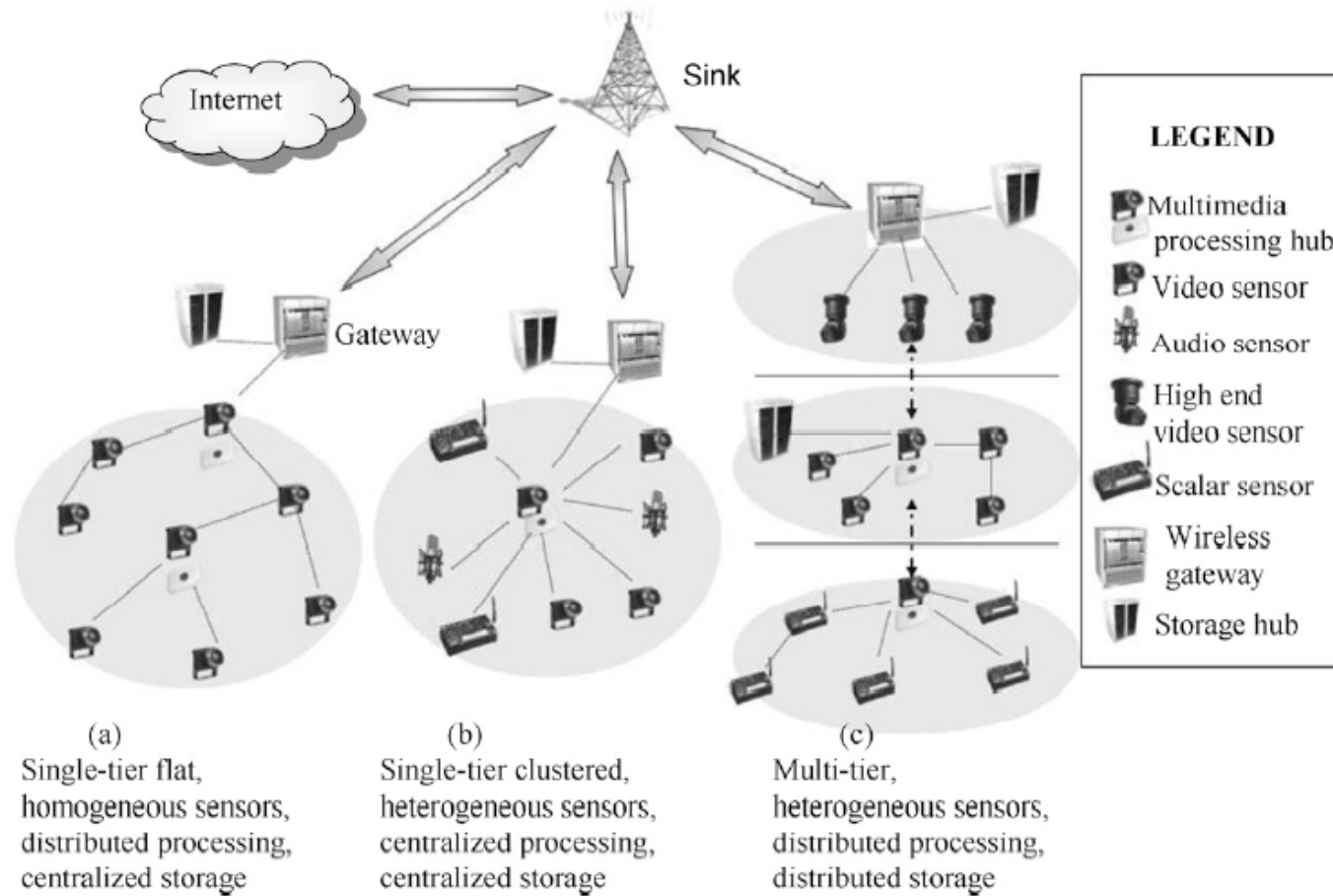
