

## What is Internet of Things (IoT)?

The Internet is open and free in its architecture and design. This has led to tremendous growth in internet services and innovation. The internet is largely characterized by users actively downloading, and generating content through their computers, tablets and smartphones.

As such, the world has seen the advancement of Internet of Things (IoT) where non-computer goods such as cars, trucks, industrial components, wearable health monitors, children toys utilize internet connectivity and have computing capabilities. These devices are found in our home, schools, work places, hospitals, and other general public spaces. These items collect data from their surroundings that are then transmitted and remotely analyzed to create new insights, deliver services, and control other items.

IoT provides a good indication of how people, business, governments and institutions interact with the Internet in their personal, social, political and economic lives. However, many IoT devices, are designed to operate in the background, sending and receiving data on a user's behalf with little human intervention or even awareness while others are designed to control objects and physical assets such as vehicles and buildings, or to monitor human behavior. IoT promises to provide advances in industrial automation, healthcare, energy conservation, agriculture, transportation, urban management, as well as many other facets of any economy.

With all those tremendous benefits highlighted above, IOT poses a number of challenges that must be address in order for an economy to experience the valuable contribution and potential benefit of such innovation.

As such, privacy, data security, healthcare, transportation, and technology and innovation policies will likely be impacted. This kind of broad reach suggests that policy makers will need to consider the broad policy implications across a wide field of policy goals and initiatives. These include:

1. Security- then increase of IoT devices increase the potential security vulnerabilities. The devices and services with weak security are vulnerable to cyber attacks and can expose user data to data theft and identity. Regulatory, legal, and rights Issues. IoT amplifies and reintroduces many regulatory and legal questions. There is a danger that the rapid rate of change in IoT technology could outpace the ability of associated policy.
2. Privacy- given the amount and nature of data collected about users and their environments from IoT devices, privacy and data security policies should be considered that reflect the evolving technology and its potential impacts on users.

3. Adaptation of legal, and regulatory frameworks. One such issue includes the potential conflict between law enforcement surveillance and civil rights. While IoT devices offer potential benefits to law enforcement, public safety, and public administration, they also raise potential civil and human rights concerns regarding the pervasiveness of societal monitoring, the secondary uses of data by the government, and access to data from personal IoT devices by law enforcement or as evidence in legal actions.
4. Deployment of the technology- the challenge is in the implementation modalities, adequate telecommunication infrastructure to meet the growing demands of the internet. Also, stakeholder's engagement, which is paramount, must be pursued and maintained.
5. Effective policies that promote Internet infrastructure, efficient use of wireless spectrum, data- center development, and user empowerment and choice are critical to the evolution IoT.

For the next few weeks, a series of articles would be published to address many of the concerns highlighted and suggestions would be made to help bring awareness and actions on the part of consumers, producers and government.

The Internet Society Saint Vincent and the Grenadine's Chapter believes that IoT security is the collective responsibility of all who develop and use IoT devices. Thus, a collaborative approach to tackle the issues would be essential.