

What's NOT Going to Happen in 2011

Prediction ain't easy. But that doesn't stop many would-be pundits from trying to read the 2011 tea leaves, with sometimes hilarious results. The antidote? ABI Research's annual take on what's NOT going to happen next year in many of the markets we study.

The holiday shopping season is upon us, and some say – where have we heard this before? – that Real Soon Now mobile marketing will transform our buying habits. Or not!



2011 won't be the year of mobile marketing and advertising for a number of reasons.

For one, that is just fuzzy thinking. Mobile marketing isn't a one-year wonder. Marketing via mobile devices is an ongoing business practice, just as it is in other media.

Mobile marketing will still represent a small portion of the bigger pie when compared to online and traditional advertising for quite some time. The volume of spending will only be a fraction of the total, even in five years.

Finally, there are still serious challenges to overcome: clear measurement standards need to be established (those are coming), audiences are still relatively small (though growing, to be sure), mobile budgets are puny, ad agency support is lacking, too many platforms clutter the space, and consumers remain squeamish over privacy concerns.

A better way to look at mobile marketing is to say it's here to stay. It will grow and change. Already, marketers need to consider how to play in the tablet arena. Further out, they will face questions about how to exploit Augmented

Reality and flexible displays. If you need a time boundary around all this, you could say it's "the decade for mobile marketing." But even that is too limiting and fuzzy, because at some point mobile will just become a facet of all marketing, along with "social" and whatever else gets invented in the coming years. Enough with these silly "year of" proclamations!

Among the serious players, the common assumption is that mobile marketing is headed for a growth spurt. There is little doubt of that. The simple fact is a growing number of eyeballs – tens of millions of them – will be staring at smaller screens in the coming year: searching, comparing and shopping. This will be enough to move the needle next year, even if it's only a little bit. Smartphone sales are going to continue to soar. Consumers are going to buy tablet devices in growing numbers. In short, mobile audiences are spiking, and marketing dollars will follow. This is not hype. And despite the challenges previously mentioned, forward-looking marketers have good reason to spend some of their budgets on mobile. Those who don't will miss out on an opportunity, and run the risk of competitors taking market share.

Location-based advertising will NOT be huge.

Without a doubt the Location-based Advertising (LBA) market is going to happen, it's just unlikely to happen in 2011. The LBA gun is loaded, with GPS proliferating, app stores established, location information aggregated and trigger-happy advertising agencies already trialing LBA with huge success – so why not 2011? Well, first and foremost, the overall mobile advertising market is still in its early stages of development. Add to this the uncertainty surrounding awareness, privacy and successful advertising techniques, and it is clear that this market will take time to mature.

Many advertising agencies have said that it is still too early for LBA in 2011. In fact, ABI Research estimates that just 2% of on-deck and off deck LBS (location-based services) revenues will be generated through LBA in 2011. So what constitutes “happening”? Well, by 2016 this segment will have grown to 15% of a multi-billion dollar market. Furthermore, that forecast does not even include location-enabled services such as Google and Facebook places, which highlight the potential for smaller LBS developers.

So thank goodness all those shopping offers are still coming into the “conventional” Internet we access at home and in the office. Because smartphones won't replace computing devices for access to the Internet

Smartphones—with their complex user interfaces—are still far too daunting for the average consumer. Usability problems with the physical size of the mobile device form factor, including the small screen size and limitations of user input, still hamper intuitive and comfortable use for all but the most determined users.

Sometimes there's no getting around it: Internet or no, you just have to go out to shop. In the US and other spread-out countries, that usually means driving (unless you're rich enough to have a chauffeur!) What a hassle, especially the parking! But Google revealed in October that a vehicle it developed had been quietly driving itself around California. The car was doing all the navigating and driving, and was capable of unconventional parking maneuvers. (<http://www.youtube.com/watch?v=piO849uRdI>). Public reaction to one article covered the gamut from “I want this yesterday” to “You can pry my car keys from my cold, dead hands.” But we won't see self-driving cars in 2011.

The Google experiment reports that vehicles have covered over 140,000 miles of testing with the occasional human intervention, but more than 1000 miles of journeys had no driver control used at all. Despite this success, engineers still see 8-10 years before anything like this goes into production.

But some significant pieces of this overall package are on the road today. Adaptive cruise control can maintain a chosen speed if the road is clear, and automatically adjust to slower vehicles moving in front. Lane keeping systems can monitor the road markings ahead and nudge the steering

wheel in the correct direction if potential drift is detected. Collision warning systems can automatically stop cars to avoid accidents and pedestrians. What this means is that some types of driving can now be automated . . . just not whole journeys.

The good news for 2011 is that these systems will become available on some mid-range vehicles and not just on high-end luxury cars.

OK, forget the auto-pilot. The all-electric Nissan Leaf debuted in a number of countries in 2010, but guess what, we're NOT all rushing to buy electric cars.

