

Ericsson: 4G/LTE: enabling the Networked Society

Sanne introduced “The network society” - Ericsson's vision of a connected world, a world in which “anything that can benefit from a connection will have one”, and showed how LTE is the next chapter in wireless connectivity.

GROWTH: He showed how technology adoption has rapidly increased - it took 100 years to connect 1 billion places and only 25 years to connect 5 billion people. And by the year 2020, Ericsson expects there to be more than 50 billion connected devices.

SPEED: Sanne showed the jump in speed between 2, to 3 to 4G, and compared it with Wifi, as measured by users in Switzerland. LTE delivers more than 6 times higher speeds than 3G, and is even faster than Wifi! Whilst theoretically LTE delivers speeds upto 75Mbps (i.e. if you're the ONLY user in a given cell), in reality what LTE delivers is 5-10Mbps to everyone in a given cell, thereby dramatically improving mobile broadband experience for all.

USES: we looked at a study from UK LTE users. – interesting was to see web-browsing largest category, and video-streaming 2nd, accounting for almost 70% of uses. So actually similarly services used as pre LTE..

CHANGING BEHAVIOUR: However v.interesting to see how LTE changes peoples habits.

- With broadband use in general .. 43% use Wifi hotspots much less, and 23% use their home broadband service much less.
- With LTE there is an increased mobile device usage (smartphones, tablets) and TV/video viewing finds its way into new situations and contexts... (eg in the bathroom, kitchen, in bed, commuting etc). And this translates also into “chunking” – watching TV shows/films in chunks across multiple screens or multiple contexts...

RESPONSE TIME: LTE also helps time-to-delivery (eg of video clips or websites).. From research, we know that 50% of people abandon a website after 5 seconds of waiting...

NON CONSUMER APPLICATIONS: LTE will also be important in B2B scenarios like smart-grid networks, Public-safety etc – So in summary LTE has a multitude of use-scenarios for people, society and businesses.

HP: LTE in M2M – what benefits will 4G bring to this nascent and growing future sector?

Machine-to-machine (M2M) will also be an important application for LTE in future. The move towards physical objects being interconnected (Internet of Things) brings complexity and **many and diverse...** use cases, devices & sensors, access networks, stakeholders, structured and unstructured data pools. HP sees LTE as being just one of many potential access networks used by IOT and M2M sensors/devices.

4G/LTE M2M DRIVERS? Currently the US is pushing most (LTE provides a migration away from the challenges of old CDMA network technologies). China is also pushing with its focus on smart-cities. However rest of world, is still focused on 2/3G for M2M.... though this will change rapidly around 2017.

4G M2M USE-CASES? Automotive sector will be major driver:- Connected car : 10-40GB/month, Self driving connected car: 50GB/hour !!! Entertainment sector (eg Google Glass, Samsung Watch, other connected-wearables..) will also need 4G, but impossible to predict which of these will truly take off. CCTV, Health, Retail may also drive professional uses of LTE.

PROS/CONS OF LTE? Bandwidth is most obvious benefit, but there ARE others too.. (better QoS and hence ability to manage SLAs, improved localization (less need for GPS sensors), better latency, better security and also infrastructure benefits (virtualization). Hence many Mobile Operators are looking to LTE in M2M for these reasons rather than pure bandwidth..

SUMMARY LTE will be an important component of M2M, and key to drive value, But take off might not happen before a few years. LTE will anyway remain one access technology among others. The key will be to integrate LTE within a consistent framework for M2M (i.e. provide a consolidated approach to handling multiple access technologies and hence deliver maximum value in M2M use-cases with the best fitting access networks).

4G/LTE stimulating innovation in the connected society

Frederico introduced Orange Switzerland's recent launch of 4G and his experiences as Mobile Broadband Product Manager.

Orange's strategy is to provide 4G access by default to all its customers (no extra charge), both pre and postpay. However a key part of Orange's strategy has been to offer speed-dependent value-added services along with the launch. Hence mid/high use Orange price-plans now include Spotify Premium and Zattoo Premium subscriptions.

DOUBLE TRAFFIC - LTE subscribers have already shown almost double traffic consumption vs non LTE subscribers. Orange has also been pushing LTE heavily with 20% weekly growth rate in LTE-enabled phones in the base.

CRITICAL SUCCESS FACTORS – Orange set clear success factors to ensure a successful uptake of LTE. (sufficient population coverage 50%), sufficient LTE handsets (more than 80% of sold devices are LTE). Enough VAS services such as Spotify, Zattoo.

LTE BENEFITS – Frederico explained how LTE can be benchmarked against both 3G and Wi-fi technologies. Vs 3G, LTE provides a significant speed increase thus making more applications feasible on a mobile phone whilst out-and-about, and file-sharing/downloads almost instantaneous/much faster. LTE vs Wi-fi provides true mobility of all applications, with simpler authentication /ownership of the data session (no problems with signing on to hotspots etc).

FUTURE SERVICES – LTE is currently used mainly with broadband services already used by subscribers today. However in future new types of bandwidth services may prevail (eg Augmented-Reality – Google Glass), Online gaming, HD video conferencing, cloud storage, B2B vertical apps. Only 1 thing is clear... that the adoption of 4G services will drive economic growth and development (upto 0.5% GDP p.a.)

Wyless: Where 4G networks are much more than just mobile network

Eric introduced Wyless as a leading player in M2M, with a mission to aggregate mobile-networks (Vodafone, Orange, Telefonica, Sprint, Verizon etc to provide a unified coverage to M2M customers (i.e. enterprises). Hence they have over 10,000 SIMs in use in Switzerland, on non-Swiss SIM cards.

From all statistics its clear that mobile broadband traffic is rapidly expanding, with video being a major driver (expect to grow *16). Mobile network connection speeds will increase 7-fold by 2017. The average mobile network connection speed (526kbps in 2012) will exceed 3.9 Mbps in 2017 thanks to LTE.

USE-CASES? Certain applications clearly need fast mobile broadband speeds e.g.

- Digital signage (1GB/month)
- Temporary broadband connectivity (eg for conferences)
- Backup broadband connectivity (in case of fixed DSL failure)
- Video surveillance (150GB/month)

So, will the MNOs be able to handle these kinds of volumes???

But, probably the main beneficiary of these new mobile broadband speeds will be CLOUD SERVICES – to provide access to applications wherever/whenever needed.

Event writeup report by: Peter Angelos