Driving the LTE Ecosystem for All

Thursday, 27 February 2014

The session was emceed by Herman Schepers, Senior Director Spectrum Campaign, GSMA

Driving the LTE Ecosystem for Emerging Markets

***— Roberto Rodriguez Dorrego, Head of Spectrum Strategy,* Telefónica**

- Together with its members, the GSMA has launched a project to assess how best to accelerate the development of lower cost LTE devices in order to facilitate the use of the 700MHz band in emerging markets around the world.
- This has involved commissioning a survey of consumers in developing markets to understand the underlying potential for smartphone adoption and the key 'trade-offs' in terms of features (according to region) when moving from a feature phone to a low cost smartphone.
- This will help inform the ultimate goal of the project which is to create a detailed specification for a low-cost LTE device for developing countries and a price point that will make it affordable for the mass market.

Global Need for Mobile Broadband

— Suvi Lindén, ITU Special Envoy for the Broadband Commission for Digital Development

- The rise of mobile broadband is a game changer for global development. The Broadband Commission was founded by the ITU and UNESCO to help achieve the eight millennium development goals by 2015. Mobile broadband services are an important way of achieving these including helping to tackle poverty, education, health, gender equality, the environment etc.
- However there are several key challenges that are hindering uptake of mobile broadband services in developing markets:
    - Disproportionately large rural populations which are hard to reach
    - The affordability of mobile broadband services & devices is limiting access
    - Numerous countries don't have a national broadband plan and have not progressed with the digital switchover (for 700MHz & 800MHz)
    - The need for greater access to harmonised spectrum

Consumer Survey on Low Cost Devices: Results and Recommendations

— Martin Garner, Senior Vice President, CCS Insight

- The GSMA commissioned CCS Insight to conduct a survey to study demand for a low cost LTE device in developing markets and the features that consumers believe are essential and those they would sacrifice, or at least compromise, in return for a lower cost device. It also looked at the size of the addressable market.
- The survey covered 8,000 consumers in eight countries (1,000 from each) - Brazil, China, India, Indonesia, Kenya, Mexico, Nigeria and Saudi Arabia – with an equal number of respondents who currently use a feature phone and smart phone and an equal split between men and women. The survey was delivered and completed on mobile devices so all

the respondents own, or have access to, a smartphone or featurephone and have a data plan. Smartphones were defined as iOS, Android, Windows Phone or later Blackberrys but *not* Symbian devices.

- The main findings were:
    - There is a clear opportunity for a low-cost LTE smartphone
        - A smartphone is the right device to start with
        - Tablets are also an interesting, but smaller, opportunity
    - This survey findings show clear product priorities
        - The priorities should be good data coverage (i.e. reception) and battery life
        - Compromises can be made on processor speed, memory, screen size and quality, camera quality and the range of LTE bands supported (ie. roaming is not a key requirement)
    - Tariffs and services have a big impact on device attractiveness and affordability
        - Although these could not be studied in detail in this survey
    - The addressable market in the 8 countries surveyed is 100-400 million consumers
        - Don't have enough data to extrapolate for the rest of the world but it's clearly significant based on the 8 countries studied
    - This phone will see competition from low cost 2G and 3G devices which are falling in price quickly but this will ultimately help the on-ramp for wider smartphone adoption

Consumer Survey on Low Cost Devices: Results and Recommendations

— Li Gong, Mozilla, SVP of Mobile Devices, President of Asia Operations, Mozilla

- Mozilla's overall mission is to keep the web open and free. Although the intention behind the move into the mobile space was to build the best smartphone on the market, the aim was also to connect the next 2 billion mobile users.
- The company revealed its mobile programme in 2012 and announced the future availability of devices at Mobile World Congress 2013. It now has established market share in Latin America and devices are on sale in 15 countries through four operators and 3 OEM partners.
- In order to bring the devices to developing markets the goal was to create a smartphone in the sub-$50 price bracket. 2.5G and 3G devices have already been brought to market and a low cost reference design with a $25 retail price point is now feasible (with a lower resolution camera etc). This means fully featured smartphones are becoming available for the same price as a feature phone. Mozilla's research also shows that 2.5G is a desirable product for many users especially in regions where mobile broadband deployments are not widely available.
- The plan is to introduce the first LTE smartphone – hopefully before end of the year – but it will be more expensive – Mozilla's discussions with hardware partners reveal it will probably be around $100 initially but the price should fall next year.
- Although Mozilla is new to the smartphone space it is extremely experienced in the web so this has been a key part of the design of the devices and it's important to recognise there are more web apps than mobile apps so there's a strong developer community out there.

