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Omnitele foresees 15-25 Mbps user data rates from LTE

Press release

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During 2009, LTE trials were announced in several markets including countries in Europe, U.S. and Asia. The latest news come from Nordic telecom operator group TeliaSonera, who announced their commercial LTE launch in Sweden and Norway, the first in the world. LTE service has been launched in Stockholm and Oslo in December 2009, and will be followed by a trial in Finland in the first quarter of 2010¹.

TeliaSonera estimates LTE user data rates to be in the range of 20-80 Mbps, and similar figures have been promoted in other operator trials. Quite often operators and system vendors refer to the achievable peak rates, ranging from 100 Mbps to as high as 250 Mbps attained by NTTDocomo in Japan².

In cases where LTE is deployed in metropolitan macrocellular networks, Omnitele sees most of the promoted values are unrealistically high. We have analysed LTE performance in technical studies and simulations using Omnitele's state-of-the-art network planning tool. According to our analysis the performance gain of LTE compared to HSPA technology comes mainly from the wider frequency band (up to 20MHz compared to 5 MHz for UMTS), OFDM modulation, Frequency Domain Packet Scheduling and MIMO. Considering the maximum gains from all the LTE features in optimal radio environment, the publicly promoted data rates are in line with the theoretical LTE peak rates. **Actual LTE user data rates are highly dependent on radio conditions and number of users sharing network resources.**

Most of the first commercial LTE deployments are said to utilise 20MHz bandwidth and 2x2 MIMO antenna schemes. When breaking down the performance of LTE features in different channel conditions and simulating them in a realistic metropolitan network environment, **Omnitele estimates the achievable average LTE user data rates to be in the range of 15-25 Mbps per 20MHz frequency bandwidth.**

Omnitele sees LTE to have great potential as it outperforms the current baseline HSDPA in terms of data rates by a factor of ten and HSPA+ technologies by a factor of 3-4.

¹ <http://www.teliasonera.com/press/pressreleases/item.page?prs.itemId=463244>

² <http://www.nttdocomo.com/pr/2008/001390.html>

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