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## **Conference Update:**

October 1, 2007

### **Topic:**

IIR's 3G RAN conference highlights and analysis

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### **Basis for topic:**

IIR's 3G RAN conference in Madrid ran for three days last week, plus an optional day-long workshop. Some highlighted aspects from the conference, and our opinions on topics raised there.

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### **Review**

Mobile traffic growth rates, upgrade requirements to maximize mobile data transport, and evolution toward LTE were all key aspects of the agenda this year. Operators contemplated the true impact that nanocells and femtocells might have on future operations and network architecture. Options for RAN sharing as a means of dealing with the cost impact of 3G mobile data traffic came up, as well as vendor projections for LTE deployment ranging from 2010 to 2012.

Mobile operator presentations from Mobilkom Austria, Telecom Italia, Vodafone, Telenor, Polkomtel, Cosmote, and Telecom Italia lent the relevance of practical experience to this event. HSDPA, the potential affects on service quality where only one radio frequency carrier is used, and the need to provide varying SLAs (explicit or implicit) for mobile voice and data were discussed, as were more mundane topics like handoff strategies between 2G and 3G.

All in all, the 3G RAN conference 2007 was a relatively small, focused event, but one with significant opportunity for interaction, a heavy contingent of network planning personnel from operators, and some excellent presentations.

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## Opinion

It was obvious in this conference that with the many challenges mobile operators face and their historical bias in skill sets, transport planning has not been at the forefront for many. However, it is becoming more important now. This creates opportunity for vendors like Ericsson, Nokia Siemens Networks, and Alcatel-Lucent - that have significant professional services capabilities as well as account inroads in these operators. ECI has also done well in this respect by targeting some niche market geographies and smaller operators where it can lavish attention on them that larger vendors may at time tend to allocate more freely to larger customers.

Nonetheless, some operators like Telecom Italia and Polkomtel are aggressively addressing next-gen transport network requirements. Operators are trying to forecast demand at least 2 years in future as input to planning

With 1.8 Mbps HSDPA being quickly supplanted by 3.6 Mbps launches, and with 7.2 Mbps deployments and HSUPA trials underway, data traffic requirements in the mobile network are experiencing incredible growth rates in many operators. This is leading to some operators having to deploy additional carriers, which of course carries additional power requirements.

“HSDPA offload” onto DSL is alive and well in Europe, with operators keenly aware that HSDPA traffic cannot be offered at competitive pricing if traveling over the same transport facilities as voice.

The transition to an all-IP RAN backhaul scenario seems far from the minds of most mobile operators in EMEA at present, though some larger and more progressive ones like Telecom Italia are already taking interim steps in that direction. To date, implementing an IP core has been the extent for most operators. But Telecom Italia has been planning a migration strategy to all IP using pseudowire technology as a means of helping it cope with effecting gradual migration and supporting multiple radio technologies over time. Bandwidth requirements for 3G RAN backhaul are certainly scaling, though the often-quoted maximum requirements will be needed at only a fraction of sites. While a minority of sites might need a full 10 E1 equivalents of bandwidth in the next couple of years, the distribution curve will probably be most heavily weighted at between 4 and 8 E1s.

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But today, there are still plenty of sites in Eastern Europe requiring only 1 E1 or perhaps 2. Cell site traffic aggregation is moving out closer to the cell site over time, resulting in greater transport efficiencies...a trend for which the cost savings is becoming increasingly apparent as 3G data traffic requirements grow – something more than one operator has mentioned.

Nanocells and femtocells are a hot topic, but primarily just a hot topic for now. A number of operators questioned how likely it would be to induce residential subscribers to pay for their own home femtocell, in addition to their own DSL connection. That seems unlikely, and as a result one operator suggested that some kind of special pricing packages would have to be developed in order to overcome this challenge if they were to try and roll out femtocells to the home...perhaps some sort of long-term contract commitment with a bundled femtocell, or lower service pricing to compensate the consumer. The first of these two options seems the more likely.

Regulatory opening of the 900/850MHz band for WCDMA in a number of countries is creating opportunity for some operators and vendors alike – with the lower frequency providing longer distance propagation and reducing the number of cell sites required.

Use of these new bands seems to be a growing trend, with France, Finland, Portugal, and Switzerland having opened up WCDMA in Europe, 850 MHz WCDMA already an option in the Americas, and WCDMA 850 MHz available in Australia and WCDMA 900 MHz bands available in Australia, New Zealand, and Indonesia.

Nokia Siemens Networks will be deploying a WCDMA 900 MHz solution in New Zealand in 1H 2008, and got a nice quote from its customer concerning how this move will enable them to provide 3G broadband services over greater distances and more economically than in the past.

Vodafone provided some interesting commentary on maintaining service quality – noting that network performance is vital to reducing customer churn...as one operator in North America intent on inducing churn amongst competitors by lowering service pricing recently admitted having learned the hard way, after reducing network quality as a means of achieving that “competitiveness.”

It will be a busy year ahead for 3G operators, which are facing challenges not only in terms of upgrading to new generations of mobile technologies and cost optimizing existing network, but also in understanding how best to cost optimize, differentiate and price new mobile data services.