Auto buyers the world over are not going to rise up in 2011 and say, “We need electric cars. Bring us the electric cars.”

For one thing, the infrastructure for them has not yet been built out, so “Range Anxiety,” the fear that you'll drive your electric car too far from a charging station to make it back home, will rule. When people start to understand how using the radio or the air conditioner in an electric car can shorten battery life even more, that fear will grow.

Cost is another consideration that will depress sales of electric cars. They're not cheap to start with, but since they have some cachet as new and cool, auto dealers mark up price tags like mad, looking to gouge extra thousands from people willing to put down \$1,000 or more just to get on a waiting list for the things.



Then there's the cost to fuel the vehicle. Remember, you won't be spending 10 minutes at a gas station once a week or so to fill up; you'll be plugging the car into your personal charging station to recharge the batteries over the course of several hours, perhaps overnight. Unless you know somewhere that you can plug the car in and charge up for free, you need to consider the cost per mile of a recharge

that can take you 40, 50, 100 miles, vs. the cost per mile of a fill-up at a gas station that can take you 200 miles or more. In terms of time, a gas or diesel-fueled vehicle wins hands-down. In terms of expense, it's a close race right now.

If you're thinking of buying an electric car for environmental reasons, think about where that electricity comes from.

Finally, if you're thinking of buying an electric car for environmental reasons, think about where that electricity comes from: a big, smelly power plant that's more than likely fueled by coal and is releasing plenty more hydrocarbons and other unhealthy stuff into the atmosphere than a gasoline-powered car does. So where are the savings?

Bottom line: electric cars will remain a novelty in 2011.

Whether we're driving electric or petroleum-fueled cars, we have become ever-more addicted to our navigation devices, and smartphone navigation has been making serious inroads in this market. But they won't complete their conquest of the car in 2011.

A lot of the debate in the telematics industry during 2010 has centered on the integration of smartphones and applications into the car environment, with Ford SYNC's planned entry into the application store space and Nokia's Terminal Mode grabbing the headlines. However, while there is no denying smartphones will play an important role as remote controls and monitors of connected vehicles, they will not replace embedded telematics systems which offer superior reliability, ease of use, and above all a safer user experience, the major handicap of smartphones as repeatedly pointed out by US regulators during 2010. Openness and affordability will be critical success factors for embedded telematics platforms, both of which are addressed by the GENIVI automotive infotainment consortium and initiatives from Continental and Bosch. Automotive OEMS should not hand over control to the mobile industry, keeping their options open to tap into new revenue streams and customer relationship tools offered by the connected car revolution.

So what is on your holiday wish-list this year? And if you can't have it in December, what tech gadget do you crave in 2011? Want a quad core smartphone?

Yes please! . . . just not in 2011. With clock speeds estimated to reach 2.5GHz, delivering up to five-times improvement in performance as compared to most currently available processors while requiring considerably less power, the quad core processor seems set to revolutionize the mobile handset industry.

Yes, quad core chipset will power a rich multimedia computing experience on a smartphone . . . but not in 2011. Why not?

First, ARM, the leading processor architecture IP provider, is still in the early phases of chipset design development. Further, the chip needs to be manufactured in 32nm, or smaller, technology in order to achieve targeted operating performance and energy consumption characteristics expected of a smartphone. As a result, there will be inevitable need for more time, prototype development, validation, and mass production. The smartphone market will see eventually quad core phones, just not in 2011.

There's another kind of smartphone that hype-merchants have been touting: the NFC-enabled one. But US consumers won't be giving up their wallets in favor of NFC-capable smartphones in 2011

Smartphone industry heavyweights such as RIM, Samsung, Nokia and Google have committed to bringing NFC (Near Field Communication) functionality to smartphones in 2011. With NFC many expect that US consumers will ditch their wallets and use their phones to pay at the local grocery store, at a ball game, or a gas station. Early test trials of this have shown very promising reactions from users. ABI Research believes that in the future phone payments will be extremely popular in the US; but not by 2011.

Today many folks do not carry cash in their wallets/purses because they know that they will be able to find a location that 'takes plastic'. Initially, however, not every merchant took Visa, or Discover, or whichever card service the consumer was a member of. Without a majority of the banks and mobile operator agreeing to a unified approach, NFC payment systems may suffer from payment fragmentation much like that faced by credit cards in their early days.

Unfortunately the fact remains that the banking industry and the mobile operators are not ready to go mainstream with this yet. Both want to ensure that they get their 'cut' of this new service capability and that there is a solid business model in place. While the big four mobile operators and Discover have banded together to solve this problem, other card-issuers such as Visa are still investigating their options. Operator billing systems are notoriously outdated and would need much work to get ready for this type of feature, and the US banking industry has remained woefully behind the rest of the world in the adoption of mobile capabilities.

