

Wireless, Aerospace & Satellite Communications

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Real-Time Wireless Communications for Industrial Automation

The advent of new wireless applications, especially industrial applications, have required new wireless network architecture design with new network management techniques. Industrial automation is one of the significant wireless applications that requires ultra-reliable and ultra-low latency wireless connectivity with high network availability. The upcoming Five Generation (5G) mobile wireless communication system is expected to satisfy the Ultra-Reliable and Low Latency Communications (URLLCs), in addition to the other two uses cases of enhanced Mobile Broadband (e-MBB) and massive Machine Type Communications (mMTC). Also, Tactile internet applications, in which real-time communications must be enabled to support haptic communications (i.e. touch and real-time control transmission) over the wireless communication network. Tactile internet will be the real future and will need End-to-End (E2E) network connectivity optimization to guarantee millisecond Round-Trip Delay (RTD) and millisecond network outage per day.

Biography

Najib A Odhah received PhD from the Faculty of Electronic Engineering, Menoufia University, Menouf, Egypt, in 2013. He is currently an assistant professor in the Electrical Communications Engineering Department at Ibb University, Yemen. From 2015 to Now, he worked as a post-doctoral scientist in the Department of System Design, IHP research institute, Frankfurt (Oder), Germany. His research areas of interest include wireless communications, signal processing techniques for wireless communications, multiple antennas techniques for wireless communications, Multiple-Input Multiple-Output (MIMO) techniques (traditional, cooperative, and massive), power allocation algorithms for Orthogonal Frequency Division Multiplexing (OFDM) Systems (traditional and cognitive), Advanced Radio Resource Management (RRM) for wireless communications, digital signal processing, digital communications, Interference Cancellation and Interference Coordination (ICIC) techniques, channel estimation and equalization, game theory based optimization techniques for future 5G wireless communication systems, Machine-to-Machine (M2M) communications, Device-to-Device (D2D) communications, and 5G-Enabled Tactile Internet.

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