Abstract

As cities’ communication networks develop continuously with new technologies like 4G, the rural areas still remain void of such services. The use of optical fibers for providing broadband network is already being implemented. However, there are some problems faced by the optical fiber communications. This paper will discuss a few advantages of the optical networks and introduce the use of E and V bands for providing point to point wireless backhaul in place of fiber connections. It will also be discussed as to how IoT can use these bands to provide improved services to rural areas thereby bridging the gap between urban and rural parts and fulfilling the concept of Digital India.

References

1. Towards Enabling Broadband for a Billion Plus Population with TV White Spaces, Animesh Kumar, Abhay Karandikar, Gaurang Naik, Meghna Khaturia, Shubham Saha, Mahak Arora, and Jaspreet Singh
4. Fiber-optic Internet of Things (FIOTs) Deming Liu, Qizhen Sun, Huazhong University of Science and Technology, Wuhan National Laboratory for Optoelectronics. National Engineering Laboratory for Next Generation Internet Access System
5. Applications of Internet of Things on Smart Grid in China, Jianming Liu, Xiangzhen Li, Xi Chen, Yan Zhen, Lingkang Zeng, ICACT2011
7. A Survey of Millimeter Wave (mmWave) Communications for 5G: Opportunities and Challenges. Yong Niu, Yong Li, Member, IEEE, Depeng Jin, Member, IEEE, Li Su, and Athanasios V. Vasilakos, Senior Member, IEEE
8. 5G roadmap: 10 key enabling technologies, Ian F. Akyildiz, Shuai Nie, Shih-Chun Lin, Manoj Chandrasekaran, Computer Networks, 2016 - Elsevier.

Index Terms
Computer Science Communications

Keywords
IoT, Optical fibers, E and V bands, rural areas