Getting these juggernauts to dance in sync is going to take a great deal of negotiating, time and effort.

While some preliminary test services may go live in 2011, NFC will not have reached mass penetration in smartphones as Wi-Fi has. The small user base will make it difficult to convince smaller retailers to pay for NFC payment terminals (and possibly terms) until the larger retailers have proven the business model and generated both awareness and demand. This will further slow the adoption of terminals and push mainstream penetration further out.

Video games are of course perennial holiday favorites. But are consoles now for the birds? Nope, 2011 will NOT be the year Cloud Gaming dampens console sales.

Are slowing sales of Nintendo's Wii and growth in mobile gaming a sign of this transition? With all the hype surrounding server-based gaming services such as OnLive, many in the media have been quick to anoint these services as the future of gaming (replacing consoles). Adding fuel to this fire Nintendo even suggested that Apple, not Sony, is its greatest competitor in the portable gaming market. While not out of the realm of possibility, this certainly won't come to fruition in 2011 (or even within the next few years for that matter).

Game consoles and portable game players fulfill a particular set of needs and demand that are often (at least so far) inadequately satisfied by other services/devices. Cloud-based game services could suffer from latency problems (particularly with regard to certain game types such as first person shooters). More servers are needed to address this, which will require time and resources to roll

out. This is one reason why GaiKai has chosen to focus initially on demonstration games (prequalifying potential users for QoE before offering demos) rather than a full service. Perhaps most important, game libraries still pale in comparison to the preexisting PC and game console platforms. In addition, the smaller user base limits the multiplayer appeal.

Game consoles are also adding many of the features found in connected Netflix and other VOD platforms; word that Microsoft is considering a new video service beyond Xbox Live is a prime example. Video services such as Netflix (all current generation consoles), Hulu+ (PS3 and soon Xbox 360), and ESPN3 (Xbox 360) have found their way to these devices as well. While OnLive is also reportedly interested in starting a video service (as are Amazon and other companies) the installed base of the game consoles far surpass OnLive, which should provide Microsoft, Sony, and Nintendo more negotiating weight (Sony owns a large amount of content as well.) Another prediction for 2011 -- the video service/rental market will not get any easier to navigate.

2011 will be a transition year for gaming as new devices such as the Nintendo 3DS (and possibly a new PSP and a new Wii) hit the market. New peripherals such as Microsoft's Kinect and Sony's Move will redefine the capabilities of this generation of consoles. If sales slow, it won't be because competition is beating them, but because this generation of consoles is maturing. While there's still plenty of room for growth, we must remember that previous game console generations usually lasted five or six years; the Xbox 360 just turned five this year. The PS3 and 360 (and possibly even the less advanced Wii) look to have a few more years left in their lifecycles.

This year few would be surprised to see iPads under the Christmas trees of the well-heeled. But PC vendors won't challenge Apple's early leadership in media tablets.

The iPad was not the first media tablet (the first tablets started appearing in retail outlets about nine months before Apple commenced shipments), but Apple was certainly the first brand marketer with a significant budget to promote the device segment and achieve greater than one million units shipped.

While most tablet vendors are introducing first-generation devices aimed at diffusing the iPad's impact, a next-gen iPad is expected to be announced in January that addresses currently perceived shortcomings.

A lack of iPad competition in 2010 will give way to a crowded mix of OEM and white box players during 2011



A lack of iPad competition in 2010 will give way to a crowded mix of OEM and white box players during 2011. The market share for Apple will drop accordingly, but no single vendor will best the iPad's shipments as it turns one year old in April. The non-Apple ecosystem of vendors offer a fragmented content and application story (even though 75%+ of commercially available tablets are using the Android OS) compared to Apple's closed iTunes App Store content platform.

ABI Research has also tracked the netbook device segment since its inception in 2007. While media tablets have seen excellent growth in their first year, they are not shipping faster than netbooks did from their "day one."

In 2011, netbooks are expected to remain more popular than media tablets. But demand for devices with embedded mobile broadband modems will NOT overtake demand for external modems.

The USB modem form-factor is convenient for mobile network operators (the leading sales channel for mobile broadband modems) to stock and support. Despite some mobile network operators witnessing a decline in USB modems as a percent of total devices, USB dongle shipments, continue to rise both regionally and globally.

Subscribers are generally opposed to additional subscriptions for each device connected to a mobile network. Instead, they favor creation of shared data plans or ways to consolidate billing.

Further, new 3G (HSPA+) and 4G (WiMAX and LTE) networks continue to launch in all parts of the world, which results in a significant upgrade opportunity for current mobile devices. Few will replace existing devices and computers because they subscribe to a new network. ABI Research observes a nine to 12 month gap from the time subscribers join a mobile network before they consider replacing current devices.

