PREFACE

Through numerous technological advances, society is moving towards the Internet of Things (IoT) paradigm. People start to stay connected with their things either to monitor or to view the conditions of their things. IoT is a mixture of wireless sensor network (WSN) technology, communication technology, sensor technology, and Internet technology. The ability to connect, communicate with, and remotely manage an incalculable number of networked, automated devices via the Internet become pervasive, from the agricultural farming to commercial kitchen to the residential basement room to the arm of the fitness buff.

The background of the IoT, which covers various areas like ubiquitous positioning, biometrics, energy, and machine vision, makes researchers do in-depth studies in these individual technologies. Advances in embedded systems, computers, information systems, and the Internet have made it possible to monitor an environment in real-time continuously.

This book chapter is a comprehensive number of chapters that highlighted the trends, challenges, and applications of IoT. It serves as reference material for students, researchers, and anyone who wants to know and learn about the IoT market, technology, methodology, and its application. The book consists of ten Chapters, presented in a flow of three components, which are market size and demand, methodology and technology, and specific IoT application. Each chapter contains a large number of information that helps the readers to facilitate the exploration of IoT, and it will appeal to researchers developing IoT technology solutions. Chapter 1 presents the IoT technology trends and challenges as well as IoT market size and demand in Malaysia. Chapter 2 discusses the IoT methodology and technology, which includes IoT architecture and platform. Chapter 3 until Chapter 10 presents specific IoT technology solution and application which covers areas of smart energy, solar system, smart recycle bin, monitoring system for air quality and health, smart system monitoring, smart vending machine and aquaponic.

Khalid Isa, UTHM, 2020