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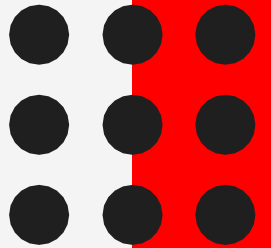
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UNIT 2
# IOT Reference Architecture and Technologies

Control Units

Control units in IoT

- An Electronic Control Unit (ECU) is a device,such as a sensor or an actuator, that is connected to other devices via a CAN Bus.

- The Internet of Things is rarely discussed without the conversation steering to data and the new data economy

- Sensors are the source of IoT data

Communication Modules

- IoT devices are found everywhere and will enable circulatory intelligence in the future. For operational perception, it is important and useful to understand how various IoT devices communicate with each other.

- Communication models used in IoT have great value. The IoT allow people and things to be connected any time, any space, with anything and anyone, using any network and any service.
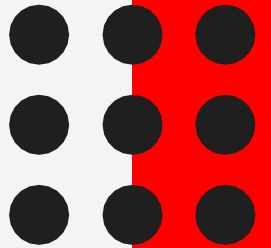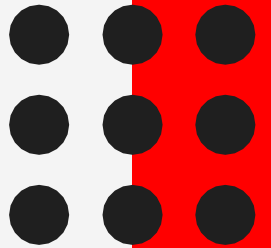
Types of Communication Modules

- Bluetooth
- Zigbee
- Wifi

Bluetooth:

It is a serious technology used for IoT applications. Apart from being the ubiquitous solution for hands-free calling and wireless transmission technology for audio, Bluetooth technology is leading in consumer and business IoT

Zigbee

- Zigbee is a technological standard designed for control and sensor networks
- Zigbee is **a standards-based wireless technology developed to enable low-cost, low-power wireless machine-to-machine (M2M) and internet of things (IoT) networks**. Zigbee is for low-data rate, low-power applications and is an open standard.

Characteristics of zigbee

- Low cost
- Low power consumption
- Low data rate
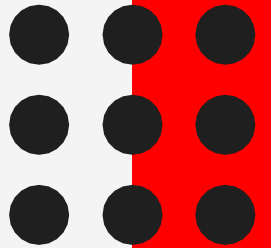- Scalability
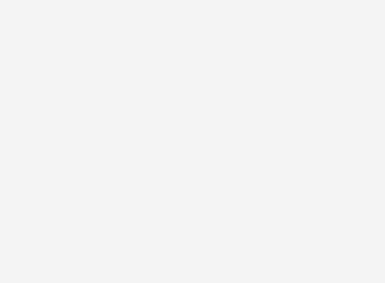- Reliability
- Flexible protocol

Wifi

- WiFi technology is a wireless technology that **allows devices access to the internet without the need for cables**

- Integration and interoperability delivered by Wi-Fi will enable IoT solutions to securely interconnect to one another and to billions of user-centric devices to unlock the greatest value from IoT applications and environments

GPS

- The functionality of an IoT GPS tracking device at a glance

- **The information is transmitted to a server via a wireless radio standard**: The satellite broadcasts its position and time using coded radio signals. A GPS tracker 2 uses this information to calculate its position and passes it on to a server 4 via radio 3.

THANK YOU