Royalty costs for mobile broadband modem technologies remain significantly less for external modems (which are calculated as a percentage of the device's total bill of materials) compared to a fixed cost for an embedded modem module.

These trends are resulting in adoption of mobile hotspot routers, with network operators looking at ways to retain subscribers in the longer term instead of merely seeking multiples of revenue per user.

Mobile hotspot routers provide the benefit of a single data subscription (and therefore cost savings) for multi-device users. These intermediary communications devices allow existing Wi-Fi-enabled products to connect to the wireless wide area networks. These devices, while not a significant contributor to modem shipments so far, are postponing the need to replace mobile devices with embedded versions.

The holidays sound like a good time to set up that long-planned home media network. But interoperability issues will be around for a while.

Sorry: home networking is not going to move to a single standard in 2011.

Home networking is a growing area of interest as more and more devices in the home offer connectivity options. It used to be that the only connected devices in the home were PCs and laptops. Now, TVs, Blu-ray players, mobile phones, tablets, and set-top boxes are all vying for IP addresses. Much of the need for home networking has been covered by Wi-Fi in the home. Wireless home network adoption is on the rise, home network equipment vendors have made setup and maintenance easier, and consumers have become more comfortable with terms such as routers, SSID, and WPA.

However, Wi-Fi doesn't make the grade for many managed video services requiring high reliability and high bandwidth. As a result, a number of other 'no new wire' home network technologies have developed and been deployed for several years. These include HomePlug, HomePNA, and MoCA. Each of these technologies has its own strengths and weaknesses but the one common thread is years of development, trials, and deployments by operators around the world. A lot of discussion has now focused on G.hn (HomeGrid) as a standard to replace these incumbent technologies and offer a single standard that operates over all wire types.

While we certainly believe G.hn will eventually find its place in the market, we don't believe G.hn will replace all of these other technologies, especially not in 2011. Sigma Designs is one of the first to announce a chipset supporting G.hn. However, this device will not come to market until the first half of 2011. After the chipset is released, operators are going to want time to evaluate and trial the technology in homes. These operators do not typically move very quickly, so we expect to see a long lead time for actual deployments.

All the while, companies involved with the legacy technologies are developing HomeMesh -- hybrid chipsets that support multiple home networking standards, or "glue" technologies that bind two chipsets into a single network. Examples include Atheros which has recently announced a solution combining Wi-Fi, powerline and Ethernet. Broadcom's acquisition of Gigaset Networks positions the company to design highly-integrated SoCs utilizing HomePlug, MoCA, Wi-Fi and Ethernet. So, while G.hn could grab market share by offering operators an alternative, it won't be in 2011.

The holidays will be over all too soon, and the "real world" will intrude again. What else won't happen in 2011?

The carrier community will not handle the traffic explosion!

Our ostrich-like cousins in the carrier world will have their heads sharply yanked from the hole in the ground

We thought AT&T's network troubles with the iPhone were the worst our industry has seen but that was just the tip of the iceberg. 2011 will see the number of smart devices such as smartphones, tablets, netbooks, M2M products and cellular-connected PCs skyrocket. All these products will be generating traffic levels equal to, or in excess of, 2010's iPhone traffic. Our ostrich-like cousins in the carrier world will have their heads sharply yanked from the hole in the ground as networks grind to an agonizing crawl in 2012. Only then will carriers actually start making inroads on adopting more innovative network designs aligned with the usage demands of today.

Femtocell offload will NOT be the solution of choice for countering this data tsunami.

While the data tsunami has been washing up on operators' shores during 2010, many solutions have been proposed to counter the threat, including Wi-Fi, femtocells, core offload, media optimization, caching and CDNs. Most operators are sticking to the path of least resistance and choosing Wi-Fi as the first choice for data offload. Operators are known to be going for desperate measures urging consumers to use Wi-Fi as and when available.

In the process operators seem to be acting against their own self-interest with little concern about the traffic completely bypassing their networks and the resulting loss visibility of the consumer. Free Wi-Fi is winning out in the short/medium term over carrier-integrated Wi-Fi, as the latter is known to have additional cost and management overheads. On the other hand femtocells are still stuck in 'coverage limbo' where operators have been unable to break out of the coverage-related churn reduction proposition, in effect missing out on the data offload and capacity enhancement proposition that femtocells bring to the table.

Operators that provide femtocells have largely stuck to the consumer market and are expected to expand to the enterprise market in 2011. However when it comes to using femtocells as an offload solution in metro deployments, few operators are likely to tread that path soon. For operators to get their heads around femtocells in consumer and enterprise settings is itself a big leap of faith. Security, management and interference issues are exacerbated in a metro-class deployment where hundreds or thousands of these devices would be lit up. It will probably be 2012 before operators are comfortable with consumer and enterprise femto deployments, giving them the confidence to expand these to the metro.

LTE consumer femtocells are unlikely to be deployed in 2011.