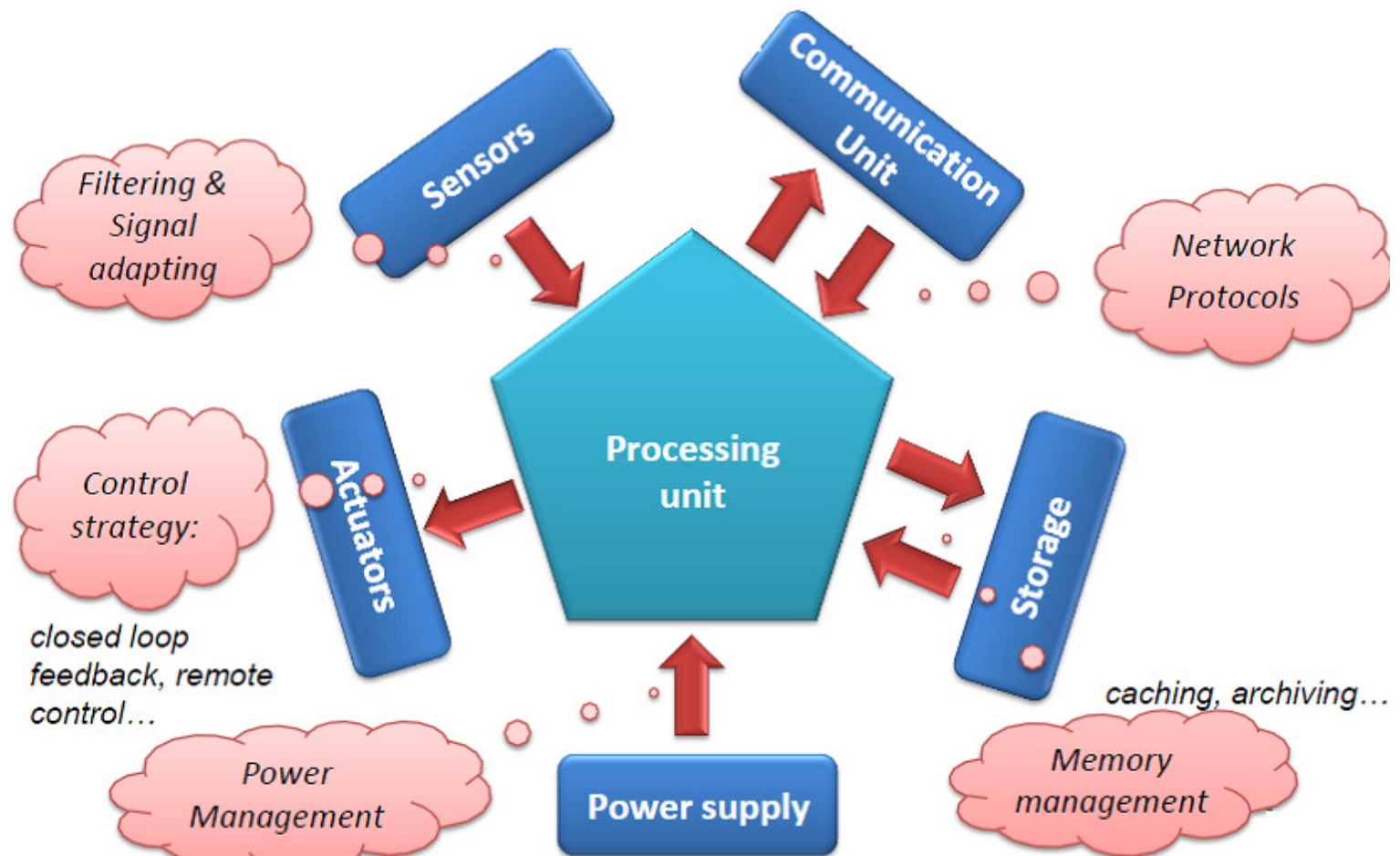