Panel: Driving the LTE Ecosystem for All

Moderator: Herman Schepers, Senior Director Spectrum Campaign, GSMA

— Marcello Pizarro, Advisor, Policy and Regulatory Division at Subtel, Chile

- Chile is currently making major efforts to extend its mobile broadband efforts by issuing 700MHz licenses during Mobile World Congress. Given the importance of harmonisation it has chosen to use the APT band plan in order to benefit from the improved economies of scale for equipment. However, there is a need for manufacturers to develop more low-cost devices – Chile has started awarding 700MHz licenses despite limited availability of devices.
- Freeing up the 700MHz band was very easy in Chile as it has been empty since 2000 and licenses will be granted to operators without charge – in line with national law – although there are coverage obligations especially to cover rural areas. NOW RELEASED AS OF 3rd MARCH 2014.

— Mikael Halen, Director Government and Industry Relations, Ericsson

- Ericsson interviews 100,000 consumers every year and endorses the findings of the CCS Insight survey – what always emerges as comfortably the most important factor is coverage which is twice as important to consumers as tariffs.
- Digital Dividend spectrum is essential for affordable mobile broadband services because the cost of network deployment is half of a rollout at 2.1GHz. VoLTE is also an important issue because many operators are still maintaining old networks to support voice when VoLTE is 4x more spectrally efficient than GSM.

— Mariana Rodríguez Zani, General Director, Convergencia Research & Convergencialatina

- 700MHz is essential in order to reach people in rural areas and especially for connecting the disconnected. In Latin America the choice of band plan will also have a big impact.
- In addition to ensuring that devices are well priced it is also essential to ensure the cost of data connectivity is also low.
- It is important that considerations go beyond low cost devices and encompass other ways of reaching more people including perhaps by bundling the device into the tariff.

— Bob Cai, VP Wireless Marketing, Huawei

- Smartphones are important but dongles should not be neglected as they have a major role to play too.
- Given the importance of the 700MHz band and the rapidly growing popularity of the APT band plan all around the world it may now be appropriate to call it the 'global 700MHz plan'.
- Although 700MHz is undoubtedly important and Huawei is working hard developing devices, other low frequency bands should not be ignored including 800MHz where devices are already at the right price due to the scale of production as well as 450MHz.

— Peter Carson, Senior Director of Marketing, Qualcomm

- Qualcomm is commercialising band 28 (APT 700MHz) this year so the industry can expect several commercial device launches in the second half of the year.
- The introduction of quad-band GSM and UMTS started the volume curve that enabled the economies of scale that allowed those technologies to become truly mass market.
- The big debate here is there are 30 bands defined by 3GPP for LTE and many of these have been deployed worldwide – including low and high bands. The problem is squeezing the bands into the phone – and the technology is getting better at this – so the discussion is, what is the minimum number of bands needed to drive economies of scale? And what modes should be used (eg. 2G, 3G, 4G)? The cost of 2G and 3G is minimal so hitting the $25 device price point is doable - the cost of adding LTE is higher but falling.

- "Low bands are not a free lunch," he said. Qualcomm's field studies show that battery consumption can be an issue because of the size of the cells.
- There are a series of steps to get to a single skew where you really hit economies of scale. This is easier in markets like China – despite the need to support seven cellular technologies – because they have the market size to achieve the required volumes. The question is how can this be done in the rest of the world where TDD is not being used? This will be possible through band harmonisation and improved levels of technical integration over time but it's a process.

— Siegmund Redl, General Manager for European Corporate Marketing, MediaTek

- It's going to be a long-road before the market hits the very low LTE device price point and getting to a single skew will probably never be possible. For example, the LTE iPhone already has lots of skews and it's not a price sensitive product so unfortunately there will be different skews for different places.

— Manoj Gupta, Micromax, Head of Value Added Services and Applications, Micromax

- 8 months ago Micromax launched a $50 phone which uses 256MB RAM – which means it is technically not 'smart' – but these devices are selling well (around 300,000 per month).
- The market for a $25 smartphone is a major target and will be a big market in India.

— Dr. Amr Badawi, formerly Executive President of Egypt's National Telecom Regulatory Authority

- Egypt is working very hard on harmonised 700MHz spectrum as it's essential for affordable LTE services in Africa - especially because there is limited space in the 800MHz band in Egypt due to existing usage.
- Most operators in Egypt still haven't recouped 3G license costs meaning 4G deployments may be delayed. Those who haven't deployed 3G are more likely to adopt 4G early as they have the CAPEX.

— Pedro Gil Morales, Head of Global Devices Operating Systems Strategy unit, Telefónica

- The industry needs to agree a minimum set of bands that can be used in the widest number of countries. To achieve the sub-US$25 LTE device price point – which is going to take time and won't happen in the next year –a common set of 4-6 bands will need to be agreed, at the most, for an entry level device. Above 4 or 5 bands the device price rockets well above $100 – the sweet spot is 3-5 bands.
- With regards battery life, it's also important to appreciate the role of the OS. A lot of good work has been done by taking commercial devices with bad battery life and vastly improving them using a well-designed OS.

— Noel Kirkaldy, head of technology, MEA business region, NSN

- Agreeing on the required harmonised bands for low-cost LTE devices is essential and could be a key role for the GSMA – it has done similar work in the past – including helping with a tender process to drive consolidation. A single global device may be ambitious but there is certainly positive work that can be done.