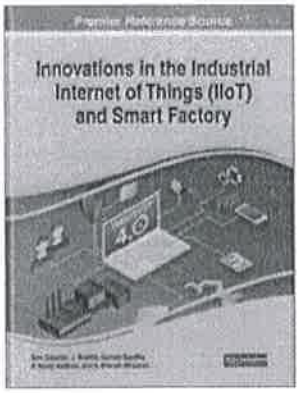

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Challenges to Industrial Internet of Things (IIoT) Adoption

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Abstract

The industrial internet of things (IIoT) has made its development within a short span of time. Initially it was considered as a novel idea and currently it is a major driver in industry applications. It has created productivity and efficiency for industries worldwide. This innovative technology can become a practical reality if engineers overcome a variety of challenges. They are connectivity, cost, data integration, trust, privacy, device management, security, interoperability, collaboration, and integration. In this chapter, several facts behind the above-mentioned challenges are being explored and addressed.

Background

Many detailed studies, regarding vital Challenges and open research issues regarding the implementation of Industry 4.0, have been carried out. Several challenges and fundamental issues in various circumstances that occur throughout the implementation of Industry 4.0 were addressed (Wang, et al., 2016; Vaidya, et al., 2018). They were: 1) decision-making and negotiation, 2) industrial wireless network (IWN) protocols, 3) big data and its analytic, 4) system modelling and analysis, 5) cyber security issues and 6) interoperability, 7) Investment issues. Some of the technology challenges concerning the implementation of Industry 4.0 involve the development of smart devices, the establishment of network environments, big data analysis and processing and digital production (Zhou, Liu, & Zhou, 2015).Currently the volume of data collected by industrial internet of things (IIoT) applications is very huge, making it a challenge to offer platforms with adequate capacity and performance. It is essential to make a detailed analysis of several IIoT platforms in the market and before making the decision of which one to adopt (Moura, et al., 2018).

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Chapter 8

Traffic Analysis Using IoT for Improving Secured Communication

Lakshman Narayana Vejendla, Alapati Naresh, Peda Gopi Arepalli

Internet of Things can be simply referred to as Internet of entirety which is the network of things enclosed with software, sensors, electronics, allows them to gather and transmitts the data. Because of the various and progressively malevolent assaults on PC systems and frameworks, current security apparatuses are frequently insufficient to determine the issues identified with unlawful clients, unwavering quality, and to give vigorous system security. Late research has demonstrated that in spite of the fact that system security has built up, a significant worry about an expansion in illicit interruptions is as yet happening. Addressing security on every occasion or in every place is a really important and sensitive matter for many users, businesses, governments and enterprises. In this research work we are going to propose an secre IOT architecure for routing in a network. It mainly aims to locate the malicious users in a IOT routing protocols. the proposed mechasnism is compared with the state ofd the art work and compared results shows the proposed work performs well.

Chapter 9

Challenges to Industrial Internet of Things (IIoT) Adoption

V. Shunmughavel

The Industrial Internet of Things (IIoT) has made its development within a short span of time. Initially it was considered as a novel idea and currently it is a major driver in Industry applications. It has created productivity and efficiency for industries worldwide. This innovative technology can become a practical reality, if engineers overcome a variety of challenges. They are connectivity, cost, data integration, trust, privacy, device management, security, interoperability, collaboration and integration. In this chapter, several facts behind the above mentioned challenges are being explored and addressed.

Chapter 10

Industrial Internet of Things: Benefit, Applications, and Challenges

Sam Goundar, Akashdeep Bhardwaj, Safiya Nur, Shonal Kumar, Rajneet Harish

This chapter foocused on the importance and influence of Industrial Internet of Things (IIoT) and the way industries operate around the world and the value added for society by the Internet connected technologies. Industry 4.0 & Internet of Things (IoT) enabled systems where communication between products, systems and machinery are used to improve manufacturing efficiency. Human operators' intervention and interaction is significantly reduced by connecting machines and creating intelligent networks along the entire value chain that can communicate and control each other autonomously. The difference between IoT and IIoT is that where consumer IoT often focuses on convenience for individual consumers, Industrial IoT is strongly focused on improving the efficiency, safety, and productivity of operations with a focus on return on investment. The possibilities with IIoT is unlimited, for example: smarter and more efficient factories, greener energy generation, self-regulating buildings that optimize energy consumption, smart cities that can adjust traffic patterns to respond to congestion

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