



Anne Bouverot, Director General, GSMA
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Ladies and gentlemen, I am pleased to be joining you here this morning. For those of you who may not be familiar with the GSMA, we represent the interests of mobile operators worldwide – about 800 mobile operators globally – as well as more than 230 other companies from across the mobile ecosystem. I have been Director General of the GSMA since September 2011, having joined from France Telecom Orange where I was responsible for their mobile services and offers.

The overarching theme for my presentation today is “superfast”, and through the next 25 minutes or so, I’ll be looking at how the world’s mobile networks are becoming “superfast”, evolving to next-generation 4G technologies, what this enables for users and what this means for operators in the future.

Mobile networks today offer extremely high performance, with mobile broadband widely deployed around the world, supporting a range of service for consumers and businesses. However, when we think of “superfast”, we are referring to networks built on a technology known as Long Term Evolution, or LTE, which you are all likely familiar with. LTE is being deployed by mobile operators on both the GSM and the CDMA technology paths. This is a great opportunity for convergence on a global standard. Depending on the spectrum available, LTE networks can deliver very fast data speeds, of more than 150 Mbps in the downlink and 50 Mbps in the uplink.

LTE has gained significant momentum since TeliaSonera launched the first commercial LTE network in Sweden in December 2009. Today, just three years later, there are over 100 live LTE networks across dozens of countries, and we expect to see an additional 200 LTE networks launch over the next five years.

There are now 60 million LTE connections worldwide, and GSMA Wireless Intelligence forecasts that LTE connections will reach nearly 800 million globally by 2017.

While LTE networks are being deployed in dozens of countries today, South Korea, Japan and the United States are leading the way in rolling out LTE, with these three countries accounting for almost 90% of all LTE connections worldwide. By comparison, Europe has only 6% of global LTE connections.

South Korea in particular is witnessing the fastest migration towards 4G LTE worldwide, with nearly a third of the country's subscribers already migrated to the newer technology as of the end of 2012. Of course, this should perhaps come as no surprise, as South Korea, recognised as a “digital pioneer”, also boasts the highest level of broadband adoption and highest average connection speeds.

The United States is also at the forefront of LTE adoption. Verizon Wireless has undertaken an aggressive network expansion and is currently the world’s largest LTE operator with around 15 million LTE connections at the end of 2012. And in his presentation at CES last week, Verizon CEO Lowell McAdam provided an update on their deployment – half of Verizon’s traffic now rides on their LTE network. These are just a few examples, but I think they demonstrate the momentum that LTE has gained over the past few years and point to rapid development of this market.

The appetite for mobile data is amazing. Most forecasts we have looked at over the years have not been ambitious enough. According to Cisco’s most recent predictions, global mobile Internet data traffic is forecast to increase 18-fold from 2011 to 2016, and mobile data will grow three times faster than fixed IP traffic.

This is great news for our industry and for the consumers and businesses that are benefiting from this connectivity. But this rapid growth in mobile data presents a challenge for mobile operators, who need to deploy high-speed mobile networks to be able to carry this traffic. First of all, they need to have access to new spectrum, in vast quantities, and then they need to be able to invest in deploying the networks themselves. And as any business, they need to be able to do this with a planned return on investment.

Let me spend a little bit of time on spectrum. The future of mobile depends on operators having timely and reasonable access to the necessary spectrum resource. The GSMA is working with operator members, regulators and policy makers to accelerate the availability of spectrum bands, on a regionally, or globally, harmonised basis. And as we move to LTE, we require more spectrum than with other technologies - LTE relies on 2x5 MHz at minimum, but the full potential of LTE is obtained when operations run on 2x10 MHz, or 20MHz in total.

I think that is a very important point - it's not just about having the *right* amount of spectrum, but that it's critical that this spectrum is harmonised on a global basis. Spectrum harmonisation enables cost efficiencies in both network technology and devices, and ultimately will make mobile services more accessible and affordable for consumers.

Spectrum harmonisation also ensures that handsets will work across geographies and users will be confident they will have service as they roam from country to country. The launch of the iPhone 5 made this point visible to many, as in Europe, this device only supports three different LTE spectrum bands, which means LTE is only enabled in certain countries and for certain operators.

And when operators do get the necessary spectrum, they need to be able to invest in deploying networks, with a planned return on investment. For some reason this seems to have been easier in the United States or Asia so far. We need to ensure it is also the case in other regions and in Europe and here in the UK. Operators throughout Europe, including here in the UK, must balance continued, substantial investments in network rollout with slowing revenues. And finally, spectrum allocation and deployment of mobile services also has important implications on national and regional economies, driving GDP growth and job creation.

But it's not just about building the network and creating vast amounts of bandwidth. It's really about the users and the services and experiences that superfast networks will enable for them.

