

# Researches Concerning Security in LTE (Long Term Evolution) Mobile Networks

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## **Abstract**

This paper presents the interdisciplinary research developed at the EUROQUALROM laboratory regarding Long Term Evolution Mobile Networks. These researches have the purpose to describe and improve reliability and security of mobile telecommunications systems called SAE/LTE (System Architecture Evolution/Long Term Evolution). The number one goal of the 3GPP System Architecture Evolution /Long Term Evolution (SAE/ LTE) is to move mobile networks technology into its fourth generation. The unique features of 3GPP LTE/SAE architecture are creating a number of new challenges in designing the security algorithms. This article will give the necessary background information on cellular networks, relevant security concepts, also will describe LTE architecture and will represent the first step regarding the study of security mechanisms.

**Keywords:** LTE, mobile networks, security, reliability, confidentiality, integrity, AKA

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