

## Overview of the LTE network and removal of unwanted Handover in the network and how to implement it with the ns3 simulator

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### Abstract

Today, cellular networks, notably LTE, are used in substructure communications because of ease of launch, tranquil maintenance, the movable equipment, the communal accessed, and other services. LTE has superior improvement in efficiency, higher data rates, lower time lag, cost savings, capacity, and coverage. How to categorize BTS antennas and handover at the border points are main consequence in these networks. there is possibility to set unessential handover indoors. Also ability to eliminate unnecessary handovers and optimized the networks structure. As a response, several scenarios, such as using the SOM neural network, the X-means clustering algorithm, ICA colonial competition algorithm, and other innovative and meta-innovative algorithms are introduced. Setting up, testing, and evaluating need to a simulated environment. In this research, we tried to examine this type of the LTE network and the its Handover, by analyze the tools' feature and network simulation languages such as (NS-2, NS-3, OMNET ++), we can present the right choice. Then, we will examine the possibility of implementing LTE and Handover scenarios in NS-3.

**Keywords:** "LTE network, NS-3 simulator, Handover, colonial competition algorithm, SOM algorithm"