

3GSM Congress 2007 Notes

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3GSM Congress was held for a second time in Barcelona, Spain, during Feb 12-15, 2007. The attendance has grown 10% to over **55,000** people and the companies exhibiting have increased by 30% to **1300**. Interesting to note that while the attendee numbers are going up, the number of people from the wireless operators has gone down! Even though Barcelona has fixed the transportation and security problems, hotel accommodations remain the same chronic situation as when it was held in Cannes!

To everyone's delight, the wireless market growth continues with mobile subscribers reaching **2.7 billion** by end last year. **480 million new subscribers** are expected in 2007, and 80% of this growth will be from **developing markets**. Now there are more mobile phones in developing markets (1.65 Billion) than in developed markets (about 1 billion). **Is the Digital Divide over?**

For all practical purposes, **3G/WCDMA networks** are out there in a big way. There are now over 130 commercial WCDMA networks in more than 60 countries and almost 100 million subs. It is predicted that this will reach 170 million by end of this year. There are currently over 470 types of WCDMA user devices on the market. GSMA's '**3G for All**' initiative deal was won by **LG**, with 12 operators, cumulative 620 million subs, committing to buy the KU250, which is expected to be available in 2Q 2007, at around €65. Thus we will see much **lower 3G handset prices**. **J**

There was a clear signal at this year's exhibition that the industry has focused its attention on **mobile broadband evolution** strategy with multiple competing / complementary radio access technologies being showcased. There were numerous announcements and demonstrations on **WiMAX**, as well as **HSPA** (both HSDPA and HSUPA).

HSDPA is the most logical and cost effective evolution path for WCDMA operators. There are more than 140 operators that have committed to **HSDPA** in 64 countries, with 93 networks already commercially launched in 51 countries. There are also 128 HSDPA capable devices (PC data cards, phones and embedded laptop modules) from 39 suppliers already launched in the market, including 46 mobile phones.

In fact **HSPA** (HSDPA/HSUPA) connectivity is set to become a **standard feature of laptops** following GSMA's '**HSPA- Mobile Broadband Today**' initiative. Laptop manufacturers Dell, Fujitsu, Intel and Lenovo (previously IBM) were demonstrating laptop HSPA connectivity at the show. Operators Cingular, O2, Orange, T-Mobile and Vodafone have been supporting the initiative.

Qualcomm demonstrated using **HSPA @ 3.6 Mbps** to concurrently support VOIP calls, web browsing and video streaming. The system can support as many as 170 concurrent VOIP calls. **HSUPA** service is set to become the next development in 2007. By offering dramatically increased uplink data rate, the introduction of this technology will boost the amount of data uploaded over mobile networks, especially **user-generated content**.

There were lots of discussions, presentations, announcements and demonstrations on **WiMAX** during 3GSM Congress. With the **exception of Ericsson and Qualcomm, everybody** seems to be offering WiMAX solutions! Most vendors are offering end-to-end solutions, including CPE equipment. There were WiMAX announcements from Alcatel/Lucent and Alvarion to build **WiMAX networks** in Caribbean. Nortel and Radvision demoed **interactive video over WiMAX**.

Long Term Evolution (LTE) is widely perceived as the 4G technology with data rates of 100 Mbps downlink and 50 Mbps uplink. Key technology enablers include **MIMO** antenna systems, and high order modulation system, **OFDM**. **LG and Nortel** demonstrated a handset based on

early LTE technology, with **2X2 MIMO**, capable of 20 Mbps up or down-link over 5 MHz channel. Ericsson demonstrated LTE with up to 144 Mbps over 20 MHz channel. There were also other LTE displays for testing purposes from Rohde & Schwarz and others. **Vodafone CEO Arun Sarin** urged operators to pull together more efficiently to avoid the threat posed by WiMAX at a Congress keynote session and called on the GSMA and the industry as a whole to work faster with its plan for Long Term Evolution (LTE). Arun's statements attracted lots of attention and also speculation about Vodafone's future direction.

Another topic of discussion was **Next Generation Mobile Networks** (NGMN) initiative, which promotes open standards for beyond 3G, which now has additional 12 new members. The lobbying group consists of GSM operators, Sprint/Nextel and a large number of manufacturers. Also, the landscape of IPR for WiMAX and 4G / LTE will be drastically different from the IPR for WCDMA. There are many more players around the globe participating and contributing to WIMAX, as well as 4G / LTE.

