Think before you print!

A gentle reminder to consider the Environment before printing this deck.

Medialink

Understanding the Internet of Things

IoT at work for Small and Medium Businesses

Agenda

- What is the Internet of Things?
- How does it work?
- What sectors use the IoT?
- IoT business developments
- Risks to information security
- Risks to privacy
- Risks to safety
- IoT security checklist

Medialink

What is the Internet of Things?

The Internet of Things (IoT) is a network of ‘smart’ devices that connect and communicate via the Internet.

Medialink

How does the IoT work?

Smart devices collect and exchange information machine to machine (M2M) and with us.

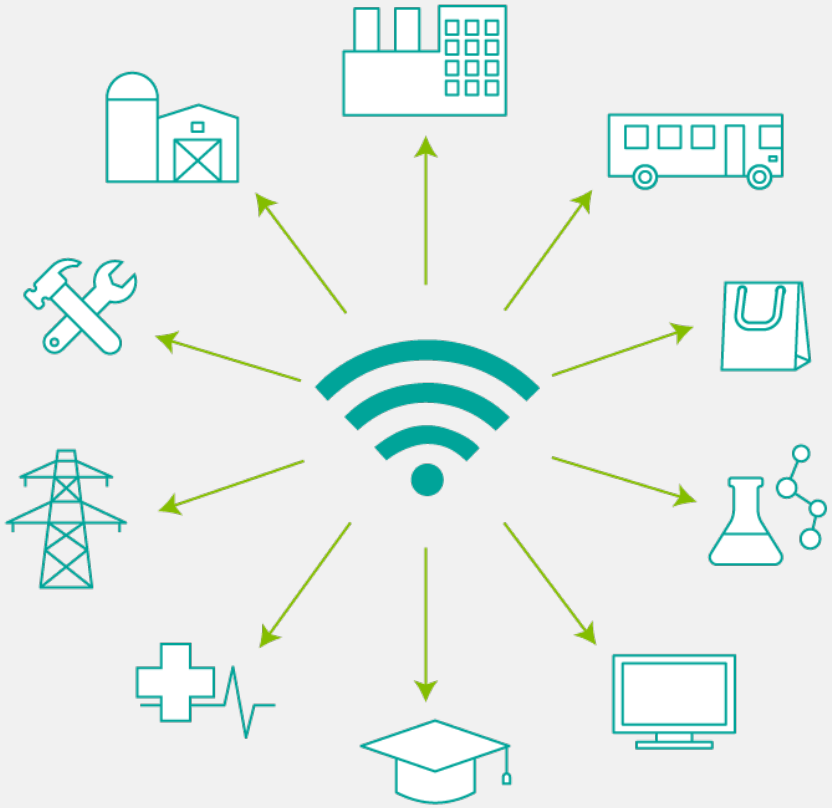
- Remote control and monitoring
- Operate automatically through software, cameras and sensors

The IoT is used in a variety of business sectors from agriculture to healthcare to manufacturing

Medialink

What sectors use the IoT?

1. Manufacturing*
2. Transportation*
3. Retail
4. Science and Technology
5. IT and Communications
6. Education
7. Healthcare
8. Energy
9. Construction
10. Agriculture



*Sectors the spend the most on IoT

IoT business developments

Retail

- Automated checkout
- Inventory and warehouse management

IoT business developments

Manufacturing

- Operations efficiencies
- Asset management and maintenance

IoT business developments

Consumers

- Entertainment
- Health and fitness

IoT business developments

Office and Government

- Productivity and energy saving
- Security and surveillance

IoT business developments

Transportation

- Automation and traffic control
- Fleet management

IoT business developments

Healthcare

- Monitoring
- Automated administration of treatment

The **biggest impediment** to businesses implementing IoT is **security**

Risks to Information Security

Possible consequences of an information breach:

- Loss of reputation/ credibility
- Loss of revenue and time
- Lead to legal challenges

Risks to Information Security

Direct cyber incidents:

- Remote control and monitoring
  - From head office, to supply chain, to customers.

Indirect cyber incidents (viral threats, malware):

- Downstream effects on IT security infrastructure
  - A malware attach on the IoT device manufacturer could affect your IoT devices.

IoT-related cyber incidents increase the risk of theft, exposure, or corruption of information

Risks to Privacy

Business, employee, and client information could be:

- Destroyed
- Altered
- Stolen and exposed
- Held for ransom

Risks to Privacy

Understand IoT device data collection policies:

- What information is gathered?
- How long is data kept?
- What is your data used for (marketing research, etc.)?


Unauthorized control
of an IoT device could
cause physical
damage or harm

Risks to Safety

IoT device malfunction or manipulation could cause:

- Physical damage to data
- Physical damage to equipment
- Physical harm

Risks to Safety

Possible consequences of IoT device malfunction or manipulation:

- Costly repairs to systems, assets, and equipment
- Legal impact of harm to staff, customers or public
- Loss of reputation

IoT Security Checklist

Medialink

Before Implementation

IoT Security Checklist

- ❑ Research devices before you purchase. Read reviews and get recommendations; research their security capabilities.
- ❑ Have a point of contact with the manufacturers for any issues down the road.
- ❑ Read device materials: operator's manuals, instructions, support forums.
- ❑ Create a Bring Your Own Device (BYOD) and IoT policies for employees.
- ❑ Assess against your existing IT security policies and standards.

Medialink

During Implementation

IoT Security Checklist

- ❑ Secure your wireless network.
- ❑ Change device default usernames and passwords, and use strong passwords.
- ❑ Keep networks with sensitive information isolated. Consider using separate networks for IoT devices.
- ❑ Ensure the device has system reset capability in order to permanently eliminate sensitive configuration information.
- ❑ Control who can access your network and from where.
- ❑ Encrypt data, commands and communications, both at rest and in transit.
- ❑ Where possible, set operating system, software, and firmware to update automatically. Establish periodic manual updates as required.

Medialink

After Implementation

IoT Security Checklist

- ❑ Implement a repeatable process to validate all safeguard and countermeasures in your implementation.
- ❑ Conduct ‘cyber incident’ tests and audits regularly to ensure the integrity of your network.
- ❑ Backup data regularly using secure and redundant storage solutions, such as multiple storage units and/or the cloud. Test your recovery process regularly.

Medialink

Adhere to your company's Bring Your Own Device/ IoT policy

IoT Security Checklist

- ❑ Understand what information is being collected by devices and why, before you download or buy.
- ❑ Use a lock screen password, use strong passwords.
- ❑ Backup data regularly on multiple storage units and the cloud.
- ❑ Connect only to secure Wi-Fi networks.
- ❑ Use safe websites, cloud storage, etc.

End.

Any Questions?