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## Mobile broadband: the path is clear

Anyone who has kept up-to-date with the telecoms news will not be in any doubt that mobile broadband truly has taken off. We're seeing a market that is as revolutionary in its own way as the mobile phone and broadband Internet have been to how we work and spend our leisure time. And the real possibilities of mobile broadband are being explored.

What is also now crystallizing in people's minds is that it will be mobile cellular networks that will be the central driver of mobile broadband, and not any of the alternative wireless technologies that have been hyped over recent years.

The latest mobile broadband statistics are enough to take the breath away, even for experienced industry hands like me. As of July 2009, according to the Global mobile Suppliers' Association, there were almost 275 commercial HSPA networks in operation in 115 countries, with over 1,600 different HSPA-enabled devices already available on the market. More than 320 million people now have access to 3G/HSPA-enabled mobile broadband services. And according to the GSM Association, there are already 150 million HSPA subscribers worldwide.

By 2014, Ericsson believes that around two-thirds of the world's three billion broadband subscriptions will be mobile with over 80% based on HSPA and LTE. Not bad for a technology that was only made commercially available two years ago!

So what lies behind this success? In a word, it's evolution. We can trace a clear evolutionary path from GSM, through GPRS, EDGE, WCDMA and HSPA to the world's first true

global standard LTE and beyond. This is no coincidence, of course. Many man-hours of work have gone into ensuring the continuous evolution of the Third Generation Partnership Project (3GPP) family of mobile standards. This is why we can now look back at a 1,000-fold increase in the data speeds offered by 3GPP technologies since GSM was first rolled out – all while offering full backward compatibility with the very first GSM phones released on the market. It's a remarkable achievement, that is deserving of the success that mobile broadband is now enjoying.

### A natural fit with modern lifestyle

The speed of adoption of mobile broadband reflects the accelerating pace of change in consumer behavior, as much as the faster pace of change in technology itself. The Internet has changed the lifestyles of millions of people around the world. As anyone with teenage children will know, constant communication by text message, instant messaging and social networking sites is as natural to them as talking on the phone and emailing became to previous generations.

The generation that has grown up with instant, always-on access to communication, music and video and social networking expects to enjoy this interactive, personalized experience wherever they are and whatever device they happen to be using – whether it's a PC, notebook, mobile phone, TV or any other connected device.

In the work capacity, people are also getting used to having access to high wireless data speeds connected via any type of

device, wherever they are. Convenience has been a big factor in the rapid uptake of mobile broadband. The availability of easy-to-use USB dongles and, more recently, built-in mobile broadband modules for notebooks has made getting online while out and about as easy as using a mobile phone. Smart phones and handheld devices like netbooks and Mobile Internet Devices (MID) have also moved along rapidly in their ability to provide convenient, user-friendly access to online services and applications.

Such mobile-centric behavior will be driven even further with the tens of thousands of mobile applications now being launched for the iPhone, and with the raft of competitive devices with similar capabilities that are now coming on to the market

### Mobility, and more

Our own studies into broadband user needs and behavior have confirmed the huge potential of mobile broadband for operators. The most recent Ericsson Consumer Lab study – carried out among more than 3,500 people aged between 15 and 69, with an Internet connection, in Australia, Austria, Singapore and Sweden in 2008 – found a ready and willing market for mobile broadband.

The main reason people cited for taking up mobile broadband is outdoor mobility: people want true mobility and to be able to use their broadband everywhere – especially those who travel for work and the 'digital natives' who have grown up with the always-on lifestyle. Some 15 per cent of those studied already use mobile broadband, either alone or in combination with fixed broadband. However, perhaps the most interesting finding from an operator perspective is that another 60 per cent of respondents consider themselves to be potential users of mobile broadband.

The study found that the more people use broadband at home or at work, the more they want to use it everywhere – in other words, it's a very 'sticky' service. Of course, in some areas, mobile broadband is the only way to unlock high-speed Internet access for everyone.

One really striking finding from our study was the difference in perception of how people would use mobile broadband before and after they had subscribed to it. Before subscribing to mobile broadband, the respondents expected they would use it mainly when commuting or on vacation, rather than at home. However, our study found that while mobility is the main driver for acquiring mobile broadband in the first place, the reality is that home is the main place where people use it today.

With new devices more adapted to being mobile (netbooks, MIDs and smartphones), people will be able to use mobile broadband on the move more efficiently.

### Maximizing the opportunity

The Ericsson Consumer Lab study uncovered some interesting pointers for operators wishing to boost the uptake of mobile broadband in their markets.

Personal recommendations and marketing and advertising from operators were cited as the main sources of information about mobile broadband. The big opportunity for operators is to use these channels to spread the word about mobile broadband even wider: around half of the people, not already using mobile broadband, in our survey were not aware of mobile broadband.

A key point here is that mobile broadband is not just one product: it requires segmented pricing and packaging to attract different customer groups. While mobile broadband unlocks the Internet for everyone, different marketing messages are needed for different user groups: they need to be able to relate to the way mobile broadband usage is depicted in commercials.

To unleash the full potential of mobile broadband it is essential to offer coverage with good data speeds both inside and outside the home. This is vital in delivering a satisfactory, convenient user experience that enhances perception of mobile broadband. In addition, price – or value for money – will be especially important among later adopters.

There needs to be a large ecosystem of mobile broadband devices to attract different user groups. Operators need to offer a mixture of built-in mobile broadband subscriptions for notebooks, that offer ease of use and security, with external modems that enable users to move between different devices.

### There's still much more to come

Today, HSPA offers commercially-proven downlink rates of up to 21Mbps. During 2009 this will rise to 42Mbps and to more than 84Mbps in 2010. What is more, 3GPP technologies will continue to evolve, with a clear roadmap for reaching 150Mbps or more with HSPA Evolution and even higher speeds with LTE, moving on to a target of 1Gbps. Ericsson itself has already demonstrated LTE at data rates of 160Mbps.

Commercial roll-outs of LTE will start this year. According to the GSA, in April 2009 there were more than 30 operators committed to rolling out LTE across Asia, Europe and North America.

The high data rates and low latency of LTE improve the user experience by enhancing more demanding applications like interactive TV, mobile video blogging, advanced games and professional services. From the operators perspective, LTE will have fantastic propagation characteristics and is an excellent technology for providing Broadband to rural areas in a fast and cost-effective manner.

In addition to mobile phones, many computer and consumer electronic devices, such as notebooks, ultra-portables, gaming devices and cameras, will have in-built mobile broadband with LTE. Since LTE supports hand-over and roaming to existing mobile networks, all these devices could have ubiquitous mobile broadband coverage from day one.

In summary, operators can introduce LTE flexibly to match their existing network, spectrum and business objectives for mobile broadband and multimedia services. Looking forward, the International Telecommunication Union (ITU) defines '4G' as network technology with throughput of 100Mbps for wide area/mobile use and 1Gbps for hotspot coverage to be applied in new spectrum bands with 100MHz channels planned to be commercially available to meet these requirements beyond 2010.

For operators wanting to join the successful mobile broadband market, the path is clear.