is the ZigBee Alliance's spec for the control for home appliances, lighting, environment, energy use, and security. The aim is to provide direct interoperability with other ZigBee public application profiles, including ZigBee Smart Energy. ZigBee Home Automation now features new security mechanisms and support for doorbells and mechanized window shades. The standard features control of HVAC systems, power outlets, motorized devices, security and other devices.

"With 17 products from 10 global manufacturers passing our rigorous certification process, ZigBee Home Automation will be in a position to make a strong retail debut," said Bob Heile, chairman of the ZigBee Alliance. "With a total of 41 certified products, ZigBee Home Automation and ZigBee Smart Energy will give consumers more options to monitor and control their energy use while enjoying a smarter and safer home."

The list of certified products came from manufacturers including 4Home, AlertMe, Black & Decker, CentralLite, Jetlun, MMB, Radio Thermostat Company of America and SerComm.

## NFC Forum lowers cost of membership

The NFC Forum has announced a new, lower cost membership level called "Implementer" that is targeted at companies directly implementing NFC solutions in the field worldwide. This comes in below existing NFC Forum membership levels which are primarily targeted at technical specification development.

Available at an annual cost of US\$5000, the Implementer level entitles members to an array of benefits, including participation in NFC Forum marketing events and Plugfests, access to member resources, discounts and input to Forum marketing efforts. Implementer membership is the cheapest way in for NFC Forum membership available to for-profit companies.

In addition to the Implementer level, the NFC Forum offers for-profit companies the following membership levels at the annual fees indicated: Associate (US\$10,000), Principal (US\$25,000) and Sponsor (US\$50,000). Non-Profit membership is available to not-for-profit institutions for an annual fee of US\$1000. The NFC Forum recently enhanced benefits for all existing membership levels.

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[Wireless USB special - Introducing Wireless USB](#)

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[Wireless USB Special - Regulatory, approvals and interoperability](#)

[Wireless USB special - The future for Wireless USB and UWB](#)

[Wireless USB special - Wireless USB at CES 2007](#)

[Vince Holton introduces the High Speed Bluetooth Special Issue](#)

[Anders Edlund of the Bluetooth SIG - Bluetooth and UWB combined](#)

[Robin Heydon, CSR - Bluetooth & UWB - The semiconductor company perspective](#)

[Motorola's Steve Deutscher examines High Speed Bluetooth mobile concepts](#)

[Motorola video - Jordan's morning](#)

# events



DATE	EVENT	LOCATION	NOTES	LINK
Sept 4 - 9 2009	IFA 2009	Berlin, Germany	A showcase for innovative consumer electronic products	<a href="http://www.ifa-berlin.com">www.ifa-berlin.com</a>
Oct 5 - 9 2009	Bluetooth SIG UnPlugFest 34	Stuttgart, Germany	-	<a href="https://www.bluetooth.org/Events/sig_events.htm#DevelopersConf">https://www.bluetooth.org/Events/sig_events.htm#DevelopersConf</a>
Oct 6 2009	European Navigation Event	Houten, The Netherlands	-	<a href="http://www.navigationevent.com">www.navigationevent.com</a>
Oct 7 - 9 2009	CTIA Wireless I.T. & Entertainment 2009	San Diego Convention - Centre, San Diego, California, USA	-	<a href="http://www.ctiawireless.com">www.ctiawireless.com</a>
Oct 23 - 29 2009	CAT-iq Developers Conference	Sofia Antipolis, France	-	<a href="http://www.cat-iq.org/">http://www.cat-iq.org/</a>
April 1 2010	Connected Home	Houten, The Netherlands	-	<a href="http://www.connectedhomeevent.eu/uk_index.html">http://www.connectedhomeevent.eu/uk_index.html</a>

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