

Effect of 6G Network in our Environment

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Abstract: *The ongoing deployment of 5G cellular systems is continuously exposing the inherent limitations of this system, compared to its original premise as an enabler for Internet of Everything applications. These 5G drawbacks are spurring worldwide activities focused on defining the next-generation 6G wireless system that can truly integrate far-reaching applications ranging from autonomous systems to extended reality. Despite recent 6G initiatives¹, the fundamental architectural and performance components of 6G remain largely undefined. In this paper, we present a holistic, forward-looking vision that defines the tenets of a 6G system. We opine that 6G will not be a mere exploration of more spectrum at high-frequency bands, but it will rather be a convergence of upcoming technological trends driven by exciting, underlying services. In this regard, we first identify the primary drivers of 6G systems, in terms of applications and accompanying technological trends. Then, we propose a new set of service classes and expose their target 6G performance requirements. We then identify the enabling technologies for the introduced 6G services and outline a comprehensive research agenda that leverages those technologies. We conclude by providing concrete recommendations for the roadmap toward 6G. Ultimately, the intent of this article is to serve as a basis for stimulating more out-of-the-box research around 6G.*

Keywords: 6G

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