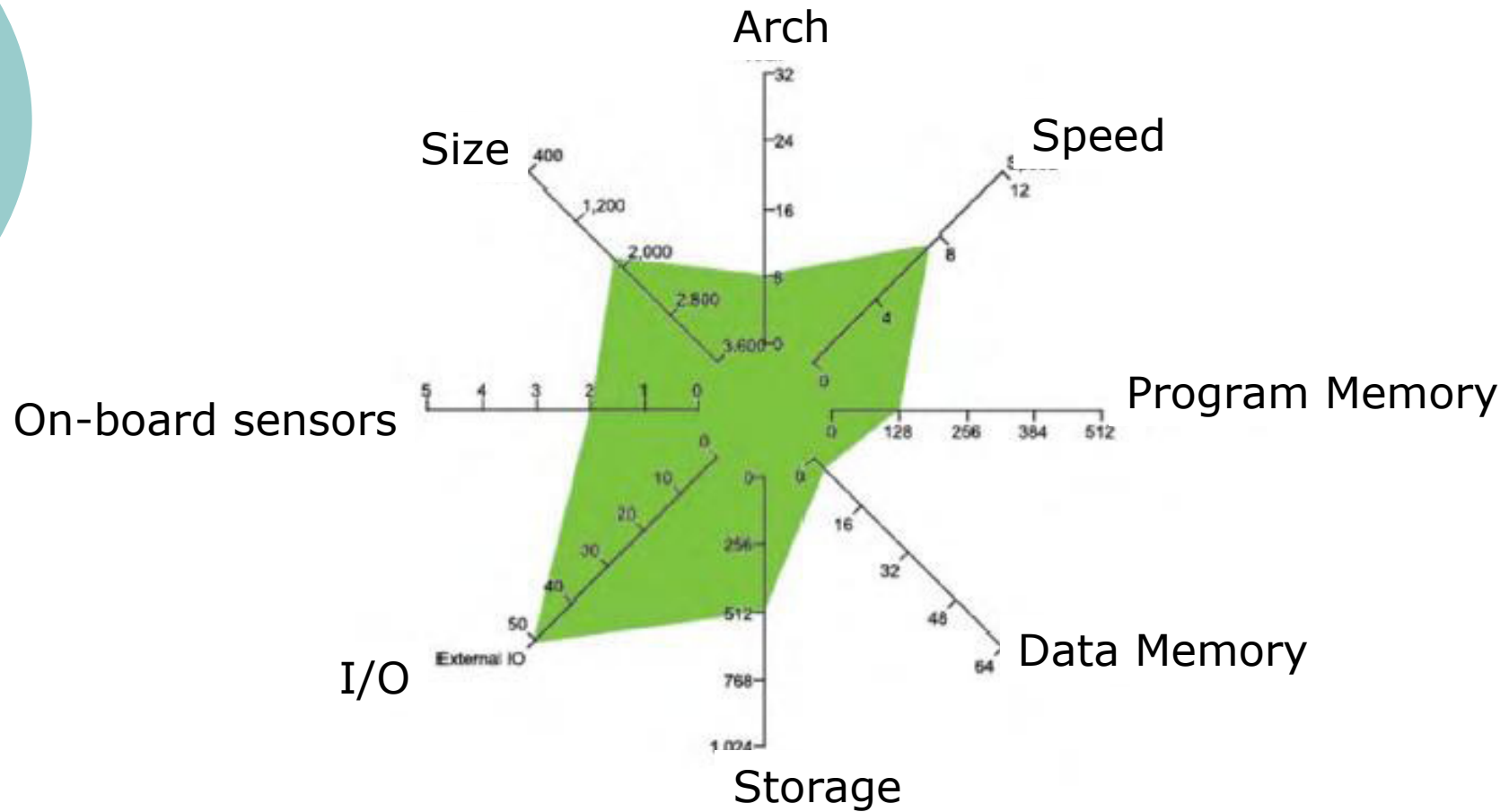
# Wireless Sensor Networks



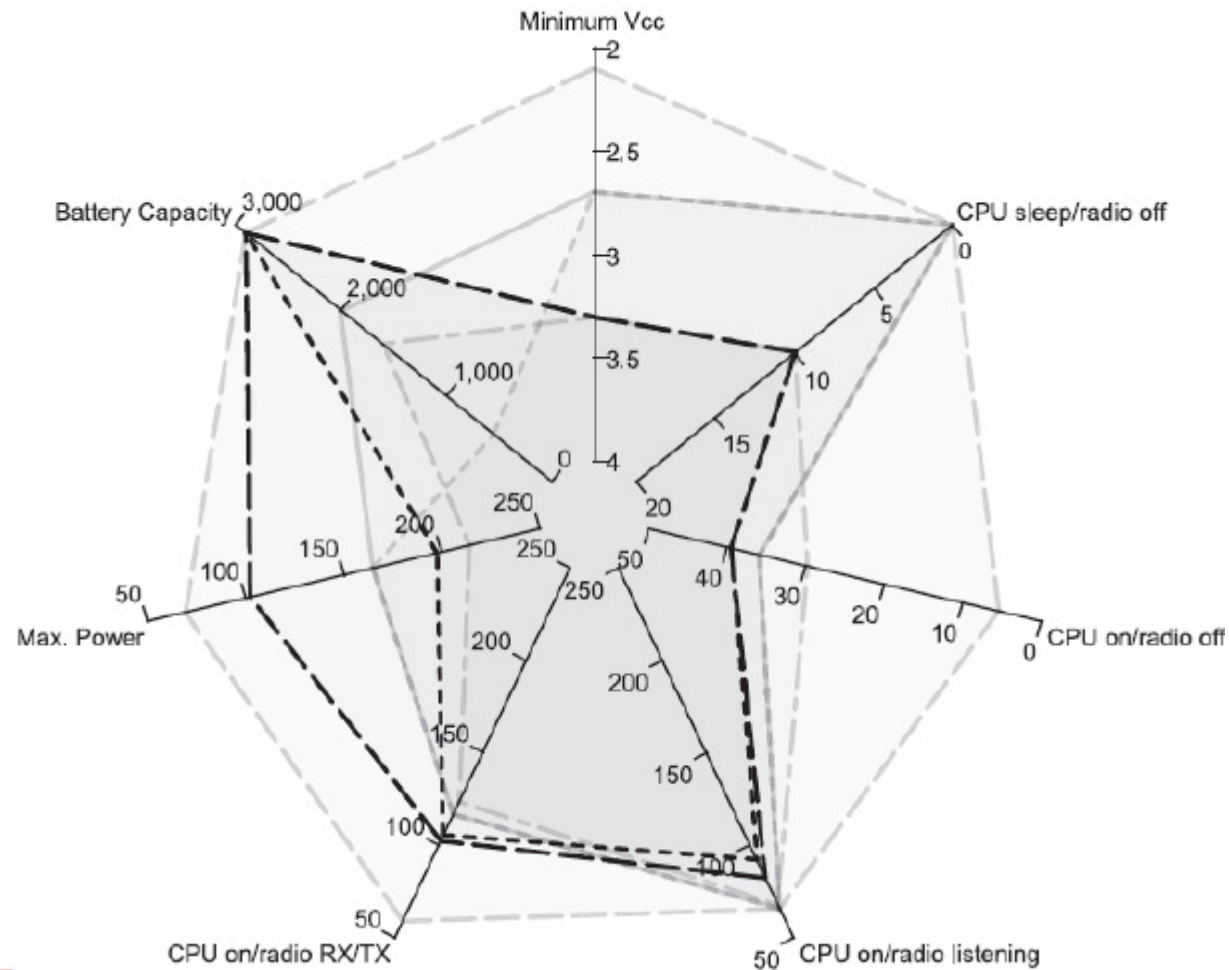
# Wireless Sensor Networks



# Wireless Sensor Networks

