

Ericsson and Mannesmann trial GSM adaptive antenna technology

– World's first trial in a commercial network

Ericsson and operator Mannesmann Mobilfunk GmbH have begun the world's first live trial in a commercial GSM network of adaptive antenna technology, both downlink and uplink, that is both to and from the mobile phone.

The joint research trial with the new technology - also in the downlink for the first time - is being conducted with base station prototypes in Mannesmann's D2 network in Germany.

Adaptive antenna technology can markedly reduce radio interference in both uplink and downlink, improving performance in both directions resulting in substantial capacity gains. Significant service quality improvements are also obtained. By putting the technology to use in the network "hot spots", an operator can also achieve significant improvements in overall network performance with the upgrade of only a few of the base stations.

"The benefits of adaptive antenna technology are of great interest to all of us in the mobile communications industry," says Rainer Bormann, Project Manager at Mannesmann. "We have been actively working on the technology with Ericsson for a few years, and it is that kind of close cooperation that assured us that we were now ready to move beyond research field trials and on to actual commercial traffic trials."

Adaptive antenna technology uses 'beam forming' to direct an antenna's energy in a narrow beam toward the location of a mobile phone (terminal), limiting the amount of energy needed. As the mobile phone moves, the base station tracks its location and changes the beam direction accordingly. A conventional antenna system transmits and receives signals to and from all parts of a cell. The use of beam-forming technology significantly reduces interference with other cells in the network by minimizing the amount of energy used during communication.

"Our joint research with Mannesmann has made it possible for us to be first to conduct live commercial trials with base station prototypes deploying this revolutionary new technology also in the downlink," says Henrik Dam, Research Project Manager at Ericsson Radio Systems.

Ericsson and Mannesmann began their joint research activities on adaptive antenna technology for GSM in early 1995. A research field trial was first carried out in Düsseldorf during 1996 to evaluate radio performance. In 1997, prototype base stations were developed and, in early 1998, integrated into Mannesmann's GSM network.

GSM is the world's most widely deployed digital wireless communications standard. Ericsson is the market leader in GSM worldwide, with almost half of the 100 million GSM users connected by Ericsson systems. Nearly 120 network operators in some 65 countries rely on Ericsson GSM systems.

Ericsson's 100,000 employees are active in more than 130 countries. Their combined expertise in fixed and mobile networks, mobile phones and infocom systems makes Ericsson a world-leading supplier in telecommunications.

FOR FURTHER INFORMATION, PLEASE CONTACT

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