

The many faces of 4G

The rollout of LTE provides essential lessons in **how telecom technology is marketed to consumers**. For operators, it is a race to offer the best network in the eyes of users. Although this is clearly a matter of perception (not technology), it shows that “G” terminology – as in 2G, 3G and now 4G – still plays an important role because of its flexibility.

► **ALL OPERATORS SHARE** the same goal for deploying 4G technologies such as LTE – providing customers with higher speeds and more data capacity in a world of mobile broadband with billions of connected devices.

However, LTE does not yet comprise a move towards necessary capacity, although someday it will do so. The number of mobile broadband subscribers is set to rise more than five-fold, to about 3.4 billion in 2015. All these new consumers will want rich, high-quality and differentiated services from server to screen. Mobile broadband connectivity has the potential to be either the performance bottleneck or the differentiator – and operators must be positioned accordingly. Today LTE launches are about perception and providing the fastest and best network. And gaining that market position

is very much linked to network performance.

LTE represents a move towards a common worldwide standard, and because the LTE network is tailor-made for handling data transfer, it also embraces new types of services. Cameras, music players, cars and even electricity networks will all be connected in the near future. LTE allows for great spectrum flexibility, including frequency division duplex (FDD) or time division duplex (TDD), new and re-farmed spectrum and variable channel bandwidth. The costs are also lower, from a low opex to high re-use of assets, and LTE acts as a complement to existing 3G or HSPA networks.

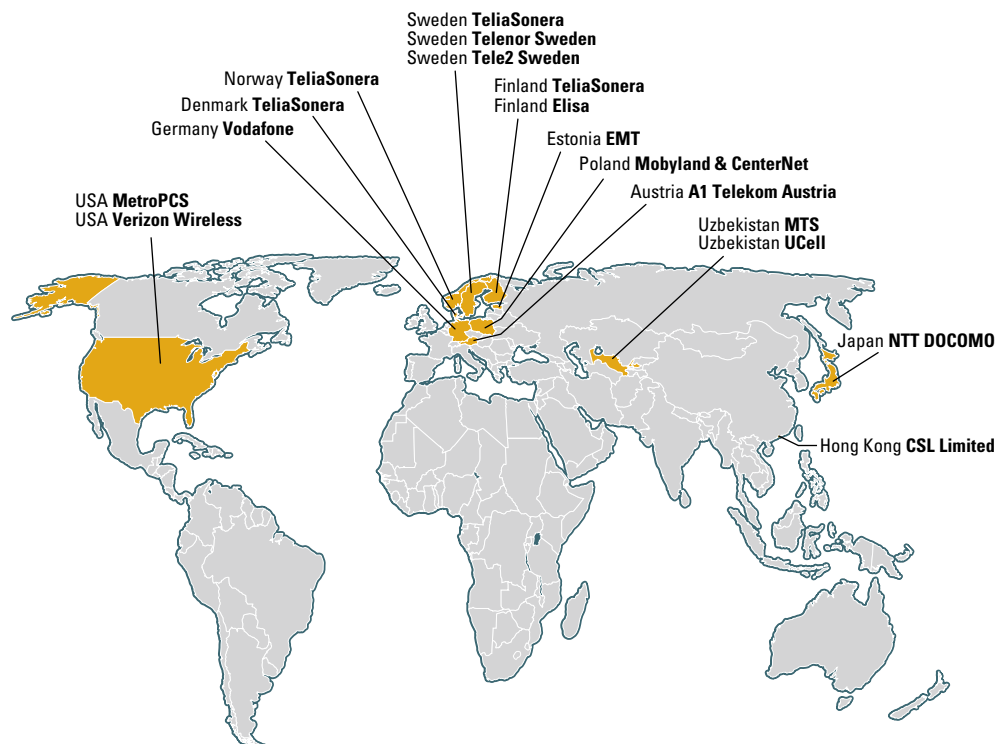
DEVICES BEYOND DONGLES NEEDED

An LTE launch must also be forward-looking in terms of devices. 4G smartphones ►



Verizon Wireless in the US has launched its LTE network with flashy TV advertisements that try to capture the speed, energy and flash the operators claims its 4G network will bring to end users.

LTE around the world: 17 commercial networks launched



Source: Global mobile Suppliers Association (GSA), January 12, 2011

180 operators in 70 countries are investing in LTE

- ▶ 128 LTE network commitments in 52 countries
- ▶ 52 additional pre-commitment LTE trials
- ▶ 17 commercial LTE networks launched
- ▶ At least 64 LTE networks are anticipated

Source: Global mobile Suppliers Association (GSA), January 12, 2011

▶ and tablets could come to some markets as early as this spring. The service will take off only when devices beyond dongles and modems appear on the market, because users care more about their equipment than about the technology behind it. But, again, being first is important, and the infrastructure investment should come sooner or later.

Although the destination is the same, there are almost as many roads to that destination as there are operators. This is because, unlike GSM, each market, and each operator in that market, requires its own unique approach to building, launching and marketing a 4G/LTE network. Each operator must consider what kind of assets it has, its installed base, what frequency is available and how much it will cost, as well as the possibilities of frequency re-farming, to name just a few examples.

LET US HIGHLIGHT TWO CASES...

In a television commercial from the US, a young man runs down a country lane to the mailbox, grabs a package and hops the fence back into a barn. The vibe is of magic, of a superhero, of something secret and powerful. And, yes, the shiny black box begins to glow and crackle. Cut to the boy running out of the barn holding a spear of lightning, which he throws joyously into the sky.

