



Highlights of the Mobile World Congress 2013

This year, for the first time, the Mobile World Congress moved across the city of Barcelona from its old venue in Montjuic park around the Fira Palace and fountains to a large new conference and exhibition centre (Fira Gran Via, with 94,000 sq m of exhibition space) to the east of the city near the Mediterranean coast. While many of this year's record number of attendees (over 70,000¹ for the first time) welcomed the convenience of having the congress under a single roof, some lamented the remoteness of the venue from the old city centre and the bustling restaurant and bar scene around 'La Rambla'.

Here we highlight some of the key themes to emerge from the Mobile World Congress 2013.

Economic backdrop:

This year's congress was taking place against a backdrop of the continuing global economic slowdown, with operators and suppliers alike still feeling the pinch.

Europe seems worst affected, with operator revenues in 2012 taking a dip for the fourth year in a row. However, investment levels in Europe remained strong (average capex to sales ratio of 14%), leading to a squeeze on other costs and dividends, particularly among some indebted incumbent operators. These pressures are forcing European operators to seek costs savings through infrastructure sharing and/or in-market consolidation, and this trend looks set to continue through 2013 and beyond. Speaking at the congress, Europe's Digital Commissioner, Neelie Kroes, pledged to use EU Treaty powers to force through plans to create a single market for telecommunications across the region, and the creation of a single pan-European regulator. However, with around 1,500 different operators serving the European market, the consolidation road to greater scale promises to be long and tortuous.

Clearly under considerable pressure, a number of European incumbent CEOs repeated their unusually aggressive comments, first heard at last year's congress, attacking US technology and internet groups (such as Google, Facebook, Apple) for failing to make a contribution towards the cost of the network capacity required to convey their content, and calling for regulators to intervene.

The US and emerging markets (BRICs and others) seem more upbeat, but there are even signs that many previously rapidly growing emerging markets are starting to slow down/mature.

The one bright spot in all markets seems to be the continuing growth in mobile data driving higher average revenues per user (ARPU), thanks to the rapidly increasing penetration of smartphones (now typically around 70% in developed markets), though the growth in demand for mobile data is also causing operators to have to make substantial investments in increased network capacity –

¹ Source: GSM Association

worldwide mobile data volumes² are now 1 exabyte (that's 1 billion gigabytes or 1×10^{18} bytes) per month, and growing at a CAGR of 66%.

The New Mobile Horizon

The GSM Association's theme for MWC2013 was 'The New Mobile Horizon', with 'ConnectedEverything' (eg Connected Cities, Connected Cars, etc) taking centre stage from last year's 'mEverything' (eg mPayments, mHealth, etc), though the growing breadth of mobile-enabled solutions remains the direction of travel, attracting an ever-growing number of attendees to the congress from adjacent and enabled industry sectors.

Mobile Payments

One of the biggest announcements at this year's congress was the agreement between Visa and Samsung to enable mobile payments using smartphones with near-field communications (NFC) 'tap-and-pay' technology.

Mastercard also launched MasterPass, and enhanced version of its mobile wallet PayPass, but the Visa Samsung global alliance is significant because it is the first of its kind to offer financial institutions a secure way to provision millions of smartphones with payment account information.

With Visa and Samsung committed to mobile payments using NFC, they are likely to invest heavily in marketing the benefits of mobile payments to consumers and ensuring that 'tap-and-pay' payment terminals become widely available in retail outlets. Many of the latest devices already come with an NFC capability, and it is forecast³ that a total of nearly 2bn NFC-enabled devices will ship in 2017.

Software Defined Networks

All of the major equipment vendors at MWC2013 presented their own brand of Software Defined Networks (SDN) as the central theme of their respective exhibits. Suppliers pitch SDNs as the future of data networks, enabling operators to develop a carrier-grade virtualised infrastructure with the ability to adapt in real-time to changing traffic demands, to deliver cloud services to consumers and enterprises.

SDNs are best thought of as software solutions that run across entire networks (compared with software which just runs on a single network component) to enable real-time optimisation of traffic handling, though each supplier has a subtly different way of pitching their SDN story. Suppliers are increasingly keen to sell operators SDN solutions (as well as the network equipment required to support them). That may be because the worldwide market for SDNs is forecast⁴ to grow from \$360m in 2013 to \$117bn in 2016 (CAGR 117%).

² Source: GSM Association's Mobile Economy Report @ gsma.com

³ Source: ABI Research

⁴ Source: IDC

Big Data, Cloud and Security

As operators boost the capacity of their networks in terms of access speeds and throughput, they are enabling an exponential growth in the volume of data, all of which needs to be conveyed, processed, stored and used productively. Big Data presents both a challenge and an opportunity for operators.

The Big Data challenge for operators is how to use real-time information on traffic demands in their network, to deliver customer service assurance, to automatically optimise network capacity usage and reduce complexity across their multi-vendor, multi-technology mobile infrastructures, while also informing advanced network planning decisions. Big data also enables operators to overlay customer profile information they hold on customers' usage patterns to provide valuable insights that can be used to shape and price services and product bundles. A very wide range of companies are targeting solutions for operators' Big Data challenge from specialist providers of monitoring appliances (eg Procera) to giants (such as Cisco and IBM).