Femtocell / Home BTS was another hot area at 3GSM Congress this year. Femtocell specialist **IP Access** won "GSMA Best Radio Access Product or Service" award under the Best Technology category. IP Access also announced its collaboration with DSL modem firm **Thomson** to develop a customer femtocell solution supporting data rates up to 7.2 Mbps and Wi-Fi to facilitate fixed mobile convergence. PicoChip announced industry's first **femtocell reference design for HSUPA**. **Femtocell** is potentially a paradigm shifting technology that can change the dynamics of "last mile" access. It is being trialed by operators like Vodafone. However, there are lots of unanswered questions about spectrums, sharing, pricing, management, and competitive positioning, etc.

Mobile VoIP is making a significant headway. A number of companies were demonstrating VoIP using Wi-Fi connectivity. Panasonic was even demonstrating **SIP based video call** over Wi-Fi connection. Qualcomm demonstrated **seamless in-call handover** between 3G and Wi-Fi access with dual mode handsets using their latest laboratory handset model. **All-IP** to the end user device is becoming a step closer with operators introducing key enabling technologies to their networks e.g. soft-switch core network, HSDPA, WiMAX, and dual mode 3G/Wi-Fi phones. **Wireless backhaul** is also becoming ever more critical and important with **IP based aggregations** starting from the cellsites.

This year there was mercifully **less hype on IMS**, the focus was upon services (with or without IMS), and perhaps the focus should have been services to define the requirements for the standard. Some vendors, e.g. IBM and Nortel, presented the need for an **SOA (Service Oriented Architecture)** on top of IMS; this is something BEA has preached for a couple of years, which makes sense in simplifying how functions are integrated – reducing the excessive integration burden faced by many operators.

Wall gardens or taking down the "wall gardens" was a major debate again at 3GSM Congress. Mobile operators seem to be exploring various solutions to open their wall gardens, but painfully slowly! **Service Delivery Platform (SDP)** companies such as Redknee, Telenity and others were demonstrating convergent solutions which include IMS compliance, service creation, delivery and revenue engines.

Mobile content was one of the major themes of the conference. Hall 7 was dedicated to all the content related companies. Some observations:

- Maps seems to be part of more and more mobile content, as GPS and other location determination technologies are integrated into an increasing number of handsets. In fact, with A-GPS and OMA's SUPL, **Location Based Services** are getting increased attention. **J**
- Smartphone apps of all forms and shapes will continue to be an important after-sales market. Handango estimates that the average app sales is around \$21, up from last year.
- GoHello by Speakernet (Denmark/UK) will provide interesting services to distributed enterprises.

- Mobixell and Adamind announced a strategic alliance, indicating a consolidation on the mobile multimedia transcoding space,
- Telepo has interesting and award winning offers for the FMC market.

In a more IP centric mobile world, the current industry wide value chain is up for changes. Future division of roles between operators and content providers were debated at the conference track. Google, Yahoo, and Microsoft had all a big presence and announced products in the space of mobile search, mapping, and other content.

According to announcements at 3GSM Congress, **annual mobile handset sales are expected to exceed 1 billion in 2007 for the first time**. 50% of these phones will be camera phones and 34% of them expected to be mobile video capable. Operators like O2 expect 70% of the handsets they roll-out in 2007 will be 3G handsets.

Apple's **iPhone** was absent at 3GSM. However, **Samsung** was probably the best with their handsets, especially with **F700** HSDPA handset which was widely considered as **iPhone beater!** It has QWERTY keypad, microSD, built-in Wi-Fi, 5 Mpix camera(!) and a hi-resolution screen. Who needs digital cameras any more!

Several other interesting handsets demoed and/or launched at 3GSM Congress:

- **Polymer Vision** (with extensible, rollable display, 5 inch screen, ideal for mobile TV??)
- **LG Prada**, KE850, with touch screen, similar but potentially better than iPhone
- **Neonode N2**, similar but simpler version of iPhone
- **Nokia N800** is an Internet tablet, without a phone. Is this what Skype has been looking for?
- **Blackberry 8800** was launched by RIM, as a grown up version of Pearl, with QWERTY keyboard, microSD, built-in GPS, maps, & location based services. I look forward to upgrading my own 7200 to 8800 **J**
- **Nokia's E61i** for enterprise market
- **Nokia's N77** 3G phone for mobile TV with DVB-H, widescreen, PTT, FM Radio, stereo speakers, called Multimedia computer by Nokia!
- **Nokia's 6110** as a navigation handset with integrated GPS and A-GPS, turn-by-turn 3D navigation maps, etc.,
- **Motorola Z8** with full of multimedia features, kick-slider phone,
- **i-mate** had a range of new phones, with Windows Mobile, 3G & HSDPA, etc.,
- Paragon Wireless **Hipi 2300** for SIP based Windows Mobile 5.0 handset

Also absent were **battery technologies** and especially reusable green power technologies to enable long operations. Texas Instruments had one of the few power/battery management demonstrations. Consumers are unlikely to use the broadband applications when they discover they need to recharge their handsets every few hours!

mLinux based platforms are starting to emerge at 3GSM Congress. Trolltech, a la Mobile and GPE Phone are a few interesting technology providers for this growing mobile OS platform. Also, Open Plug provides a unique component-based open software platform for mass market phones. Texas Instruments had "**affordable multimedia handset**" demonstrations, with various partners.

