



# **SNS COLLEGE OF ENGINEERING**



**Kurumbapalayam(Po), Coimbatore – 641 107**

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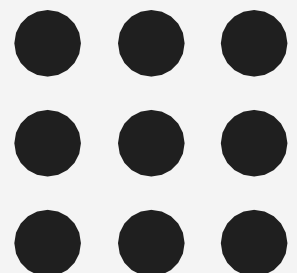
## **Department of Information Technology**

**Course Name – 19IT503 Internet of Things**

**III Year / V Semester**

**Unit 2 – FUNDAMENTAL MECHANISMS & KEY  
TECHNOLOGIES**

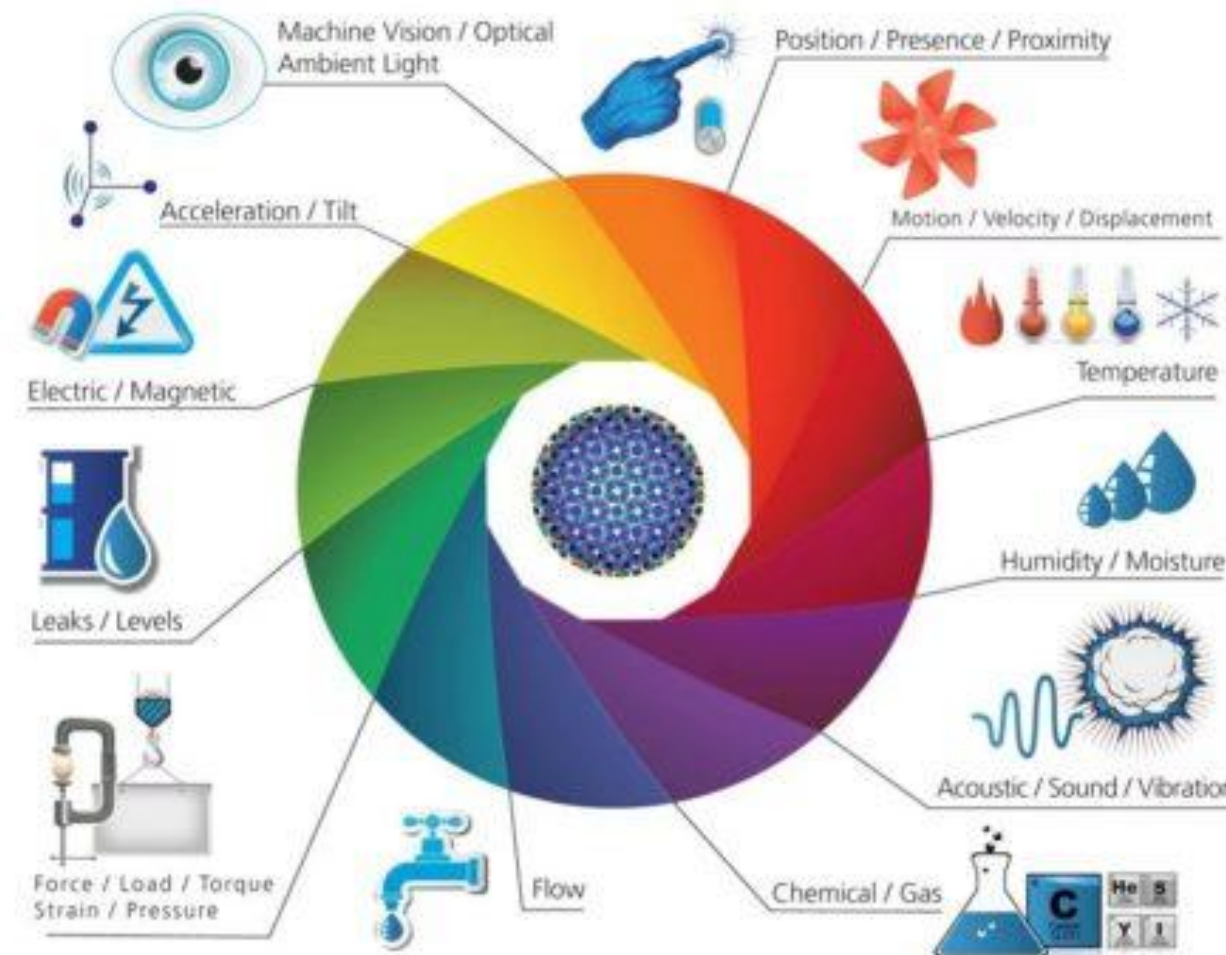
**Topic 3- Key IoT Technologies**



# Key IoT Technologies

Technologies required for deploying IoT

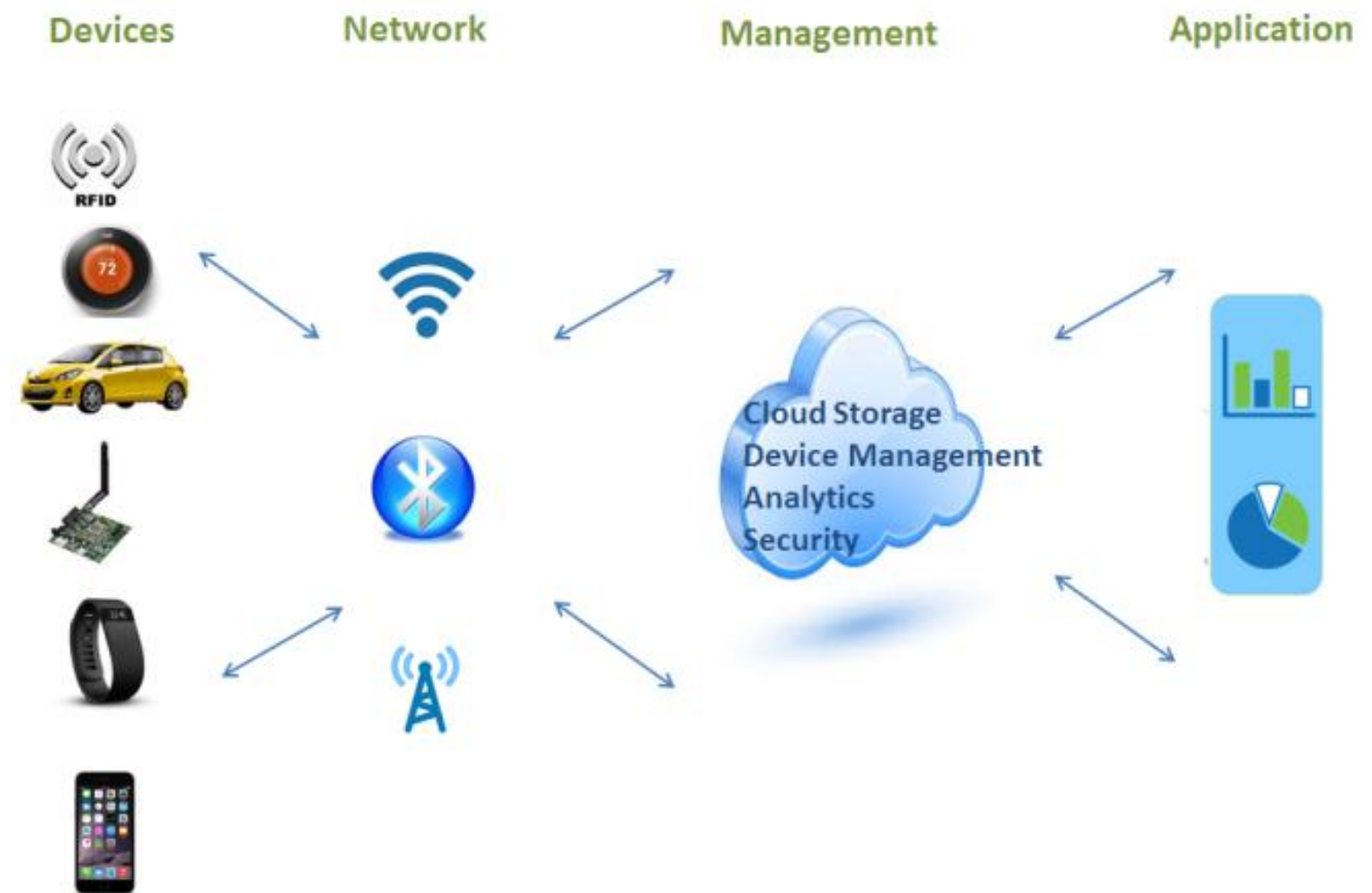
- Device Intelligence
- Communication Capabilities
- Mobility Support
- Device Power
- Sensor Technology
- RFID Technology
- Satellite Technology



# Key IoT Technologies - Device Intelligence

## Device Intelligence

- On-board Intelligence
- Objects should be able to intelligently sense and interact with the environment
- Capability to store some passive or acquired data
- Ability to communicate with the world around them
- Object-to-gateway device communication, or
- Direct object to object communication, is desirable.
- Seamless interconnection of human and objects