Perhaps the first application that naturally comes to mind when discussing superfast networks is mobile video. Mobile video now accounts for more than half of mobile data traffic. We're seeing bigger and bigger screens on mobile devices and growing use of tablets – I just saw a couple of days ago that NTT DoCoMo is launching a device with two screens, which can be used as two different 'windows' or joined up as a bigger screen – as well as better quality video with low delay. These factors, combined with the rollout of high-speed networks worldwide, point to the continued growth of mobile video in the future.

One exciting development in mobile video delivery is LTE broadcast, a multicast technology that would essentially turn cell towers into the equivalent of mini-digital TV towers that could multicast video and audio to multiple users simultaneously. In this solution, a portion of the LTE bandwidth would be used to multicast a single video or audio stream to multiple devices, thereby reducing traffic demands on the network.

Another service is Rich Communications, which is being delivered under the consumer brand joyn. While it does not require a 4G network, its capabilities are that much more powerful on a superfast network. joyn enables customers to chat and enrich messaging or voice calls by exchanging images or video simultaneously during calls, in a private and

secure manner, with any member of their contact list that has joyn, regardless of the user's network or mobile device.

One example of this service is a game between two players on different devices, and when one scores a goal, he or she might want to look at the face of the other player at that moment! Less fun, but perhaps more practical, is a call to a hotline for a home appliance device, where the person at the other end of the hotline might send a video showing which buttons to push to fix the issue.

This service is being deployed by operators in Germany, Spain and the United States, and was most recently launched by the three operators in Korea, KT, SK Telecom and LG U+ just after Christmas, where we are already seeing strong customer take-up, and we expect to see further joyn launches in 2013, hopefully in the UK in particular.

Next-generation services such as joyn, together with Voice over LTE (VoLTE), are central to our industry's future prosperity. VoLTE was launched in the US by MetroPCS and in Korea in 2012, while Tele2 in Sweden is set to begin testing VoLTE services on its LTE network in the coming months. These are just a few examples of the services that are ideally suited for the 4G networks that are being deployed today.

For mobile video, rich communications and many other services now and in the future, LTE offers several benefits over previous mobile network technologies, including higher bandwidth, lower latency and improved spectrum efficiency. And, when compared with technologies such as WiFi, LTE, as with all GSM mobile services, also provides both mobility, and embedded security via SIM-based authentication.

As we enter 2013, I'd like to highlight a few additional areas that present new and substantial opportunities for future growth, and where we see significant momentum building.

One is "Connected Living". The drive towards a fully Connected Life will gather pace in 2013 as we see mobile connectivity being embedded across a range of vertical sectors, from transport to healthcare to entertainment. Going forward, we will have many connected devices in our lives, whether it's our mobile-enabled health monitor, our connected car, or smart meters monitoring our energy consumption. If any of you were at CES last week, you will have seen this firsthand – perhaps one of the most unique examples was the connected fork, which monitors how quickly you eat, and suggests you should slow down if you go too fast!

A study by the GSMA and Machina Research estimates that the total number of connected devices will reach 25 billion by 2020. Operators can play a leading role in realising the Connected Life, unlocking important new revenue streams in the process

This transition not only benefits the mobile industry, but stands to transform a wide range of adjacent industries including consumer electronics, automotive, utilities, healthcare, construction, smart cities and transportation, manufacturing, retail, leisure and agriculture, as well as governments and the public sector.

Another important area of focus for the GSMA is Near Field Communication or NFC. While NFC has perhaps been most closely associated with mobile payments, it goes far beyond; NFC will facilitate a wide range of new applications for consumers, such as mobile ticketing to board public transportation, the exchange of information and content, control access to cars, homes, hotels, offices and car parks and more. This is just the tip of the iceberg - the possibility for innovation is endless.

What is important to develop the potential of NFC is two things: enabling NFC as a multi-operator platform, and ensuring security. This needs to be provided as a platform so that all customers from a bank or a retailer, or all users of public transportation, can benefit from the service. This is why you are seeing collaboration initiatives such as ISIS in the United States and Weve here in the UK. And this needs to be secure – I want to make sure I make this payment, and not someone else without my approval; I want to control the keys to my home.

This is possible through SIM-based NFC. The SIM card is the same technology as the chip in credit cards or the chip in digital ID cards, and the same companies provide these, the likes of G&D and Gemalto and Oberthur, they provide the chips to banks for cards, to governments for ID cards and to operators for SIM cards.

In Korea, again, we're seeing strong momentum behind mobile NFC – as of December, more than 15 million SIM-based NFC handsets have been sold by the country's three leading mobile operators.

I thank you for your attention this morning. I look forward to seeing all of you next month at Mobile World Congress in Barcelona, where you will get to experience many of these services firsthand. We are offering NFC registration and you will be able to enter the conference with your NFC phone. And those of you with LTE phones will be even be able to take advantage of the superfast network we will have in place at the event!