Mehmet Unsoy's industry recap after the last 3 GSM 2005 Show.

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I participated at the 3GSM Congress held, for the last time in Cannes, during Feb 13-17, 2005. It was a very hectic, crowded, and energized show this year. Organizers claimed that 43,000 people pre-registered and at least 35,000 were in **attendance**, which means about 10,000 more people than last year. This show definitely out-grew Cannes and the neighboring communities, and we are all glad that it is moving to Barcelona, starting next year ☺

The enthusiasm throughout the show was very obvious, indicating that the wireless industry as a whole and the GSM / WCDMA group in particular are enjoying again the **healthy growth rates.** It was announced that the total global handset sales grew 30% year/year, with 674 Million handsets sold in 2004, compared to around 518 Million in 2003. It was also announced that UMTS / WCDMA service deployments are underway in significant numbers, with 64 WCDMA networks already in commercial service in 31 countries, and that there are now 139 models of WCDMA handsets from 25 handset supplier in the market, thus easing the concerns of the wireless operators.

Speaking of **handsets**, handset affordability is a major concern for the developing markets. 9 groups, representing 30 operators around the world, mostly in the developing countries, had started a major initiative to bring the cost of handsets to below $30; they initiated an RFQ process with 18 h/s suppliers participating and Motorola won the initial tender with a promise of supplying <$40 handsets, and lowering them to below $30 soon. Handset affordability is seen very critical for operators that are targeting profitability with $5 ARPU. Incidentally, India's Bharti claims profitability with 2 cents/min voice and $5 ARPU, with focus on operational cost management strategies, including outsourcing.

As usual, there were several discussions around **handset subsidies**; operators such as T-Mobile's Obermann spoke for the abolishment of handset subsidies, pointing out that they are not effective in already saturated markets such as Europe, and they do not support loyalty anyway. However, some of the manufacturers see the subsidies as necessary to rollout new technologies fasters; Ericsson's rep was even suggesting operators to consider subsidizing laptops to boost the uptake of HSDPA!!!

HSDPA (High Speed Download Packet Access) was the major new technology talk of the town in Cannes. With its potentially up to 14 Mbps download speeds, HSDPA is a major enabler for new data revenues for the operators, especially for streaming and download music and video. Several suppliers demonstrated HSDPA products, with a promise of commercial availability of end-to-end solutions, including handsets, by late / end of 2005. Several operators including Cingular, mmO2, T-Mobile Germany made announcements of recent trials with excess of 1Mbps data rates with 60 mps driving (but not in downtown Cannes!) Some operators indicated HSDPA service availability by early 2006, and some calling 2006 as the mass market year for HSDPA. Some networks such as mmO2 claim already HSDPA compliant networks; $13K software upgrade cost per Node B (3G base station) is seen as a very reasonable upgrade route to HSDPA deployment. For HSDPA, latency is seen as important factor as high download speeds. It is pointed out by most people that HSDPA provides both speed and latency advantages, and will rival Wi-Max rates.

However, **HSDPA handsets** seem to be few months away, and handsets may turn out to be what slows down the HSDPA rollout. However, HSDPA data cards for laptops were on display in Cannes (e.g. Siemens) with promises of end-to-end commercial solution in 2H 2005. Siemens claims close to 2Mbps data rates. There is also High Speed Uplink Packet Access (HSUPA) to provide symmetrical high speed support, which will probably be more costly and should not be expected before 2007.

There are differing views on how **HSDPA and Wi-Max** could be positioned, some seeing potential competition. HSDPA has some advantages, such as the network infrastructure is already in place, spectrums are assigned / available and it is for mobile use. Wi-Max currently lacks an infrastructure, spectrum availability could be a major issue in some / most countries, and currently it is for fixed applications, more like competing with DSL, rather than HSDPA.

IMS (IP Multimedia Services) announcements and demonstrations were everywhere during 3GSM Congress. Almost every company had something to say about IMS, how they can provide solutions within IMS, a road map to IMS, etc. Major suppliers are readying for commercial IMS products by year-end 2005. However, wireless operators are somewhat non-committal. IMS compliant Push-to-Talk (PTT) and presence solutions are already being deployed, and so are some VoIP solutions. But full scale IMS solutions will probably only start in 2006, at the earliest. Since **SIP** (Session Initiation Protocol) opens up the potential for a bypass, wireless operators such as O2 are seeing the IMS architecture as a way to make the wireless infrastructure smarter, so that new innovative multimedia services can be offered by wireless operators, as oppose to being relegated to dumb pipes.