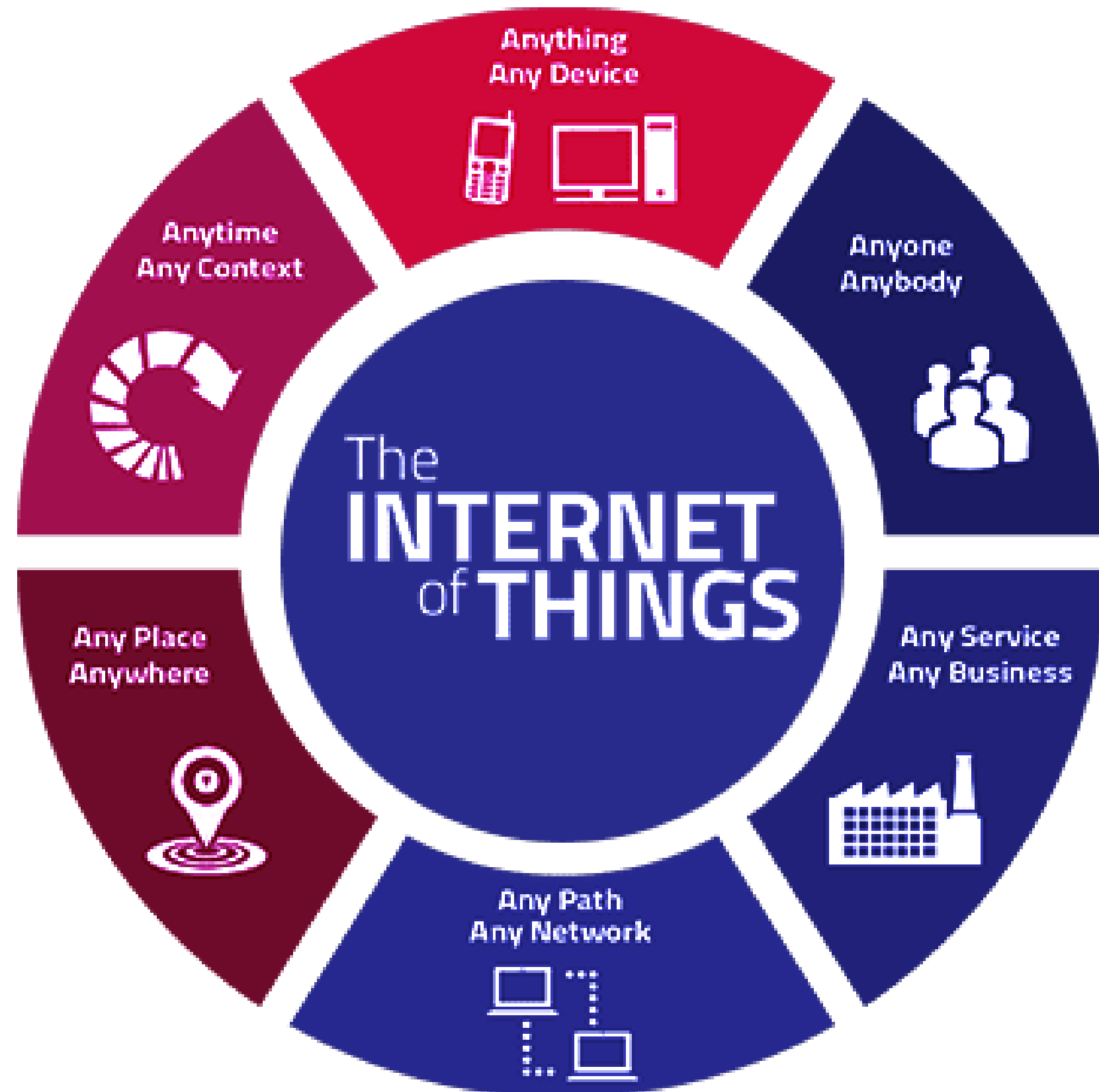


# Key IoT Technologies – Device Intelligence

## Device Intelligence

5 Any

- Any Services,
- Any Time,
- Any Where,
- Any Devices, and
- Any Networks

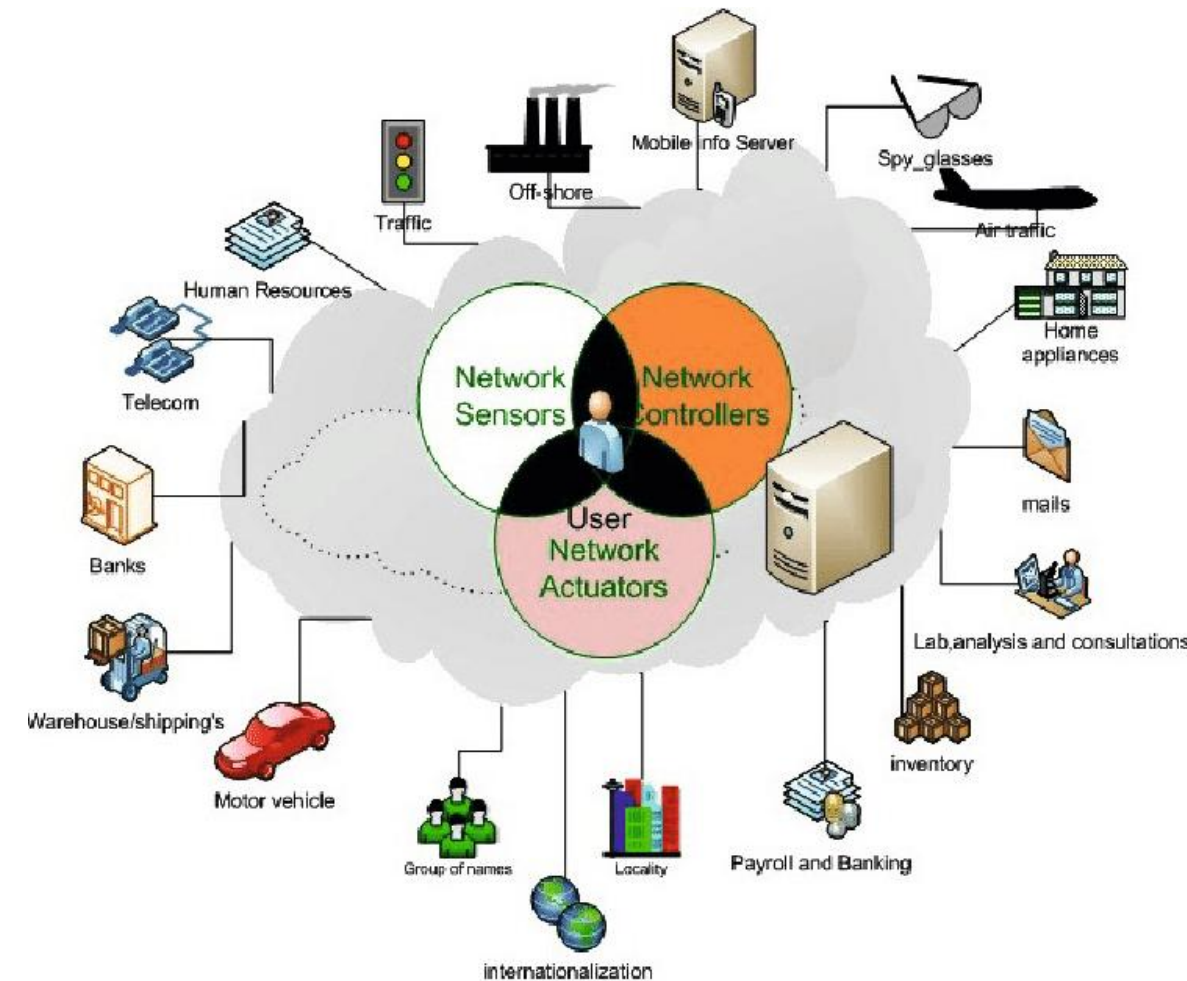


# Key IoT Technologies – Communication Capabilities

## Communication Capabilities

Capability of devices to have

- Ubiquitous Network
- Human to Object Communication
- Object to Object Communication
- IP or TCP/IP is highly desirable
- Self-configuring capabilities,
  - how an IoT device can establish its connectivity automatically without human intervention
  - IPv6 auto-configuration and multi-homing





# Key IoT Technologies – Communication Capabilities



## Communication Capabilities

Protocol suit (Protocols must support)

- limited remote energizing power
- leaner protocols both at the network layer (e.g., route and/or topology management)

Considerations needed

- Minimize power consumption
- Limited memory and computing power
- For the above constraints, lightweight protocols that minimize energy consumption is a desirable.



# Key IoT Technologies – Mobility Support



## Mobility Support

- Mobility-enabled architectures and protocols are required
- Tracking of objects
- According to the moving feature, different tracking methods are required
- It is important to provide ubiquitous and seamless communication among objects while tracking the location of objects.
- Mobile IPv6 (MIPv6) offers several capabilities that can address this requirement.



**THANK YOU**