The Big Data opportunity for operators is the provision of cloud-based services to both consumers and enterprises. While operators are well-placed to exploit the mobile cloud opportunity (worth \$42bn⁵ and growing), they will need to exploit their unique strengths, and form partnerships, to carve-out their slice of the opportunity, or risk seeing the upside slipping away to other competitors.

As the volume and value of information assets held in the Cloud becomes substantial, security is of growing importance. The mobile operators, with their control over their customers' strongly-encrypted SIM cards, are uniquely placed to monetise this opportunity.

Voice over LTE

With the growth of mobile data driving demand, it is perhaps at first sight odd that operators and suppliers alike are also focusing on supporting Voice over 4G/LTE. The main motivation among operators for Voice over LTE is to free-up radio spectrum currently dedicated to supporting 2G and/or 3G voice, to enable that spectrum to be re-used to provide more spectrum capacity for mobile data over 4G/LTE. Over the coming years, operators will be able to flexibly deploy multiple frequency bands for 4G, as suppliers bring forward LTE Advanced (LTE-A or 4G+) carrier aggregation technology. Supporting Voice over LTE also provides an opportunity for operators to rationalise their 2G/3G/4G networks and save costs. Furthermore, a Voice over LTE capability will enable operators to hit-back at a range of over-the-top (OTT) services (such as Skype, WhatsApp, etc) who have started to eat-in to operators' lucrative voice and text messaging revenues.

Voice over LTE has been under developments for several years now, but this year's congress saw more demonstrations of working Voice over LTE calls and interworking.

⁵ Source: IBM

Small Cells

As the rate of release of additional spectrum and improvements in technology efficiency get overtaken by the pace of growth in mobile data, a heterogeneous network (HetNet) of existing macro-cellular sites combined with a much larger number of small cell sites (and WiFi offload) looks set to be the architecture of the future for operators' radio access networks (RANs).

Small Cells depend upon some features standardised in 3GPP Release 10, which most suppliers have recently completed implementing. So, 2013 looks set to be the year that small cells breakthrough into the mainstream, with most major operators readying their networks for this kind of deployment. A critical success factor for small cells will undoubtedly be the availability of high bandwidth, low cost backhaul to serve them.

A number of small cell suppliers (eg Airspan) were exhibiting integrated 4G/WiFi small cells.

Mobile Operating System (OS) wars

Eighteen of the world's largest mobile operators from Telefonica to China Unicom have backed a new mobile operating system, Firefox from Mozilla, first announced at last year's congress, which is aimed at eroding Apple and Google's dominance of smartphone operating systems (Apple's iOS and Google's Android account for 9 out of 10 smartphones sold). A number of key handset manufacturers have committed to producing the first Firefox-enabled phones to be launched in Latin America, Europe and Chinese markets in late 2013 and 2014.

The Tizen Association also gave a preview of their open-source operating system, and announced further new backers. Although Tizen and Firefox appear to have backing from two distinct groups of competitors, some companies back both.

Both Firefox and Tizen are based on the HTML5 web standard, an open language for application (app) development, which operators are keen to support to begin a fight back against app stores such as Apple's AppStore and GooglePlay, which have usurped mobile operators' role as the key link in the mobile content value chain.

Firefox and Tizen are both viewed primarily as a play for emerging markets, where phones need to be cheaper and produced in higher volumes, and where customers are less likely to pay for applications and content. Other open-source operating platforms on show at the congress included Ubuntu and Jolla's Sailfish.

'Connecting the next 1 billion internet users' (there are currently 1.6bn mobile internet users⁶) was something of a mantra at this year's congress, with operators calling for a \$10 price point for phones, a \$30 price point for smartphones, and batteries that support at least a month of standby time, for emerging markets.

⁶ Source: GSM Association

Meanwhile, Microsoft's Windows 8 and Blackberry 10 are challenging for at least third place in this battle among rival ecosystems, while HP confirmed that it will sell its (ex-Palm) webOS to Korean LG Electronics for use in smart TVs (but not smartphones or tablets).

Smartphones and Tablets

While many announcements about new handsets have shifted to the Consumer Electronics Show (CES) in Las Vegas in January, there were a number of new models of smartphones and tablets on display, including some models newly announced at the congress.

Particularly notable new announcements were:

- Samsung Galaxy Note 8, a new mid-range 8" tablet (1.6GHz quad-core processor and HSPA) with Samsung's S pen stylus, joining the full-sized Galaxy Note 10.1 and Note II 'phablet' in the Samsung range;
- Huawei's (now the world's third-largest smartphone maker behind Samsung and Apple) Ascend P2, claimed to be the 'fastest smartphone in the world' (4.7" screen, Android 4.1 ("Jelly Bean") OS, 1.5GHz quad-core processor, and 13 megapixel and 1.3 megapixel cameras back and front respectively, capable of supporting download speeds of 150Mbps;
- Nokia launched four new devices at the show: a new entry-level phone (105) priced at ~\$20 and aimed at 'the 2.7 billion people who don't have a phone'; an internet phone (301) with a 3..5G internet connection and a pre-loaded Nokia browser (to be priced at €65), and two new additions to the low end of the Windows 8-based Lumina smartphone range (520, 720).
- Sony Mobile's (formerly, Sony-Ericsson) Xperia Z smartphone and tablet.

..and lots lots more.

No doubt we'll be back next year to do it all again – MWC2014 will be held 24th – 27th February 2014 at Fira Gran Via, Barcelona.

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