Wireless Communication Techniques, the Right Path to Smart Grid Distribution Systems: A Review.

By: Shabani, H (Shabani, Hikma)[1]; Julai, N (Julai, Norhuzaimin)[1]; Ahmed, MM (Ahmed, Musse Mohamud)[1]; Khan, S (Khan, Sheroz)[2]; Hameed, SA (Hameed, Shihab Ahmed)[2]; Habaebi, MH (Habaebi, Mohamed Hadi)[2]

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Abstract

The quality and reliability of electric power supply are the key indicators for the comfort of a society. Hence, to serve customers with high quality electricity, the Supervisory Control and Data Acquisition (SCADA) system is being used in the distribution system (DS) for power monitoring and control. The SCADA is feed with operation data like current and voltage via Feeder_Remote Terminal_Units (FRTUs). The FRTUs are capable of triggering actions to detach the portion of DS experiencing an unusual condition. Nevertheless, the existing grids do not operate at their optimal capacity due to the usage of one way data communication installations. Thus, to optimize the operation of the legacy power distribution grids, the innovation of the state-of-the-art communication techniques play a vital role-leading to the creation of smart grid Systems. This paper reviews the development of wireless communication technologies envisioned as full-duplex information exchange medium in the on-going development of Smart Grid Systems.

Keywords

Author Keywords: Society; Key indicator; Distribution System; Wireless; Smart Grid; SCADA; Feeder_Remote Terminal_Units; Full-duplex

Author Information

Reprint Address: Shabani, H (reprint author)

+ Univ Malaysia Sarawak, Fac Engn, Dept Elect & Elect Engn, Kota Samarahan 94300, Sarawak, Malaysia.

Addresses:

+ [1] Univ Malaysia Sarawak, Fac Engn, Dept Elect & Elect Engn, Kota Samarahan 94300, Sarawak, Malaysia

+ [2] Int Islamic Univ Malaysia, Kulliyyah Engn, Dept Elect & Comp Engn, POB 10, Kuala Lumpur, Malaysia

E-mail Addresses: shikma@unimas.my

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