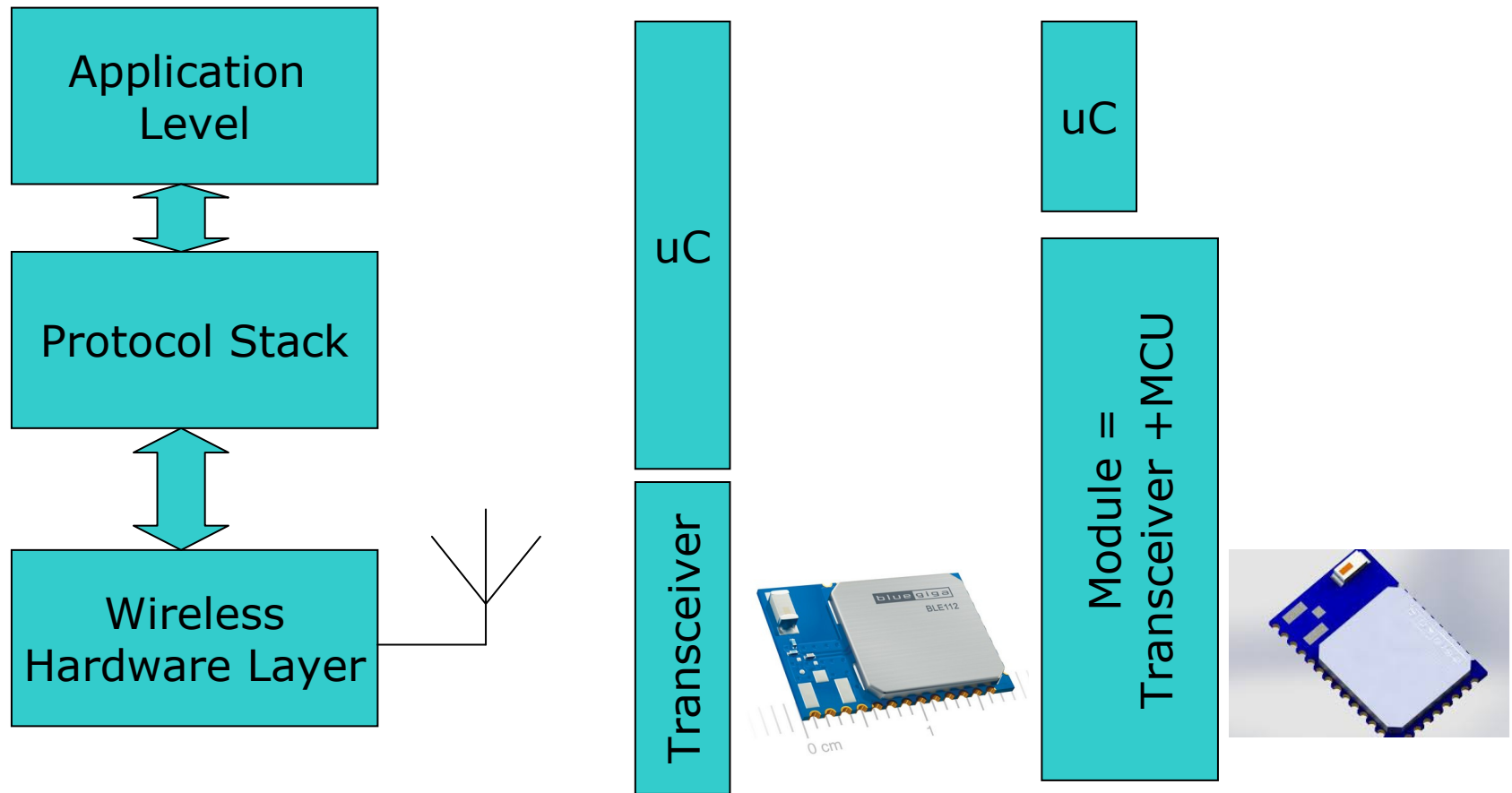


# Wireless Sensor Networks - Communication



Progettazione Elettronica Digitale  
2013/2014

# Wireless Sensor Networks – Wireless Modules

