**LITERATURE SURVEY**

1.S.D.T. Kelly N.K. Suryadevara and S.C.Mukhopadhyay ”Towards the implementation of IoT for environmental condition monitoring in homes”

In this paper, we have reported an effective implementation for Internet of Things used for monitoring regular domestic conditions by means of low cost ubiquitous sensing system. The description about the integrated network architecture and the interconnecting mechanisms for the reliable measurement of parameters by smart sensors and transmission of data via internet is being presented. The longitudinal learning system was able to provide a self-control mechanism for better operation of the devices in monitoring stage. The framework of the monitoring system is based on a combination of pervasive distributed sensing units, information system for data aggregation, and reasoning and context awareness. Results are encouraging as the reliability of sensing information transmission through the proposed integrated network architecture is 97%. The prototype was tested to generate real-time graphical information rather than a test bed scenario.

2. Y.S.Song J.Kim S.W. Choi and Y.K. Kim “Long term evolution for wireless communications: Testbed deployment and performance evolution

In this article, we show the feasibility of the LTE-R testbed with essentially IP-based network architecture. Specifically, we discuss procedures of deploying LTE-R by describing our construction of a testbed in a commercial railway through cell planning and optimization. Then we demonstrate the performance enabled by the implementation of a testbed for LTE-R. We confirm that not only reliable communications but also multimedia services requiring high data rates are feasible, which gives us some guarantee of the prosperity of various advanced train services. We also discuss a number of valuable technical communication issues related to inherent characteristics of railway communications that are unlike those of commercial wireless communications.

3. J. Kim S.W. Choi Y.S. Song Y.K Yoon and Y.K Kim “Automatic train control LTE: Design and performance evolution”

Due to technical advances in train control and wireless communications, unmanned train operation has gained in popularity of late. On the other hand, any errors involved in managing the QoS of train control traffic will cause negative consequences such as possible loss of life. Operators therefore naturally wish to scrutinize the specifications so that the wireless communications system is capable of guaranteeing the QoS of the train control traffic. In this article, we propose a feasible QoS management scheme for train control traffic based on the methodology used in a conventional LTE system. Based on the proposed scheme, we evaluate the feasibility of the LTE system using a testbed built in a commercial railway region. The key issues to support the train control services by the LTE system are the design of a QoS policy based on analyzing the characteristics of the train control traffic and the appropriate adjustment of the cell parameters during the cell planning and optimization procedures in order to resolve any network issues that may cause problems with data pause.

4. B. Martinez M. Monton I. Vilajosana and J.D. Prades “The power of models: Modeling power consumption for IoT devices”

Low-energy technologies in the Internet of Things (IoTs) era are still unable to provide the reliability needed by the industrial world, particularly in terms of the wireless operation that pervasive deployments demand. While the industrial wireless performance has achieved an acceptable degree in communications, it is no easy task to determine an efficient energy-dimensioning of the device in order to meet the application requirements. This is especially true in the face of the uncertainty inherent in energy harvesting. Thus, it is of utmost importance to model and dimension the energy consumption of the IoT applications at the pre-deployment or pre-production stages, especially when considering critical factors, such as reduced cost, life-time, and available energy. This paper presents a comprehensive model for the power consumption of wireless sensor nodes. The model takes a system-level perspective to account for all energy expenditures: communications, acquisition and processing. Furthermore, it is based only on parameters that can empirically be quantified once the platform (i.e., technology) and the application (i.e., operating conditions) are defined. This results in a new framework for studying and analyzing the energy life-cycles in applications, and it is suitable for determining in advance the specific weight of application parameters, as well as for understanding the tolerance margins and tradeoffs in the system.

5. J. Kim J. Lee J. Kim and J. Yun “M2M service platforms: Survey issues and enabling technologies”

Machine-to-Machine (M2M) refers to technologies with various applications. In order to provide the vision and goals of M2M, an M2M ecosystem with a service platform must be established by the key players in industrial domains so as to substantially reduce development costs and improve time to market of M2M devices and services. The service platform must be supported by M2M enabling technologies and standardization. In this paper, we present a survey of existing M2M service platforms and explore the various research issues and challenges involved in enabling an M2M service platform. We first classify M2M nodes according to their characteristics and required functions, and we then highlight the features of M2M traffic. With these in mind, we discuss the necessity of M2M platforms. By comparing and analyzing the existing approaches and solutions of M2M platforms, we identify the requirements and functionalities of the ideal M2M service platform. Based on these, we propose an M2M service platform (M2SP) architecture and its functionalities, and present the M2M ecosystem with this platform. Different application scenarios are given to illustrate the interaction between the components of the proposed platform. In addition, we discuss the issues and challenges of enabling technologies and standardization activities, and outline future research directions for the M2M network.

6. A. Gluhak etal , “A survey on facilities for experimental Internet of Things research”

The initial vision of the Internet of Things was of a world in which all physical objects are tagged and uniquely identified by RFID transponders. However, the concept has grown into multiple dimensions, encompassing sensor networks able to provide real-world intelligence and goal-oriented collaboration of distributed smart objects via local networks or global interconnections such as the Internet. Despite significant technological advances, difficulties associated with the evaluation of IoT solutions under realistic conditions in real-world experimental deployments still hamper their maturation and significant rollout. In this article we identify requirements for the next generation of IoT experimental facilities. While providing a taxonomy, we also survey currently available research testbeds, identify existing gaps, and suggest new directions based on experience from recent efforts in this field.