IEEE EUROCON 2017
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Tutorial Proposal

INTERNET OF THINGS FOR SMART BUILDINGS: CURRENT AND FUTURE TRENDS

Abstract: The "Internet of things" (IoT) is becoming an increasingly growing topic and it is expected to offer advanced connectivity of devices, systems, and services that goes beyond machine-to-machine communications (M2M) and covers a variety of protocols, domains, and applications. Smart city is first and foremost a city – one that pushes the quality of resource management and service provision to the limit possible at the time. In such an integrated understanding of the smart city concept, smart city projects are part of a general concept of city modernization. Since the hype surrounding IoT is in the market, it is expected that exploiting IoT practices can play a key role in the development of sustainable future smart buildings that are energy efficient, flexible and equipped with advanced control systems to provide the best experiences for tenants. Therefore, the Internet of Things (IoT) is advancing a new breed of smart buildings that are better aligned with the priorities of property owners, managers and communities.

Outline:

1. Introduction
2. Motivation Behind IoT hype
3. IoT architectures
4. IoT for Smart Buildings
5. Market Status
   - Economy
   - Existing Development and applications
6. Major Challenges
7. A case study (Comparisons of existing practices)
8. Evaluation of Smart Buildings
9. Major Conclusions and Near Future Perspective

Duration: 02:00 Hrs

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Muhammad Alam holds a PhD degree in computer science from University of Aveiro, Portugal (2013-14). In 2009, he joined the Instituto de Telecomunicações - Aveiro (Portugal) as researcher and completed his Ph.D from University of Aveiro with a specialization in Inter Layer and Cooperative Design Strategies for Green Mobile Networks. He has participated in several European Union FP7 projects such as Hurricane, C2POWER, ICSI, PEACE and Portuguese government funded projects such SmartVision. Currently, he is working as senior researcher at Instituto de Telecomunicações and participating in European Union and Portuguese government funded projects. His research interests include IoT, Real-time wireless communication, 5G, Vehicular networks, Context-aware systems and Radio resource management in next generation wireless networks. He is the editor of Book "Intelligent Transportation Systems, Dependable Vehicular Communications for Improved Road Safety". He is the author of several journal and conference publications as well as book chapters. He is also the TPC member and reviewer for a number of reputed conferences, journals, and magazines. He is IEEE and IEEE IES member. He served as general co-chair of future 5V conference and also served as session chairs in a number of reputed conferences such as IEEE IECON 2016, IEEE WFCS 2016, IEEE ITSC 2015. He also provided his services as guest editor to several journals.