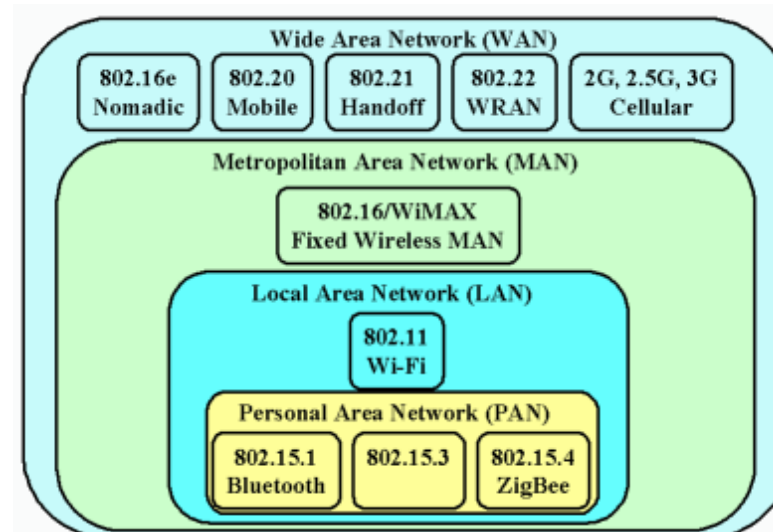


# Wireless Sensor Networks

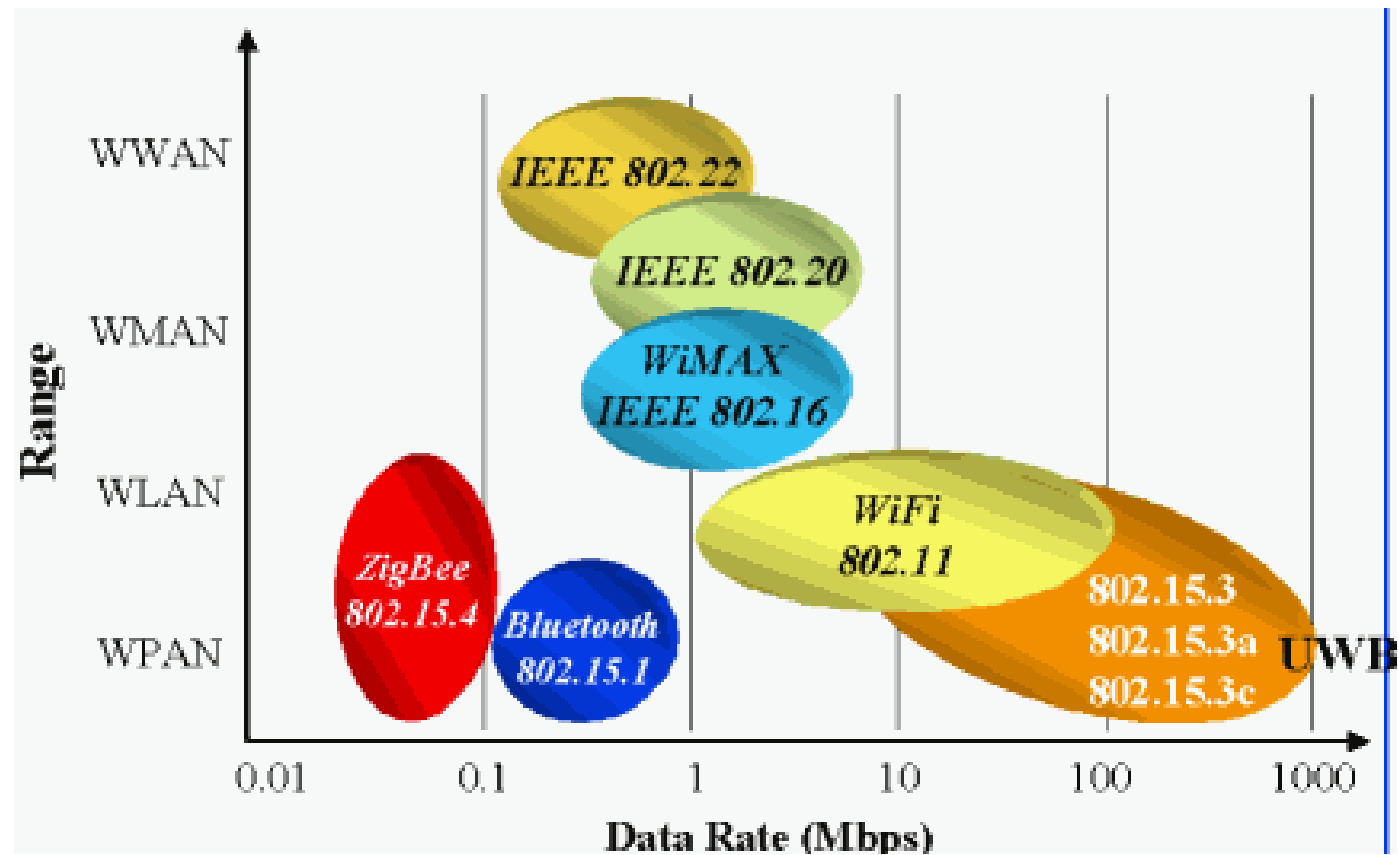
- IEEE 802.3 - Ethernet
- IEEE 802.5 - Token Ring
- IEEE 802.11 - Wi-Fi

