

# Internet of Things

## *Opportunity for Public-Private Collaboration*



We live in a world where physical objects in the industrial, mobile and home domains are increasingly being transformed from isolated systems to networked Internet-enabled devices that can communicate with each other and the cloud. This is called the Internet of Things (IoT). As society enables more and more of these “intelligent” connected inputs, companies are creating new types of revolutionary applications and services in sectors ranging from manufacturing to utilities, smart building to smart home, transportation to healthcare, and retail to agriculture. This extraordinary development has the potential to transform previously standalone systems into integrated networks that leverage greater computer capabilities and data analytics to increase efficiencies and productivity, address important societal challenges, and create jobs in a global new economy which is expected to grow to more than \$2 trillion by 2025.

To ensure that the IoT is able to deliver on its greatest positive potential, the Information Technology Industry Council (ITI) — representing the technology sector’s leading companies — urges collaboration among all stakeholders, including the private and public sectors across industries to advance the following principles:

**Investing in internet infrastructure.** Robust broadband networks are essential to realizing the full potential of the IoT. Ubiquitous, affordable, high-speed broadband connections are critical to ensuring that consumers, as well as the public and private sectors, are able to derive the countless benefits that the IoT will offer. Given the diversity of requirements for the breadth of IoT products and services, ITI continues to support harmonized and efficient spectrum management in general, rather than IoT-specific regulation or allocations. Effective spectrum management will encompass licensed, unlicensed and licensed shared access regimes to enable the diversity of requirements for IoT products and services.



**Enabling interoperability for global adoption and integration.** Systems of intelligent devices must be connected to each other or the network, often across geographic boundaries, to maximize the potential of the IoT. To enable broad adoption of IoT technologies and avoid IoT silos, attention must be placed on ease of connectivity and interoperability of IoT devices, platforms, and infrastructure, as well as streamlined cross-border data flow.

## **Promoting voluntary, open participation, industry-led, consensus-based global standards and best practices.**

The private sector should lead the development of open standards that enable interoperability across the IoT, and partner with the public sector to encourage the sharing of best practices. Global standards can accelerate adoption, drive competition, and enable the cost-effective introduction of new technologies. They also can promote industry innovation and establish a better defined technology evolution path.

**Integrating privacy and security from the outset.** To motivate IoT adoption, applications must evoke trust through hardened privacy and security solutions, looking to widely accepted best practices as well as novel considerations. Most importantly, privacy and security must be designed into IoT systems at the outset using best known Privacy-by-Design and privacy engineering approaches, which contemplate the varying objectives and risks for different IoT solutions.



**Acknowledging unknowns.** The Internet has transformed the world in ways we could never have dreamed possible, and the IoT is expected to have an even greater transformative impact. Similar to the Internet in the early 1990s, the IoT is in its very nascent stages. There are limitless possibilities and many unknowns. Therefore, we must evaluate existing policy tools and use caution before adopting new laws or regulations that may inadvertently or unnecessarily impede the IoT.



**Leveraging public-private partnerships.** Strategic national IoT plans and funding, which encourage public-private partnerships (PPPs), will accelerate IoT adoption and result in vast economic and societal benefits from the IoT in both the near- and long-term. Successful PPPs will make IoT deployments an attractive investment for government and industry, and promote innovation, scalability, and sustainability. By leveraging PPPs, we can expedite IoT research and development and our global IoT leadership.