There used to be **3'Cs** in the past. Now, several people are talking about **4 or 5 C's**: (1) Coverage, (2) capacity, (3) Cost, (4) Content and Services, and (5) Convergence. In fact, **Convergence** was one of the major themes at 3GSM Congress this year. Several operators and suppliers presented / discussed their plans / products. BT announced that their Bluephone service will be launched by 2Q 2005. At 3GSM Congress, several companies including Bridgeport Networks, IBM, IMC, PCTEL and Verisign demonstrated **multi-company integration showcase** that supports convergence of VoIP services across GSM and Wi-Fi networks, in line with SIP and IMS standards.

It was announced in Cannes that a **new wireline wireless convergence group** was established by IPCC, to define reference architectures for an access agnostic network that will provide feature transparency and seamless mobility across wireline & wireless medium. This would include mobile handoff between 2G/3G, Wi-Fi / Wi-Max and IMS systems. Companies like Cisco, Brooktrout, Convedia, Tekelec and Alcatel are founding members..

Handoff between 3G and Wi-Fi for voice applications is seen as a requirement. However, for data applications, such handoff does not seem to be a requirement by some operators. Interestingly enough, some mentioned 3G/HSDPA and Wi-Max handoff as a requirement.

Triple play is usually a term used in cable related conferences. However, it was very widely used in 3GSM Congress this year as well. But, it is possible that different people may have different meanings for it. For example, it could be:

- one handset to be used (1) at home, (2) mobile, and (3) at work,
- one handset to be used for (1) telephony / voice, (2) broadband / internet / data, and (3) entertainment / TV

Or, it could be all of the above!

Handsets and new announcements around them always attract attention in Cannes. Nokia made statements that amounts of memory in handsets will explode in the near future. Some are talking about miniaturized hard disks for handsets. Sony Ericsson, for example, announced Sony Walkman branded handset with 2 Megapixel camera and 0.5 Gbyte memory stick. We are seeing dedicated application processors on new handsets to handle sophisticated applications such as entertainment related apps. But also appearing are the Graphical Processing Units (GPUs) in handsets especially to help with the gaming applications. So, we may end up having three processors in a handset: (1) baseband, (2) apps and (3) graphics, and with Gigabytes of memory / hard disk. Does that sound familiar?

Also, it was interesting to note that, among Nokia's 3 handset announcements, 2 of them supported **Push-to-Talk**. Motorola announced several handsets, and one of them was their first **i-Mode handset**. Motorola also indicated that they are working with Apple to leverage **i-Pod** with music and video downloads in mind. Also, there was absence of announcements of any **UMA compliant** handsets for the fixed mobile convergence, even though there have been several collaboration announcements recently.

Handset simplicity is always a major concern of the users and the operators. Sony Ericsson's Flint stated that they have reduced the number of clicks to take a picture and send it as an MMS from 20 clicks to 6! Also, both Motorola and Ericsson talked bout the demise of laptops, as an expensive and bulky device, whose functions are mostly replaced or being replaced with new handsets / PDAs. That's why I was puzzled by another Ericsson's executive's suggestion that the operators should subsidize laptops to accelerate the uptake of HSDPA!!

Latin America was a focus area during this Congress and Brasil Telecom, the GSM operator that launched service just recently, was awarded the GSM Association's Chairman's award for demonstrating such a phenomenal growth in the first 6 months. Latin America is also an important and critical market for several European operators such as Telefonica and Telecom Italia.

Several industry leaders predicted that by 2008, about 22% of global wireless operator revenues will come from data, including SMS and other messaging, transport and obviously content. **Service delivery and/or content delivery infrastructures** are essential for the operators to achieve these % of revenues from the data services. There were several companies displaying new solutions and some announcements of partnerships. There are implications of the higher data rates (e.g. HSDPA), SIP/IMS architectures and mobile TV technologies on the direction of these Service Delivery Platforms (SDPs).

Video was one of the most talked about application, especially in the context of utilizing the HSDPA technology. 3 in UK announced that excess of 10 Million music video downloads in the first 6 months of their video jukebox launch (video portal). Pricing is either a part of a 5 pound/month bundle or 1.5 pound/download. Not bad for ARPU increase! Ericsson is working with Sony and already announced the first handset with Sony Walkman brand, and Motorola is working with Apple for i-Pod type of music / video oriented devices. 3 in UK also announced major deal with Sony BMG brand for music downloads.

Mobile TV was such a hot topic in Cannes, with some people taking religious views on either side of the fence. Orange in France reported 100 Euro ARPU from their 3G subs, with 80% of them watching live mobile TV (which is unicast, a very network inefficient way of delivering TV to end users). It was mentioned that the target to bring widespread mobile TV to masses is the 2006 World Cup, which is being held in Germany in June 2006! It will be necessary to deploy a much more efficient way of offering mobile TV for consumers. However, there seems to be several major technologies on the near horizon for that, namely DMB (T-DMB and S-DMB), DVB-H and MBMS, as well as several proprietary solutions such as Qualcomm's MediaFLO (which is claimed to be designed with a clean slate, purely for the wireless operators).