## ■ IEEE 802.15 - Wireless personal area network

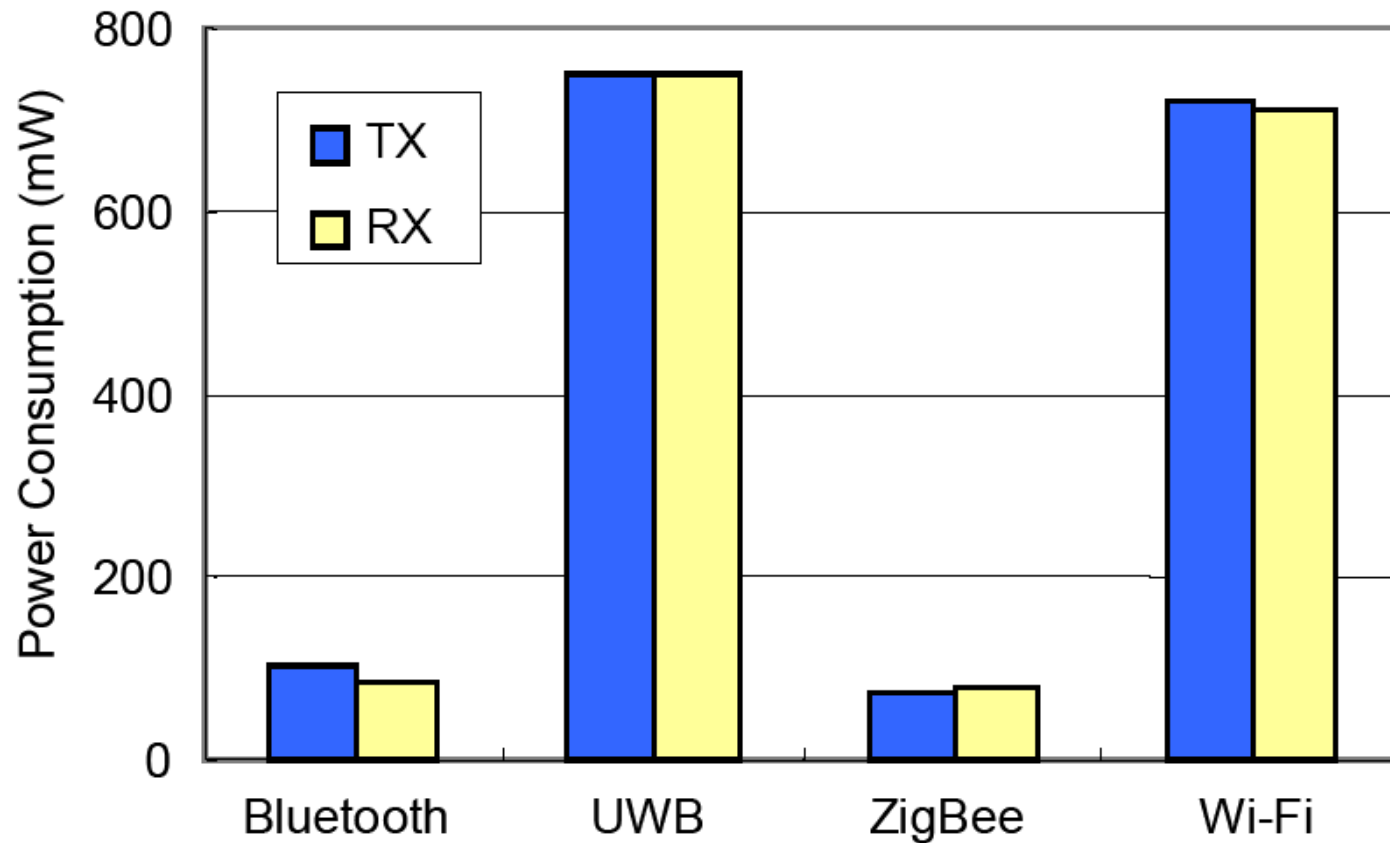
- IEEE 802.16 - WiMAX - Broadband wireless access