The consumer femtocell market is picking up steam with more than 17 operators across the world having launched consumer femtocell services. ABI Research estimates that more than a million femtocells will have been shipped in 2010, the majority being consumer products. While there is a CDMA femtocell market concentrated in the US, the bulk of femtocell shipments are known to be coming from WCDMA/UMTS femtocells. This is likely to be the case in 2011 as well, with many operators moving to the second phase of rollouts, expanding their femtocell coverage and launching enterprise femtocells.

However LTE femtocells are unlikely to see the light of day in 2011, especially in the consumer market. While there could be some prototype LTE metro femtocells (aka LTE picocells) launched, we are unlikely to see anyone offer LTE consumer-grade femtocells. This is because the device ecosystem for LTE is still maturing with a limited set of dongles on offer moving to LTE smartphones mid-2011. High-bandwidth backhaul (10 Mbps+) is a key requirement for LTE femtocells to be effective, and that is still not ubiquitous across most parts of the developed world. The bigger reason we are unlikely to see LTE consumer femtocells is that femtocells are still seen as a coverage solution and not as a capacity solution. With the LTE proposition being capacity-based, and with WCDMA femtocells still being sold as a coverage enhancer, 2011 is unlikely to see the market dynamics change drastically.

The Wholesale Applications Community will not go anywhere fast.

After adding significant numbers of members this year, the initiative looks to be plagued with divisive intentions and counterintuitive political forces. It is a simply case of too many cooks spoiling the broth. While the consortium wrangles to get everyone's input accommodated in a highly politicized environment, other apps initiatives – driven ostensibly by single powerful entities – are running away with the swag.

BlackBerry will NOT be eclipsed by enterprise iPhones.

As much as everyone likes to point to how the iPhone will kill the BlackBerry in the enterprise . . . it won't happen. The iPhone is flawed from a security perspective and cannot support some of the mission-critical behind-the-firewall apps that are seen on the RIM platform. The iPhone will make inroads in personal use in the enterprise (as will Android based products) but the corporation sensitive to security breaches will keep to the BlackBerry path. Just look to the tightening of information control in the financial vertical to see where this is going enterprise-wide.

Moreover . . .

Android will NOT begin to eclipse Apple in 2011.

Licensing ideology aside, Android's primary value proposition is a less expensive and more flexible alternative than Microsoft's Windows Mobile for handset OEMs. There are no improved technology or standout features that make products significantly more attractive than the iPhone.

Handset OEMs will continue to release an abundance of models running Android, most without strong technology or feature differentiation. Android may win the volume war, but how many OEMs and models will it take to best an iconic device from a single vendor?

Nokia will NOT collapse in a heap.

As ever, the major concern is that Nokia doesn't continue to be too arrogant to take this opportunity

Although much in the media (especially US-centric media) has been said about the eventual demise of Nokia it must be recognized that this is an absurd concept. Nokia still ships more smartphones than anyone else. Moreover, Symbian-based products will provide the preeminent smartphone solution for the democratized smartphone. It must also be remembered that there is an incredibly potent new OS solution looming in the form of Meego. That, coupled with new management and the desperate need of the carriers to find a supplier they can bully in the usual way (unlike Google and Apple) creates a world of opportunity for the supplier. As ever, the major concern is that Nokia doesn't continue to be too arrogant to take this opportunity, or wastes even more time developing an OVI strategy that alienates its core customer base.

Smart meter rollouts will NOT lead to adoption of smart Wireless sensor network (WSN) devices connecting to the meters within the home . . . at least not in 2011.

The smart meter market has been poised to take off for some time, powered by these devices' ability to enable utilities and their customers to better manage power resources and usage. The goal is a smart reader-enabled power grid that can leverage bidirectional capabilities not just to monitor and record usage, but to change consumption when needed and when possible.

The meters would also communicate with individual systems and devices in the home so that usage best fits the consumer's requirements and the power grid's ability to meet them. Initial trials have gone well and there are government incentives in many countries to help utilities turn their networks into smart bidirectional communication systems. A number of projects were launched in 2010 and deployments will continue to expand during 2011.

However what we will not see are these deployments pushing adoption of WSN devices within the home. While

the potential will be there for smart meters to communicate with any number of WSN devices such as thermostats and lighting controls, and while those devices are increasingly available, the utilities' conservative approach to enabling communications between the meter and end-user devices will limit the potential beyond 2011.

M2M markets will NOT achieve significant standardization in 2011.

In 2010, M2M, particularly using cellular technology, hit the mainstream, with a slew of major mobile operator announcements around partnerships, M2M-dedicated business units, new technological capabilities, and so forth. M2M is now commonly accepted as a core strategic remedy to the growing saturation of the traditional voice-centric mobile market.