This is LTE... at least for Verizon Wireless, the giant US operator that launched its LTE network in December. The company is launching LTE to harness the cultural power of – and data demand created by – iPhone and Android smartphones, even though it can't yet support these. The objective is to stay ahead of the fierce competition, and Verizon is offering LTE at a lower price than its 3G offerings, at least for now.

In Germany, Vodafone – which has a large stake in Verizon Wireless – also launched its LTE network in December. And on Vodafone's website in Germany, you can find LTE – under the DSL section, where the fixed-network offerings are listed. No big splash, no lightning bolt.

This is because Vodafone's initial rollout is into what are known as "white spots," which are parts of Germany that lack sufficient coverage. The German government set this requirement when it auctioned off the 800MHz band in May 2010. So in Germany, for now, LTE is marketed mostly as an extension of fixed-line broadband.

Two companies launched LTE networks within five days of each other, for vastly different reasons and with vastly different marketing efforts. In the long run, Vodafone and Verizon surely want to accomplish the same things with LTE. For now, though, LTE rollouts around the world are more defined by

their differences – dongles or no dongles, phones or no phones, hotspots or nationwide coverage – than their similarities.

YOU NEED TO BE LOUD

The GSA says that 180 operators in 70 countries are investing in LTE, with at least 64 networks anticipated to be in commercial service by the end of 2012 and the US and Nordic markets taking the lead.

In most telecom markets, three players are guaranteed significant market share – the first, the biggest and the most aggressive. So it is good to be first. This was the motivation for many of the companies that have already launched. Even if the offering is limited and takeup is slow, they are out there – building the perception of an advanced network. This matters.

And if you are not first, then you need to be loud. This is evident in Sweden in the marketing by Tele2 and Telenor, which recently launched a shared network to compete with Telia's LTE network, which launched in 2009. Marketing is key for Tele2 and Telenor, as they were not first and are also sharing a network.

The aggressiveness of Tele2 and Telenor – as well as some US operators – comes at the risk of undermining their existing services. In December Tele2 featured a "3G Outlet Sale" on its website, implying that 3G is out of season, worthy only of heavy discounting. The Telenor site included games in which a 4G cowboy fatally shoots a 3G cowboy and a 3G record player plays slow, boring music – in sharp contrast to the flashy 4G player.

In the US, the drivers are a little more complicated, especially considering that the evolution away from CDMA is important for some companies. For instance, MetroPCS offers its LTE service on a selected feature phone. Its 4G marketing is quiet, with more emphasis on allowing customers to cut the cord and enjoy low flat-rate, contract-free plans, as well as mobile TV. Contrast this with Telia in Sweden, which launched its LTE network to maintain its position as a high-end business operator.

CONSTANT FIGHT IN THE US

In fact, Verizon is the fourth company to claim "4G" services – after Sprint, T-Mobile and MetroPCS – but the first to offer an LTE network with wide reach, starting with 38 cities across the US. It is aiming to occupy a middle ground somewhere between being flashy and modest. Meanwhile T-Mobile, which rebranded its HSPA+ network from 3G to 4G, is extremely aggressive... not because it was late, but because it cannot yet offer LTE.

The differences don't end there. T-Mobile

has the broadest coverage, but only one device that hits maximum speeds. Sprint and its partner Clearwire have a focus on devices, while MetroPCS has opted for the single, but cheap, feature phone referred to above. Verizon is starting with two modems, but promises smartphones and tablets in 2011.

This reflects the competitive situation in the world's largest telecom market, with consumers hungry for low latency and high speeds on their smartphones and tablets – even if 4G does not yet support those kinds of devices. For example, AT&T has seen mobile broadband growth of more than 5,000 percent over the past three years.

In other countries, operators can be very comfortable with HSPA. In the UK, the 4G auctions haven't even taken place yet, and there is relatively little worry about capacity or speed problems. Yet, in a market like the US, network survival is a matter of leap-frogging the competition. Verizon and AT&T are consistently fighting to regain the top spot in terms of data connections. This drives early takeup, some tough talk between operators, and the flashy ads.

In the US especially, the competitive situation has also led to the widespread use of the term “4G” for a variety of upgraded networks – including HSPA+, WiMAX and LTE – none of which technically met the ITU's definition of 4G until recently. Previous ITU speed requirements for 4G service had set the peak download speed at 100Mbps for high-mobility devices such as mobile phones and 1Gbps for low-mobility devices such as standalone wireless modems. But the ITU has broadened its definition of 4G to include all three technologies, responding to the fact that the term “4G” was so widely utilized that the market used it loosely for any technology potentially included in the ITU definition of “IMT-advanced.”

LIKE A STICKER

In reality, consumers are more concerned with fast connections than with terminology. The market may even move away from the sometimes-confusing “G” terminology. But it works for now, acting as an intuitive ladder from 2G to 3G and now 4G. If you compare a 4G network to a new laptop computer, “4G” is like the sticker boasting about the power of the processor. In this case, though, the term “4G” refers to the power of the network as a whole, rather than just one of its parts.

In rolling out LTE, most operators are starting with competitive offers meant to reel in customers. For example, Verizon is promoting a cheaper-than-3G offer, along with a generous overage charging policy that should be popular with users of excessive

amounts of data. Initial reports from Telia seem to show that early adopters are price-sensitive.

These are still early days for LTE, and operators are trying different strategies to gain a competitive advantage for the future. The most successful players are using the inherent strengths of LTE, along with their specific market positions, setting themselves up to be the winners in the coming years as LTE deployments – and mobile data usage – skyrocket. ●

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