# Wireless Sensor Networks

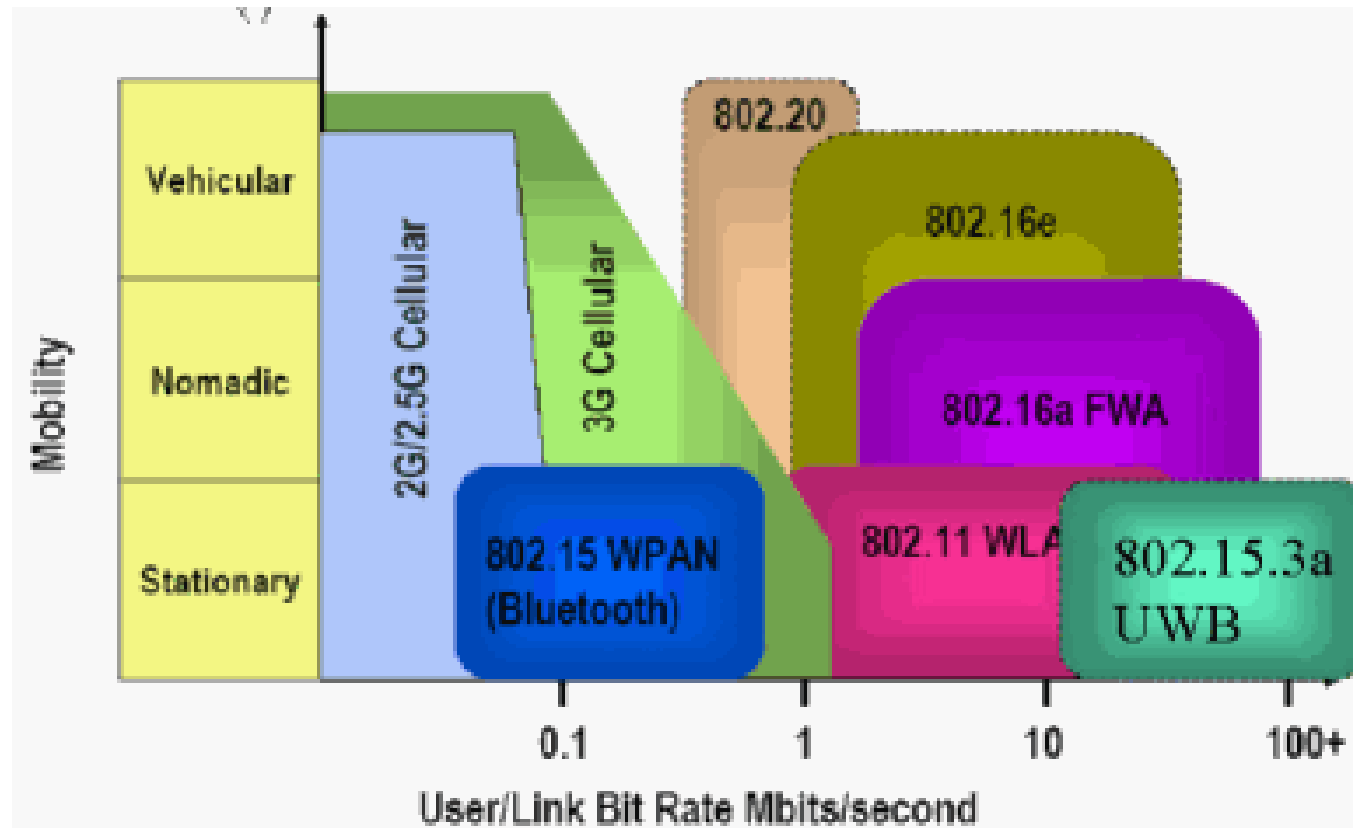


# Wireless Sensor Networks

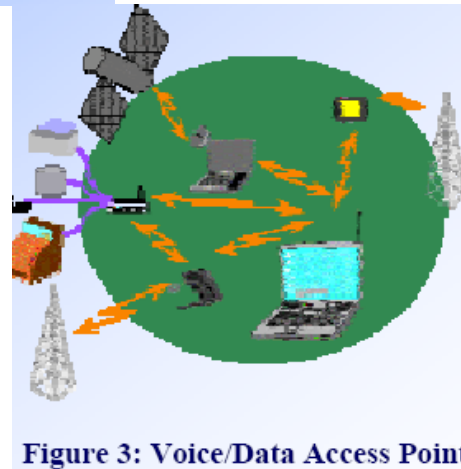
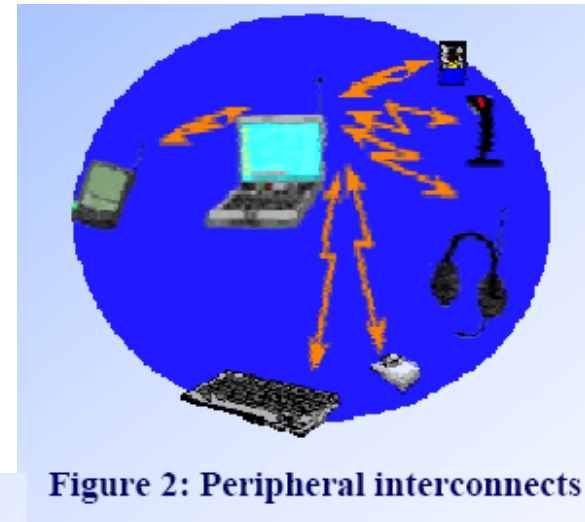
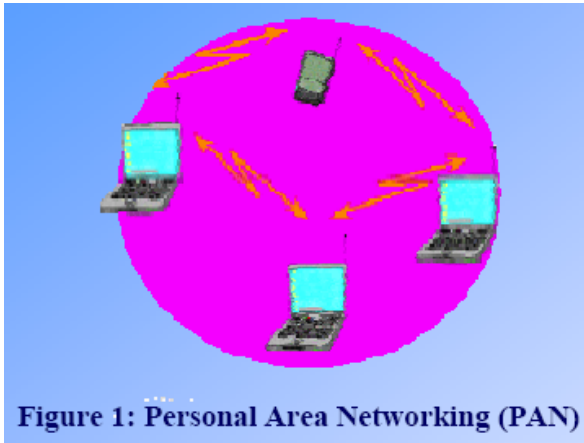