In response, major international standards development organizations, including ETSI, the ITU, the TTA, and the Chinese CCSA, are formulating standardized frameworks that span across both vertical industries and various communication technologies. Most of these efforts started in 2009 and several are slated to conclude by mid-2011.

But while comprehensive standardized frameworks will eventually be instrumental in reaching the full potential of a connected world, in 2011 they will face two key challenges:

- Mobile operators and third party vendors have already developed and deployed systems that incorporate existing communication standards, but they integrate these into proprietary frameworks. Eventually they will adopt standardized frameworks, but not until forced by overall market development needs, and not until they've developed new avenues towards differentiation.
- Vertical-specific standard framework development efforts, such as NIST in the context of the US smart grid, will compete for attention and development activity. This will be particularly true in the areas of smart energy and telematics, and will engender an environment of "too many" standards in the short term that will lead to a temporary pause on the path towards comprehensive adoption of standards.

The ITU still WON'T have the right to define 4G in 2011.

The ITU has caused confusion in the industry to the point where some people really believe that the ITU defines 4G. But 4G is not a specification or a standard. It merely is shorthand for fourth generation mobile wireless technology.

In fact, the ITU does not create or define WiMAX or LTE either. The ITU sets criteria for existing and proposed technologies to meet – including speed and latency – so it can group them together with specific spectrum bands. This allows technologies to achieve better economies of scale and allows for easier roaming between countries. 802.16m and LTE-Advanced meet the ITU's criteria to be designated IMT-Advanced. But IMT-Advanced does not equal 4G. WiMAX and LTE, which are forward-compatible with 802.16m and LTE-Advanced, respectively, are 4G technologies.

The ITU does not control the term 4G today, and ABI Research believes it still won't control the term next year.

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LTE will NOT be massively deployed

With LTE commercialized in Sweden, Norway, Poland and the United States, and by NTT DoCoMo just before Christmas 2010, expectations have been heightened for the widespread and rapid

adoption of LTE. Certainly, momentum is picking up, but we should show some caution.

Spectrum and licenses are not yet readily available in most countries. A case in point: the UK's spectrum auction will only take place in 2012: an irony for a country in the forefront of technology. Furthermore a number of developing

markets in the Asia-Pacific region are still trying to settle in 3G services, such as China and India. Some others, such as Thailand, have yet to issue 3G licenses.

There are definitely growing numbers of LTE trials announced around the world, especially in countries with mature telecoms markets. However, it will more likely be 2012 and 2013 before we see substantial licensing of LTE spectrum.

While it is true that major operators will be making some large footprints of LTE operational to some degree, it could be years before it really becomes ubiquitous. If we cast our minds back to the rollout of WCDMA it took over a decade to get where we are now.

The modern environment has several competing services for wireless data that range from GPRS to WiMAX. While it is certainly true that lower speed air interfaces are a different kettle of fish they do compete for wireless data subscribers and are doing quite well especially in the developing world where the lowly GPRS and EDGE have been transformational in areas that barely had telephone service.

In addition, discussions with component suppliers about "how their LTE business is going" usually bring chuckles if not outright laughter. As the old lady said in the 1980's TV commercial for hamburgers, "where's the beef?"

TD-LTE will NOT kill off WiMAX in 2011.

Mobile network equipment supporting TD-LTE is only in trials now. The most optimistic in the industry expect networks to be commercially launched during the second half of 2011. More conservative views may acknowledge 2011 launches but see the market for TD-LTE picking up more in 2013.

Either way, for current WiMAX service providers to switch to TD-LTE, a lot has to happen. If there is no unused spectrum, WiMAX service providers will have to degrade their service and essentially divide the spectrum up, impacting capacity and network speeds. They will also have to replace end users' devices with more expensive LTE devices (especially if they are multimode 3G/LTE devices) if they do not have dual WiMAX/LTE chipsets in them

already. They will also have to adapt their core network for LTE. The Greenfield WiMAX service providers who could barely afford to put up their current networks may find it difficult to achieve this. The perception here is not the reality.

Huawei will NOT become the #1 wireless infrastructure vendor in 2011.

While Huawei has been conveniently stealing market share from its traditional wireless equipment vendor counterparts, the question on everyone's lips is: will Huawei become the #1 vendor displacing the long-standing behemoth Ericsson? Huawei is known to have been closing on Ericsson's lead, gaining 5-6% market share between 2009 and 2010. Huawei is now known to be in the #2 spot closely followed by NSN followed by Alcatel-Lucent and ZTE.

However, 2011 is unlikely to see Huawei gain the #1 spot due to recent market consolidation. According to ABI Research estimates, the merger of NSN and Motorola makes it a strong contender for the #1 position in 2011, overshooting Huawei and closely beating out Ericsson. Huawei seems to be losing steam as deployments in China and India have peaked. The lucrative North American market has been a tough nut to crack for Huawei. Security concerns in the US have prevented Huawei from gaining some of the recent LTE deals with AT&T, Verizon, and most recently one with Sprint, which is likely to be a big disappointment for Huawei's regional ambitions. While Huawei is gaining traction in Europe, winning many of the LTE contracts, the fact that LTE revenue is still very much overshadowed by GSM and UMTS proves that the incumbent vendors Ericsson, NSN and Alcatel-Lucent still have a strong position in the market.

