Chapter 17
The Development of Mobile Wireless Sensor Networks: A Survey

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ABSTRACT

In this chapter, the authors mainly discuss mobile wireless sensor networks (MWSNs). First, the authors are introduce the evolution of MWSNs from sensor networks to wireless sensor networks, and finally to mobile networks. Second, to provide a general context of MWSNs the authors then compare the peer work of MWSNs in chronological order. The third section discusses typical issues including localization, deployment, resource/energy efficiency and coverage issues. Cross-layer design is considered as one of the most useful ways to improve MWSNs in the future.

INTRODUCTION

Nowadays, sensors have been deployed onto many mobile platforms, such as cars, bikes, planes, animals, and even human body. A general scenario of MWSN is shown in Figure 1. And the organization structure of the whole book chapter is shown in Figure 2.

Sensor Networks

A sensor network consists in a group of specialized transducers with a communication infrastructure. These specialized transducers intended to monitor and record conditions at diverse locations. Commonly, monitored parameters are temperature, humidity, pressure, wind direction and speed, illumination intensity, vibration intensity, sound intensity, power-line voltage, chemical concentrations, pollutant levels and vital body functions, etc.

A sensor network consists of multiple sensor nodes. Sensor nodes are kind of detection stations, each of them are very tiny, low-cost, light weight and portable. However, sensor nodes have various energy and computational constraints because of their inexpensive nature and ad hoc method

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Figure 1. The schematic diagram of MWSNs

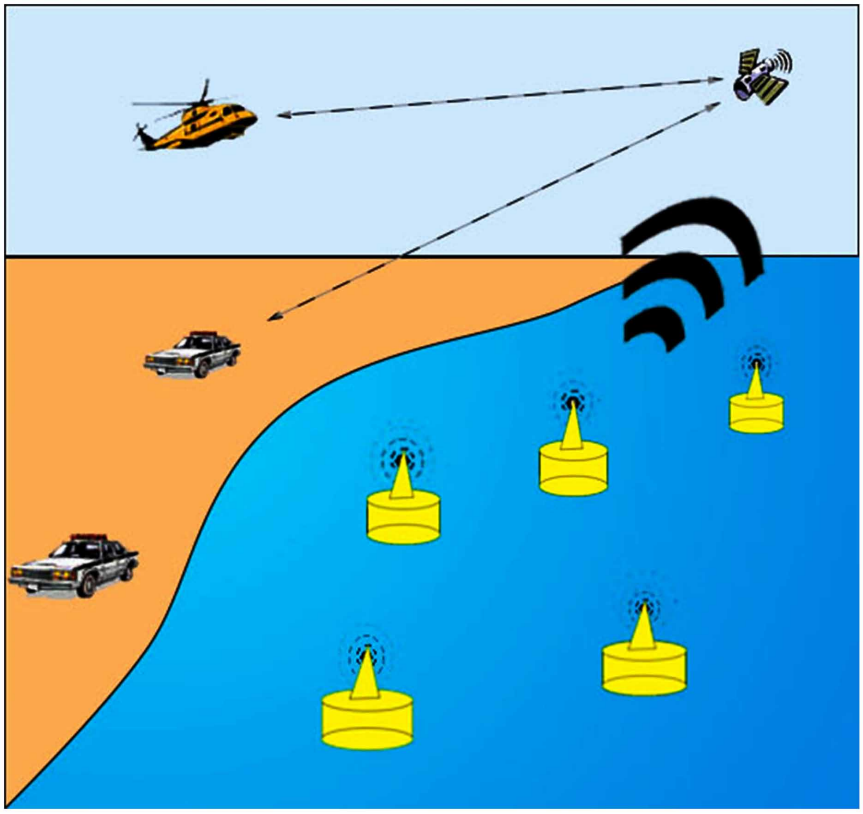

Figure 2. Book chapter organization structure