# Wireless Sensor Networks

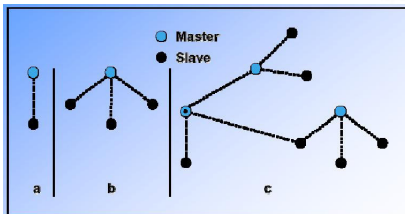
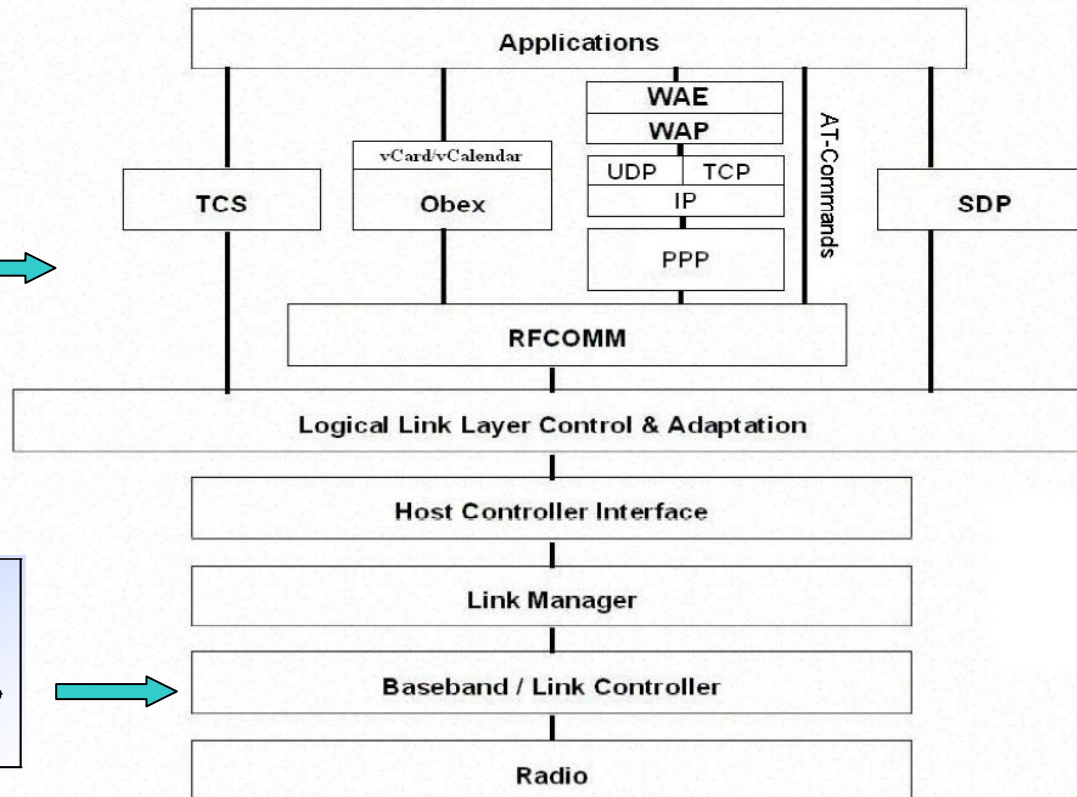


# Bluetooth



# Bluetooth – Protocol Stack

Profile →





# Bluetooth – Profile

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## 1.1 Advanced Audio Distribution Profile (A2DP)

### ■ 1.2 Audio/Video Remote Control Profile (AVRCP)

### ■ 1.3 Basic Imaging Profile (BIP)

### ■ 1.4 Basic Printing Profile (BPP)

### ■ 1.5 Common ISDN Access Profile (CIP)

### ■ 1.6 Cordless Telephony Profile (CTP)

### ■ 1.7 Device ID Profile (DID)

### ■ 1.8 Dial-up Networking Profile (DUN)

### ■ 1.9 Fax Profile (FAX)

### ■ 1.10 File Transfer Profile (FTP)

### ■ 1.11 Generic Audio/Video Distribution Profile (GAVDP)

### ■ 1.12 Generic Access Profile (GAP)

### ■ 1.13 Generic Object Exchange Profile (GOEP)

### ■ 1.14 Hard Copy Cable Replacement Profile (HCRP)

### ■ 1.15 Hands-Free Profile (HFP)

### ■ 1.16 Human Interface Device Profile (HID)

### ■ 1.17 Headset Profile (HSP)

### ■ 1.18 Intercom Profile (ICP)

### ■ 1.19 LAN Access Profile (LAP)

### ■ 1.20 Object Push Profile (OPP)

### ■ 1.21 Personal Area Networking Profile (PAN)

### ■ 1.22 Phone Book Access Profile (PBAP, PBA)

### ■ 1.23 Serial Port Profile (SPP)

### ■ 1.24 Service Discovery Application Profile (SDAP)

### ■ 1.25 SIM Access Profile (SAP, SIM, rSAP)

### ■ 1.26 Synchronisation Profile (SYNCH)

### ■ 1.27 Video Distribution Profile (VDP)

### ■ 1.28 Wireless Application Protocol Bearer (WAPB)