

Internet of Things: Research and Practice

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Human beings have experienced two major industrial revolutions. The first one took place in the 19th century, which replaced muscle power from humans and animals with mechanical power. The second one started in the middle 20th century, which provided people and societies with Internet. It was built with the technologies from computing, communication, networking and information storage. Both offered unprecedented productivity increases. What will be the next one? This talk intends to answer this question by presenting some recent development of Internet of Things (IoT). IoT was selected by IEEE as a major initiative to develop and advance over the next few years. Several recent studies have predicted the huge growth of IoT and tremendous benefits to the world economy. It was expected that 26 billion IoT units would be installed by year 2020, generating \$300 billion in revenue. The IoT will generate an additional \$1.9 trillion in economic value. We plan to present the status of IoT including its architectures, interesting research projects and applications to manufacturing automation, smart cities, smart grid, medical and healthcare services. Such key technologies and barriers as information security and social sensing will also be discussed.