Internet of Things in the GC

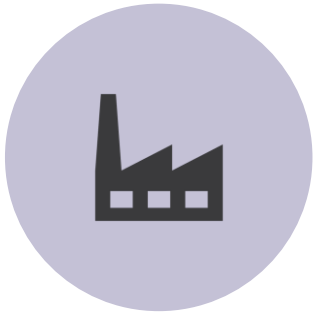
Shared Services Canada
Services partagés Canada

Canada

Powering world-class technology for Government

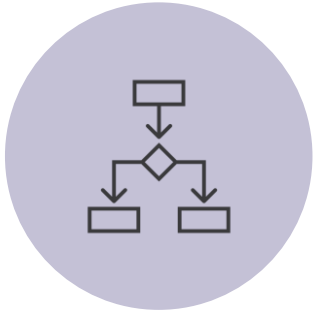
Internet of Things – what it is and why it matters

Internet of Things, refers to the collective network of connected devices.



A “Thing” can be a machine, smart device or even an entire city.

This interconnectedness allows organizations to tap into new levels of data.



This highly mobilized data enables timely decisions and actions.

The Internet of Things – Trends & Disruptions

$5.5 - $12.6 TRILLION

Estimated value enabled globally by 2030
~McKinsey, Catching up to an Accelerating Opportunity

Canada's GDP = $1.64 T

Capturing value will depend on establishing **Interoperability** and **Cybersecurity**

30 BILLION

IoT connected devices by 2025
~Statista

That's 4 devices per person on the planet !

300%

Increase in known Cyberattacks on IoT devices in 2019 and is now measured in Billions
~Forbes

45% of businesses cite **lack of skills** and expertise for IoT adoption
~ IoT World

63% of Canadians will adopt connected devices within **5 years**

2 to 5 Years

Estimated time for 8 transformational and 6 high-impact IoT innovations to become mainstream
~ Gartner Hype-cycle 2021

By 2025, data will be processed and delivered in real time through vast networks of connected devices that gather and transmit data and insights

~ McKinsey,
Data Driven Enterprise of 2025

IoT Verticals

Smart Buildings

Smart Agriculture

Smart Cities.

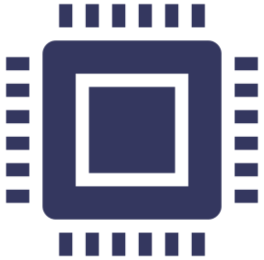
Connected Healthcare

Smart infrastructure

Opportunities

Improve	GC Employee Productivity
Increase	Operational Efficiency
Manage	Costs and Resources More Effectively
Ensure	Safety and Security
Enhance	Citizen Experiences
Innovate	Create Intelligent Modern Applications for GC Workers

Digital Platforms IoT Program



Our Objective:

Work with other departments and teams within SSC to develop Use Cases and Proof of concepts related to IoT

We Provide IoT Expertise

Recommendations based on IoT Proof of Concepts

Repository of IoT proof of Concepts

Assistance or guidance implementing IoT solutions.

Potential to share development work between teams and/or departments

Current IoT Projects

Department of Fisheries and Oceans

- Assist DFO in investigating the feasibility of using IoT to improve their Material Management of Scientific equipment.
- Focus on Equipment location and usage

Agriculture and Agri-Foods Canada

- Development of Cloud based IoT Platform to allow remote sensors to stream data to cloud using LoRaWan technology
- Create of data repository and visualization tools
- Help AAFC employees gain hands on IoT and cloud development experience

Potential Future Use Cases

Potential Projects

- Network Connectivity with IoT devices and ASEC (DFO)
- IoT Cloud Platform as a Service (SSC Science Team)

Future areas of investigation

- Develop onboarding process for IoT devices to Government networks
- Digital Twins
- Feeding IoT data into Data lakes and AI language Models

DFO Project

DFO is investigating the possibility of using Internet of Things (IoT) technology to support the tracking of science lab assets.

Before committing significant resources to a pilot project DFO is working with SSC Subject Matter Experts in this field to understand what these technologies can do.

Learn from SSC how IoT devices can be leveraged to track usage and location of expensive scientific assets.

DFO Proof of Concept

Key Business Goals

Collect Location data to reduce cost and level of effort for inventory management

Determine equipment usage to make more informed decisions related to asset management.

Discovered Benefits

Power Monitoring Analysis allows

Enhanced Equipment Lifespan – Stress monitoring, preventative maintenance.

Research Insights – energy consumption data can be valuable for research projects.

Support Innovation – insights from analysis can lead to further innovations in processes, technology, and practices.

Location Tracking allows

Streamlined Audits – location data simplifies audits and inventory checks, making it easier to reconcile physical assets with inventory records.

Accurate Asset Counts – constant tracking ensures that all assets are accounted for, improving inventory accuracy.

Informed Purchasing Decisions – understanding where and when equipment is used aids in better purchasing decisions.

AAFC IoT Project

- Help Agriculture and Agri-Foods Canada researchers onboard current IoT sensors to new cloud environment

AAFC Project

Key Business Goals

Develop a cloud based IoT Platform in AWS to allow researchers to store, view, report, and share collected weather data.

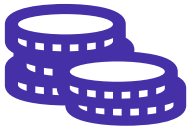
Implement a data visualization solution to help researchers make better use of the data collected.

Benefits of Cloud IoT Platform

Data Storage and Management

Centralized data storage

Automated back up and recovery



Cost-Effectiveness

Reduced infrastructure costs

Maintenance Savings

Analytics

Real-Time data processing

Machine Learning Integration

Interoperability

Integration with Other services

Support for multiple communication protocols

Future-Proofing

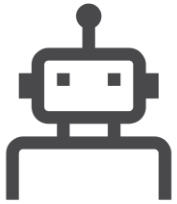
Continuous Updates

Evolving Technologies

Join Us at Our IoT Booth!

Experience Innovation:

Explore cutting edge IoT solutions.



Live Demonstrations:

See our technology in action and understand its real-world applications.

Explore Insights:

Engage with our team of IoT specialists to get answers to your questions.