

## **EVOLUTION TOWARDS 5G IN LTE TECHNOLOGY**

**SRAVANTHI KANCHI, ADWAIT PITKAR, SHUBHRIKA SANDILYA, DEESHA BHOSALE**

**& SIDDHESH MANJREKAR**

Vidyalankar Institute of Technology, Mumbai, Maharashtra, India

### **ABSTRACT**

LTE (Long Term Evolution) has become one of the fastest developing cellular technologies in the world. With its release 11 and 12 it has provided its user with the best 4G network features and has successfully fulfilled the requirements of IMT-Advanced. Now, it is working on its way for developing LTE to achieve 5G technology features in its upcoming releases. It is expected that there would be problems of increasing data traffic in future as multiple devices would be accessing the network at one time. Also, there would be an increase in the demand for mobile networks since users always look for the best user experience. These requirements have been the driving force for LTE to establish 5G networks. With enhancements made in release 12 and 13 such as Device to Device technology, Machine type communication, integration of WIFI with LTE, small cell enhancements and public safety features LTE has achieved maximum efficiency and has proven to be useful for many public safety organizations. Furthermore, the releases 14 and 15 have been aimed to provide 5G technology features with data rates greater than 1GBps and capacity by 1000x. This paper gives an overview of LTE technology beyond release 12 and describes the features to be provided in future by 5G networks.

**KEYWORDS:** 5G, 4G, 5G with LTE, Release 12, Release 13, HSPA, WiFi with LTE, LTE in Public Safety