- **T-DMB** (Terrestrial-Digital Mobile Broadcast) and **S-DMB**(Satellite –DMB) are the technologies with several companies displaying chips in Cannes this year, using generally available Digital Audio Broadcasting Spectrum, but probably limited to 1 Mbps data rates. T-DMB trials are expected in the UK and rest of Europe later in 2005.

- **DVB-H** (Digital Video Broadcast – Handheld) modems are expected to be included in some future handsets soon. One-chip DVB-H solutions are expected from manufacturers such as Texas Instruments by late 2006. It does also require freeing up of digital TV spectrums in most countries; infrastructure could be one major transmitter per city, with repeaters across the city, co-located with 3G base stations, potentially supporting up to 200 channels.

- **MBMS** (Multicast Broadcast Multimedia System) is still in the standards definition phase (expected to be completed this year), but is perceived as the cellular industries answer to the mobile TV need, and is considered to be far more wireless operator friendly.

Security is getting to become a more pressing issue. Handsets and the PDAs are the new targets for viruses, spam and identity theft / Phishing attacks. With significant increase in data applications and content delivery, this likelihood increases. Pictures or MMS messages can easily hide viruses very easily. IM (Instant Messaging) is creating a very conducive environment for spreading viruses. VoIP will also make the enterprises very vulnerable to such attacks. Spam in wireless is already a problem is several markets and will potentially get worse. Bluetooth also opens up handsets to various new security breaches.

MVNOs are always a fun topic to talk about at 3GSM Congress. This year, EasyMobile was topic of discussion. Stelios Haji-Ioannou who had started the successful EasyJet business, and thus owns the "Easy" brand, had decided to license that brand to launch an MVNO in the UK and then follow it up with similar MVNOs in other 10 countries around Europe, during 2005. TDC, a Danish operator will be running the EasyMobile MVNOs, across Europe, and claims that they can run an extremely low cost operation with remarkable CPGA (cost per gross add) of 15 Euros. There were several other MVNO announcements, such as Tele2 with E-Plus in Germany. France has now 2 new MVNOs, Debitel with SFR, and Breizh with Orange. Belgium and Denmark have the record number of MVNOs, namely 17 and 19 respectively. Very competitive markets, indeed!

In some peoples' mind, **3G** stands for Games, Gambling and Girls. In the **mobile games** front, the new exciting thing is the multi-party / interactive games that take advantage of the higher data rates, SIP/IMS architecture and other multimedia technologies. Several speakers already mentioned that the **gambling** related revenues for wireless operators will be around $2 Billion in 2005. However, highlight of this year's show was the upsurge in the **adult content** exhibits. Reports predict that 40% of mobile content revenues are coming from adult content, and there seems to be no reason for this number to go down!

On more serious matters, **enterprise applications** seemed to be on the rise. Several operators like mmO2 and Orange spoke about significant uptake of wireless email and other enterprise apps. It was noted that about 40% of European IT managers are expected to deploy Blackberry or similar email solutions in 2005.

i-Mode seems to be growing slowly but surely, with new set of operators committing to deploy i-Mode's messaging and content delivery platforms, namely mmO2, MTS in Russia and StarHub in Singapore. There are growing amount of i-Mode content across Europe. However, there is disagreement as to whether there are enough i-Mode handsets available in the market.

SIM card is one of the important aspects of GSM and will continue to be for WCDMA networks. However, access to SIM card has always been a problem due to several reasons. One interesting announcement was from Axalto, a major SIM card manufacturer, who demonstrated a USB interface between a SIM card and an Intel processor within a handset (in collaboration with Intel and Orange), thus allowing app providers to access the SIM card at high speed data rates, using web services and TCP/IP, etc.

Device management is getting to be far more crucial for the wireless operators, both for cost and churn reduction as well as a key enabler for new data services. There are several companies, each mostly focusing on few aspects of the over-all device management paradigm. Thus there are several strategic alliances and partnerships being announced.

Probably for the first time, a **billing** supplier, LHS was recognized by the GSM Association awards, primarily for the delivery of prepaid/postpaid convergence solutions, which indicated that this type of billing convergence is gaining more significance. It was also interesting to note that other rating / charging / billing solution providers such as Highdeal and CSG are proposing IMS compliant solutions.

On the **regulatory front**, it was mentioned that EU is investigating, yet again (!), allegedly excessive roaming charges by Vodafone and T-Mobile Germany. It is an understatement to say that these roaming charges are an area of concern throughout Europe.

So, this was **Goodbye to Cannes**. Next year, 3GSM Congress will be held in **Barcelona, Spain**.

Should you have questions or comments about these notes, please let me know!

Best regards,

Mehmet

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