China's FTTH market will NOT be the biggest in Asia!

China is one of the largest broadband markets in the world with more than 120 million subscribers in 2010. The majority of Chinese broadband subscribers are on DSL platform, followed by cable and fiber. In terms of broadband subscriber numbers, China is the biggest broadband market in Asia. However, fiber broadband adoption in China is still behind other Asian countries such as Japan and South Korea.

In 2010, China had more than 10 million fiber-to-the-home broadband subscribers. China Telecom and China Unicom are the country's main fiber broadband operators. Although fiber broadband deployment is increasing steadily, the availability of FTTH services is limited to some of the big cities. Both China Telecom and China Unicom are planning to invest more on FTTH rollout. However, the network upgrade plans are especially targeting Shanghai, Beijing and some other cities.

The high cost of fiber and the lack of demand for high bandwidth applications are among the major challenges of China's FTTH development. Vast deployment of video applications such as IPTV which need high speed broadband will drive the growth of FTTH deployment in China. Without government support and attractive new services to offer over FTTH broadband, China's fiber broadband adoption will not be in the top position among the countries in Asia Pacific.

Chinese authorities will NOT be issuing 4G licenses in 2011.

For the past seven months, China Mobile has been field-testing TD-LTE, but the authorities are unlikely to issue 4G licenses for the Chinese market just yet.

It would be prudent for the Chinese authorities to license TD-LTE sooner rather than later.

It would be prudent for the Chinese authorities to license TD-LTE sooner rather than later. Not only would operators such as China Mobile, China Telecom and China Unicom, be able to introduce innovative 4G services, but also, having a 1.3 billion domestic market backing TD-LTE, would give China's home grown telecoms vendors, Huawei, ZTE and others, a distinct leg up in the global 4G TD-LTE equipment market.

Having regional support behind GSM and WCDMA provided a substantial boost to European telecoms vendors, Nokia (ex), Siemens (ex) and Alcatel (ex) (yes, they merged but they did not disappear).

It is likely the Chinese authorities would like to see a bit more success from the current mobile operators with their current 3G services – especially China Mobile. TD-SCDMA is the domestically developed 3G technology. At the end of December 2009, there were five million TD-SCDMA subscribers. Right now the scorecard says, “Could do better.”

Carrier Ethernet for backhaul will NOT see a substantial boom in 2011, and legacy backhaul won't completely disappear.

Belief in a 2011 boom for Carrier Ethernet rides the “LTE hype” and “4G hype” wave. That is, the idea that 4G networks will begin to ramp up next year in 2011. Many would like you to believe that Carrier Ethernet as well will become massively adopted and become fully incorporated into mobile networks as a result.

Although there will be a boost to Carrier Ethernet backhaul next year, it will be curbed by several factors. Yes, there will be LTE and WiMAX deployments, and they will need Carrier Ethernet backhaul as they are all-IP networks. But the networks won't be deployed on a large scale, and many other countries are only planning 4G or even 3G networks next year.

Those carriers that do adopt LTE will most likely relegate Carrier Ethernet for LTE only to their initial LTE markets, as opposed to unifying all of their 2G and 3G networks on Carrier Ethernet. Although Ethernet will reduce the carriers' cost per bit regardless of the mobile standard in use, carriers feel there is a risk in adopting Ethernet for unifying all of their backhaul on one type of network. They would rather have each generational standard backhauled separately to avoid a problem in one backhaul network spoiling and affecting the rest, which in turn would affect customer quality of service.

There's another myth: that lack of proper synchronization is what is keeping the migration towards Carrier Ethernet from becoming widespread in 2011.

Synchronization techniques to improve legacy protocols over Carrier Ethernet have had a lot of advancements and updates for different protocols. Different approaches from network element vendors have made synchronization less of

an issue. An influential factor that is keeping back operators is the CAPEX investment required to switch all of their networks to one Carrier Ethernet backhaul network. Their current backhaul, although not 100% cost-bit efficient, is doing the job.

Even if carriers use pseudowires for their TDM/SDH networks, they don't want to run the risk of investing resources, placing their 2G and 3G networks on Carrier Ethernet, and having to bear with a transitional period of adjustments. This is, in other words, the “if it ain't broken, don't fix it” mentality. They would rather have these on legacy backhaul which has been tried and tested over the past 2+ decades, even though advancements in Carrier Ethernet have proven it to be a reliable backhaul method which has a lower cost per bit.



