**INTERNET OF THINGS**

This is a network of end devices that can connect and share data with other end devices and systems over the internet. It can also be defined as a network of interrelated devices that connect and exchange data with other IOT devices.

**BUILDING BLOCKS OF IOT**

The building blocks of Internet of Things are; sensors, processors, gateways and applications. The following are an expansion into each building block

Sensors: These are physical devices that capture data from the environment for example; pressure, temperature, motion and light among others and convert it into electrical signals.

Actuators: These are also physical devices but their function is to translate digital signals into physical actions like adjusting a thermostat or turning a motor.

Processors: These process raw data collected by sensors, performing calculations effectively converting the collected data into information.

Gateways: These are the bridges between individual IOT devices and the larger network responsible for collecting data from multiple sensors, organizing it and transmitting it to the network or other systems.

Applications: This is the software the interacts with the collected data allowing users to visualize, analyze and perform actions based off of the information received from the IOT system.

Power management systems: These are mechanisms and device that control the power consumption and management of an IOT system

**Why is the internet of things important?**

Data-driven decision making- By analyzing data generated by the IOT devices in the network organizations can make informed decisions according to real-time information.

Automation- IOT can automate routine tasks reducing need for human intervention thus improving speed, development and efficiency.

Innovation potential- IOT opens up new paths for developing new and innovative products and services in various sectors.

**Examples of IOT applications**

Smart homes: Temperature control, Automated lighting and CCTV camera management.

Industrial automation: Predictive maintenance, production optimization.

Retail: Customer behavior analysis and inventory management.

**Things to note**

Security- IOT devices and the data they generate must be protected from unauthorized access due to the sensitive nature of the information collected.

Data storage and analytics- Cloud platforms are used to store large amounts of IOT data and perform advanced analytics and calculation to extract valuable insights.

Connectivity- IOT systems require a reliable network infrastructure to function these include Wi-Fi, cellular networks and other wired or wireless networks.

Scalability and interoperability- IOT systems must have the ability to connect to a large number of devices across different platforms and protocols.

**Conclusion**

IOT is a rapidly growing field that has the potential to revolution the way we live work and think. It is important for individuals, organizations and government to understand it’s capabilities and limitations and use it responsibility to improve efficiency and productivity.