

Summary

This is the second published independent survey of the coverage of 3G networks in Finland. The survey, conducted in August-November 2008, involved the examination of reception conditions in 100 municipalities. ECE Ltd, the company conducting the study, included in the survey Finland's 50 largest municipalities, 25 municipalities among those ranked between 51 and 100, and 25 other municipalities. The municipalities included account for 70 per cent of the country's population. A similar survey was last conducted in January-February 2008.

Of the 17,090 road kilometres covered during the survey, 12,849 km were measuring routes. A total of 3,813,273 samples were collected on the measuring routes (Figure 1).

During the field survey, the reception in each municipality was examined by carrying out measurements in the central area and residential and industrial areas. The limits of the coverage were determined by driving on the main roads leading away from the municipality until there was no longer any reception.

The analysis was carried out using computer software by first subdividing each municipality into grid squares and then determining which of the operators had coverage in which squares. The comparison was carried out at various signal strength threshold levels.

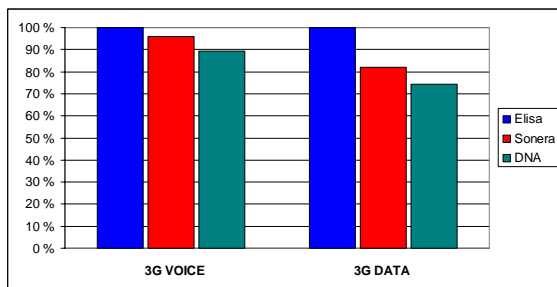


Figure 2. The relative number of squares covered - 3G voice and 3G data (The highest number of squares equals 100%).

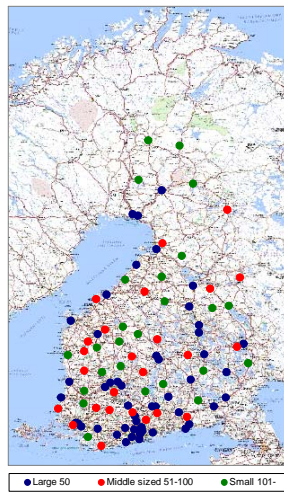


Figure 1. Municipalities included

The results for the country as a whole show that Elisa still has the broadest coverage at all threshold levels. Elisa also has a strong regional coverage even though in a number of municipalities it is pushed into the second or third place by DNA or Sonera (Figure 2).

An examination of the results for the country as a whole and the quality of reception (signal strength) puts Elisa in first place. High-quality reception also provides a sound basis for excellent voice and data services. It is particularly important for data services of more than 1 Mb, in which Elisa has, according to the reception measurements, an advantage over DNA and Sonera. DNA and Sonera would seem to be more or less equal though Sonera has a slight edge. As in coverage, there are also municipality-specific differences in reception quality and in some areas Elisa comes second or third after DNA or Sonera.

Elisa also has a clear advantage in the number of base station cells. A large number of cells means broad coverage and a dense network. In this comparison Sonera comes second, followed by DNA (Figure 3).

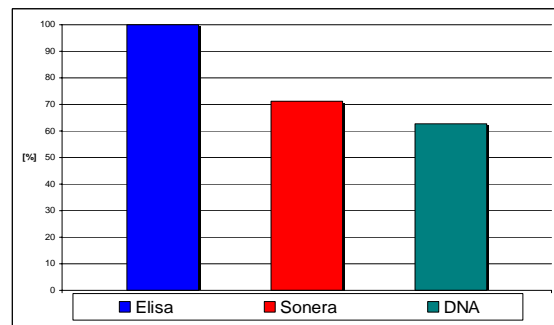


Figure 3. The number of 3G cells observed during the measurements (The highest number of cells equals 100%)

To sum up the results, Elisa remains the number one operator in Finland, both in terms of coverage and quality of reception. This is true of signal strengths in both voice and data services. The results also indicate that Sonera has a slight edge over DNA.

The coverage survey was commissioned by Elisa and carried out by European Communications Engineering (ECE Ltd), an independent Finnish expert service company in the field of radio network design, training and development.

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