**Energy Consumption in IOT**

Digital technologies are becoming increasingly more energy efficient, and this trend will hopefully continue. But at the same time that we are making great strides in energy efficiency, more and more people are conducting greater portions of their lives online. With extraordinary growth in the Internet of Things (IoT), the amount of data exchanged between IoT devices is growing at an unprecedented scale. Most of the IoT devices are low-resource devices handling sensitive and confidential data. In IOT networking paradigm where small sensors, actuators and other devices are connected over internet and these devises becomes accessible remotely so to provide flexibility to the user. Smart tech like smart home, smart house, smart city etc. are prime example of system that utilize small sensor device which information can be distributed to users or device requiring data input. For example, a central heating system would benefit from the temperature sensor readings. Industrial and residential buildings consume a lot of energy in order to perform daily activities. Recently combinations of sensors, communicating systems and other fields such as cloud computing and big data analysis consumes a lot amount of energy.

Mostly every device is connected to internet and wi-Fi devices are mainly used for communication. The best way to conserve power for an IOT device is to ensure that the device is only fully powered when actively in use. Most of the devices are fully powered continuously and they consumes excessive amount of source. It is possible to keep devices in ‘power saving mode’ which state the lower power consumption. This mode is only used when the device is not actively transmitting data, but can result in significant power savings and decreased impact to the device’s energy budget. In case of using cellular devices, it is important to choose an efficient and secure communication protocol that requires minimum overhead. We can still use Bluetooth which is one of the most promising low power consumption wireless technologies for IOT applications. A Bluetooth device can be kept in sleep mode most of the time, but when an event occurs, the device will wake up and short message will be transferred to a gateway or smartphone. Ultimately the active power consumption is reduced to a tenth of the energy consumption for classic Bluetooth.

If the energy consumed by these devices and the networks and data centers to which they are connected is considered, energy consumption will impactfully increase the rate of energy consumption growth. Regardless of the type of connection behind an IoT product, minimizing power use can be a challenge. However, it is also critical to keeping energy and component costs under control. Radios are a key component of the energy budget for IoT products and the strategies outlined above, combined with smart design and component selection, will help developers navigate the early days of product development to ultimately create cost-effective IoT products that last longer between charges. So we can neglect the energy consumption by IOT devices on the benefits of information provided by them.