

# Multi-Operator CoMP in Infrastructure-Shared LTE Networks

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## Abstract:

Cellular networks face important challenges in improving cell edge performance and reducing the costs for network deployment and operation. In recent years improving cell edge performance via so-called Cooperative Multi-Point (CoMP) transmission and reception is receiving significant attention. Another key trend is the reduction of network costs via infrastructure sharing. We investigate the performance benefits of CoMP transmission combined with multi-operator infrastructure sharing, labeled as multi-operator CoMP. These benefits are evaluated for different deployment aspects regarding the degree of co-location of the base stations from different operators and the overlap in their antenna patterns, as well as for different parameterizations of the multi-operator CoMP mechanism. The obtained results indicate that multi-operator CoMP is seen as a promising cell edge performance enhancement feature.