



**Fig 1: The most important 6G uses, trends, and technologies**

### **I. Tera Hertz Communication**

Because the demand for wireless communications technology is increasing at an exponential rate, the RF band is virtually completely saturated and can no longer keep up. The THz range, which runs from 0.1 THz to 10 THz, will be important to enable better bandwidth, and capacity. It aids in the creation of nanoscale cells with diameters ranging from nanometers to micrometers, as well as the Internet of Nano-Things by enabling exceptionally high-speed communications over distances of 10 m.

### **II. Artificial Intelligence**

There was no application of artificial intelligence (AI) in 4G, 3G, 2G or 1G. 5G is altering the telecommunications business and opening the way for fresh exceptional usage like. However, 6G will entirely ease automation utilizing AI. The most significant 6G technologies are artificial intelligence (AI) and machine learning (ML) [2].

### **III. Extended Reality**

A headpiece that creates sounds and sights to create an artificial world is used in virtual reality (VR). AR augments the actual world using a specialized technology, like a mobile phone. The mix of audio, video, and GPS may be integrated to create an interactive environment. Due to its stable connection, rapid data throughput, excellent resolution, and low latency, 6G will be very beneficial for this role [4].