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Nanosatellites constellation as an IoT communication platform for near equatorial countries

(Conference Paper)

Narayanasamy, A.^a, Ahmad, Y.A.^b, Othman, M.^c^aUsaha Prakarsa (M) SDN Bhd, Selangor, Shah Alam, Malaysia^bElectrical and Computer Engineering Department, Kulliyah of Engineering, International Islamic University Malaysia, Malaysia^cAcademy of Sciences Malaysia, Malaysia

Abstract

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Anytime, anywhere access for real-time intelligence by Internet of Things (IoT) is changing the way that the whole world will operate as it moves toward data driven technologies. Over the next five years, IoT related devices going to have a dramatic breakthrough in current and new applications, not just on increased efficiency and cost reduction on current system, but it also will make trillion-dollar revenue generation and improve customer satisfaction. IoT communications is the networking of intelligent devices which enables data collection from remote assets. It covers a broad range of technologies and applications which connect to the physical world while allowing key information to be transferred automatically. The current terrestrial wireless communications technologies used to enable this connectivity include GSM, GPRS, 3G, LTE, WiFi, WiMAX and LoRa. These connections occur short to medium range distance however, none of them can cover a whole country or continent and the networks are getting congested with the multiplication of IoT devices. In this study, we discuss a conceptual design of a nanosatellite constellation those can provide a space-based communication platform for IoT devices for near Equatorial countries. The constellation design i.e. the orbital plane and number of satellites and launch deployment concepts are presented. © Published under licence by IOP Publishing Ltd.

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