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COMMENTS AND CORRECTIONS

Corrections to "Integration of D2D, Network Slicing, and MEC in 5G Cellular Networks: Survey and Challenges"

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In the above article [1], reference [2] was missing. The corrections are made in Section VI of [1]. Figures 5 and 7 of [1] are also cited.

I. D2D COMMUNICATION TECHNOLOGY

In cellular networks, the base stations (BS) are involved to set-up the connection between the transmitter and receiver user equipment. The transmitter sends its data to BS using the uplink (UL) channel and then the BS redirects the data to a corresponding receiver in the downlink (DL) channel. D2D communication refers to a radio technology that allows devices to directly exchange data without the use of a BS or its core network [2]. Fig. 1 clearly explains the idea of a direct communication link.

FIGURE 1. Communication links [2].

A. INBAND COMMUNICATION

D2D communication uses a cellular network licensed spectrum. Based on spectrum sharing methods, inband D2D

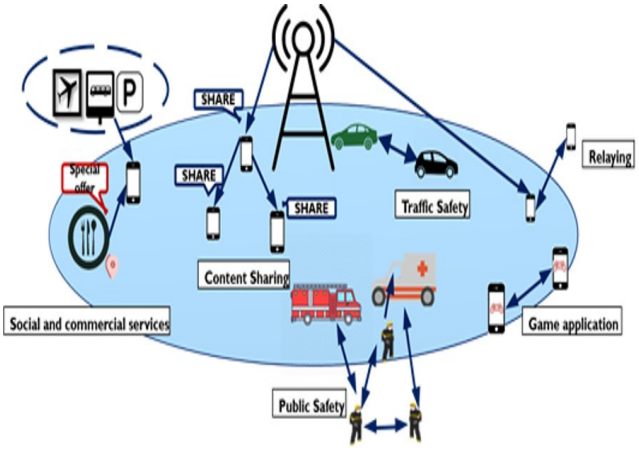

FIGURE 2. Examples of D2D application scenarios [2].

communication is divided into the overlay and underlay modes. In the overlay inband, D2D and cellular users are assigned orthogonal resources (e.g., time/frequency). Hence, there is no interference between D2D and cellular users. However, it is insufficient in terms of spectrum efficiency (SE). In underlay inband, D2D and cellular users share time/frequency resources. Therefore, resulting in co-channel interference and efficient interference management techniques are required. Also, this method increases SE [2].

B. OUTBAND COMMUNICATION

D2D communication exploits the unlicensed ISM band also called industrial, scientific, and medical. Out-band

communication eliminates interference between the users due to using a separate band instead of reusing; therefore, it requires an extra radio interface. This type of communication adapts to other wireless technologies transmitting in the unlicensed band like Bluetooth and Wi-Fi. Out-band communication is further divided into two types autonomous and controlled D2D-based communication [2].

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