RFID tagging of retail items, e-ID, and contactless smart card programs will NOT be challenged by “mounting” privacy and security concerns.

While the privacy and security discussion is real, most of the claims are not.

Since ABI Research initiated its RFID market coverage, we can comfortably say the industry has made tremendous progress on a number of fronts, including improved performance, lower costs, total solution development, increased user adoption, and much more. There is ample evidence to support these claims. However, there is one area where little advancement has taken place: combating continued misinformation about RFID and NFC technology's capabilities, uses, and limitations. We believe that the industry must more forcefully address the potential damage of this misinformation.

The issue of misinformation about RFID and related contactless technologies is exacerbated as the use of the Internet grows, especially via social media programs.

Hackers looking to shine a spotlight on RFID and privacy and security challenges related to contactless payment or e-passports/e-ID often tout their unsubstantiated and unverified claims on the Internet via a blog or YouTube posting, capturing immediate attention. This is often followed by mass media coverage of the hacking episode.

Unfortunately, little coverage is given to the physics/physical limitations of RF-based technologies and the database correlation hurdles that nefarious characters need to overcome. It is generally conceded that most consumers do not have a problem with the use of RFID, especially in the retail space, if they understand that the tag can be removed or disabled. And, e-ID, contactless smart card and NFC programs and rollouts continue without much public protest. We believe, however, that continued education of the public, end users such as retailers, and key political decision makers is needed on the security and privacy aspects of RFID, smart card and NFC technology in 2011.

Google TV is NOT dead on arrival, and yes, it will live past 2011.

The naysayers have it right that Google TV is still in beta and that, despite Google's best attempts to reach out to (brownnose) the powers that be at the networks, Google has failed to provide PC-levels of content on the Google TV platform. D'uh! We are dealing with television networks sitting on big cash-cows (cable networks) and afraid of giving customers choices. For several years they have blocked every attempt to liberate content to the TV.

However, those naysayers are comparing Google TV to a PC, not to a TV. Compared to other connected TV platforms, Google TV offers search (not refined enough yet) and will open a big middle-east style bazaar of an app store early next year. Search doesn't organize everything the way you'd like? There's an App for That. And why are Samsung, Vizio and Toshiba so eager to join Sony and Logitech at the party? Open-source Google TV will allow them to cut their software teams while still offering great features. Now if only it worked on a cheaper ARM processor. Oh yeah: it will.

While your kids might get stuck watching *The Vampire Diaries* (CW) in their bedroom on an iPad (because they

don't want to sit in the living room with you), you are the King or Queen of your home, and have the right to use the living room TV to watch *Walking Dead* (AMC). Oh. Your Comcast Xfinity subscription will let you watch premium video on demand (TV Everywhere) content on your iPad, but not your Google TV? Give it a couple of months. Those big, bad networks want to keep you paying your cable bill (it provides 50% of their paycheck) – and cable companies may start longing for the day they can stop investing in a large capital expenditure – that set-top box under your TV.

That's it, then. We hope you've enjoyed our assessment of what's not going to happen in 2011. Along the way, of course, these forecasts have hinted at what we may well expect in the coming year. As developments take shape, ABI Research's analysts will continue to provide unbiased, in-depth coverage and interpretation. Meanwhile, the authors of this paper join the rest of ABI Research's analysts and staff in wishing you all a happy and prosperous new year.

Contributors:

- David Alexander Principal Analyst, Automotive
- Jason Blackwell Practice Director, Digital Home
- Celia Bo Industry Analyst, Wireless & Semiconductor
- Dominique Bonte Practice Director, Telematics & Navigation
- Stuart Carlaw Chief Research Officer
- Jonathan Collins Principal Analyst, M2M
- Patrick Connolly Senior Analyst, Telematics & Navigation
- Fei Feng Seet Research Associate
- Larry Fisher Research Director, NextGen Research
- Victoria Fodale Senior Analyst, Mobile Devices
- Michael Inouye Industry Analyst, Digital Home
- Aditya Kaul Practice Director, Mobile Networks
- Michael Liard Research Director, AutoID & Smart Cards
- Sam Lucero Practice Director, M2M Connectivity
- Khin Sandi Lynn Research Associate
- Michael Morgan Senior Analyst, Mobile Devices
- Jeff Orr Principal Analyst, Mobile Devices
- Xavier Ortiz Research Analyst, Mobile Networks
- Sam Rosen Senior Analyst, Digital Home
- Jake Saunders Vice President of Forecasting
- Philip Solis Research Director, Mobile Networks
- Neil Strother Practice Director, Mobile Marketing Strategies and Mobile Services
- Lance Wilson Research Director, Mobile Networks

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 249 South Street
 Oyster Bay, NY 11771 USA
 Tel: +1 516-624-2500
 Fax: +1 516-624-2501
<http://www.abiresearch.com/analystinquiry.jsp>

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