GSMA's **Personal IM campaign** is making progress in rolling out **inter-operable IM services** across operators. 'Personal IM' campaigns aims to make 3G multi-media services available for a much broader user base. To date, 24 operators, including six of the seven largest are actively supporting the GSMA's Personal IM initiative. These operators have a combined user base of 850 millions which represent 39% of the total GSM community, already dwarfing the existing MSN, Yahoo and AOL communities. Oz Communications, leading in mobile IM messaging, announced that they have rolled-out 85 million IM clients, on 300 different handsets.

Voice SMS is becoming a growing new service especially in developing markets. There were announcements and demos from two companies leading this category, Kirusa and Bubble Motion.

With mobile broadband connectivity becoming more widely available, a new source of revenue through **mobile advertising** was one of the main themes of this conference. Mobile Marketing Association announced that more than 41% of U.S. users would accept mobile ads in return for lower subscription fees. Many vendors are touting mobile advertising platforms, some very innovative solutions such as Adinfuse, Enpocket, First Hop (as part of service broker) and Smaato. Some operators such as Vodafone and O2 announced plans to introduce **mobile advertising**, at least as trials in 2007. Going forward, mobile advertising will be very critical for mobile content delivery. However, given the special position mobile handsets have, mobile advertising is perceived as a double edged sword; they can be very compelling and effective, and a significant revenue source, but also could turn off the users if they are not handled properly.

Mobile TV was seen as a less of hype and more of reality at this 3GSM Congress. There has been a large number of Mobile TV trials completed in 2006 and now, 2007 is seen as the year of commercial deployments. At the show, there were discussions and announcements about **DVB-H** deployments as well as **MediaFLO** roll-outs. Also, Huawei and Qualcomm jointly demonstrated MBMS (Multimedia Broadcast Multicast Service) during 3GSM Congress. Sundance Institute founded by Hollywood legend **Robert Redford**, has sponsored 4 short films, in collaboration with GSMA, specifically for distribution and presentation on mobile devices.

Due to the increase of IP-centric applications, several **security related initiatives** were observed at 3GSM:

- Valimo Wireless is providing **strong authentication and digital signature**, and announced services for Turkcell and for Telefonica (in partnership with Ericsson)
- TeliaSonera will offer **1 GB SIM Cards** for data heavy applications based on technology from Giesecke & Devrient
- MasterCard will test-drive **global payment service** based on SMS
- The operator led OMTP – Open Mobile Terminal Platform- has issued an **Application Security Framework** that will help unify the requirements for procurements in this space.

Microsoft launched their proprietary **DRM solution** “PlayReady”, but criticized by various companies for circumventing OMA’s DRM standards. However, OMA 2.0 has been late and may not meet all requirements and some operators have been encouraging Microsoft to rollout “PlayReady”. DRM has been one of the limiting factors for the growth of mobile content industry. Even though lots of people hope that OMA 2.0 or “PlayReady” may solve the issue, I personally agree with Apple’s Steve Jobs that “DRM initiatives have hardly worked in the past, and may never work”, and we should be targeting **DRM-free mobile content**. I know I may lose a few friends with this type of view!

Some New 3GSMA Award Winners

Most Innovative Mobile Application or Content Award à Shozu
Most Innovative Technology Award à Polymer Vision
Best Made for Mobile Game Award à I-play
Best Made for Mobile Music Service à Vodafone
Best Mobile Messaging Service Award -> 3UK
Best Mobile Enterprise Product or Service à Telepo
Best GSM Mobile Handset or Device à Samsung Electronics for SGH-D900
Best 3GSM Mobile Handset or Device à Sony Ericsson K800 Cyber-Shot phone
Best Broadcast Commercial à Turkcell
Best Mobile Advertising à Qwikker
Best Ultra Low Cost Handset à Motorola’s MOTO F3
Best Radio Access Product or Service à ip.access
Best Service Delivery Platform à mFormation Technologies
Best Billing or Customer Care Solution à IDEA Cellular

The next 3GSM Congress will be held Feb 11-14, 2008, in Barcelona. See you there!