The Good, the Bad and the Ugly: Privacy and Legal Implications of Internet of Things for Businesses

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Presented by:

Joshua B. Konvisser, Partner
Catherine D. Meyer, Senior Counsel

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Agenda

- The Good

- The Bad

- The Ugly

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Internet of Things Described

- Devices equipped with sensors that transmit data

- Devices that communicate data to other devices
  - Hub network
  - Mesh network

- Devices that are controlled remotely

- Sensors can measure temperature, light, pressure, sound, motion

- Devices equipped with microphones or cameras can record or broadcast

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Internet of Things Quantified

Are there more things connected to the internet than people?

- Global population: 7.3+ Billion (World Population Clock 5/11/14)

- Cisco Internet Business Solutions Group predicts 25 Billion devices will be connected by 2015, and 50 Billion by 2020

- Introduction of IPv6 addresses
    - Replaces IPv4, using 32 bit addresses – limit: 4.3 Billion addresses
    - Uses 128 bit addresses – limit: 340 Trillion addresses
    - Allows for unique identifier for each device

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Internet of Things Standards

- Manufacturers set their own standards for data transfer from internet-connected devices

- No consistent industry or regulatory standards.

- But competing industry groups are now forming to "self-regulate" standards.

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The Things

- Light bulbs/switches
- Vehicles
- Power meters
- Thermostats
- Locks
- Smoke/chemical detectors
- Wear-ables
- Smart phones

- Laptops
- Tablets
- Motion sensors/video cameras
- Point of Sale Terminals
- Alarm systems
- Anything with an RFID tag
  - Clothing
  - Consumer products
  - Passports
  - Access cards

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The Things

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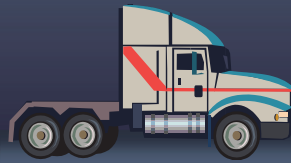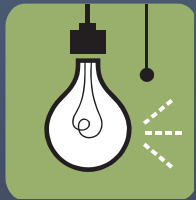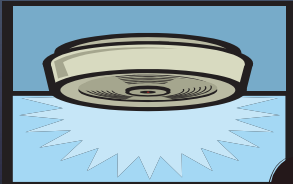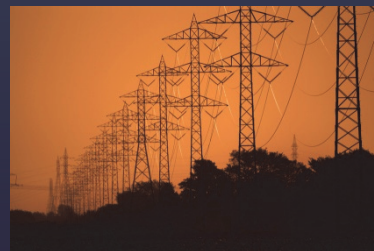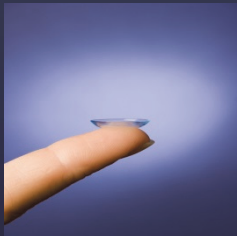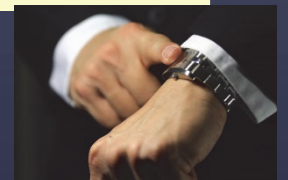
Internet of Things in Use

In Public and Business Spaces

- Sensors in retail operations, offices, products or production lines
- Smart meters
- Physical security sensors
- Employee access card sensors
- Waste disposal
- Sensors in parking spaces, street lights, and smart phones
- Power grids
- Water systems
- Traffic control
- Air quality

In Personal Spaces

- Smart meters
- Burglar alarm systems/security cameras
- Networked wi-fi computers/printers
- Smart thermostats
- Vehicles
- Smart phones as sensors

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The Good

Information/Analysis

- Tracking behavior

- Situational Awareness

- Enhanced Decision-making

Automation

- System/Process control

- Supply line control

- Automated system responses

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The Good

- Improving efficiencies

- Controlling costs

- Monitoring product location and logistics

- Protecting security and safety of physical plant

- Improving employee communications and productivity

- Enhancing customer experience

- Develop insights into activities or product uses

- Health and medical monitoring

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The Bad

- Monitoring employee locations
  - Vehicle monitoring for driving habits and locales
  - Timeclock "on steroids"

- Tracking workforce activities
  - Light and temperature sensors identify when a room is occupied
  - Employee access card identifies who is in the room

- Google glasses and smart contact lenses

- Collecting data about consumer location, activities and preferences

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The Bad

- Using surreptitiously collected data to make employment decisions without notice or opportunity to challenge the data
- Monitoring work hours and locations – Overtime
- Monitoring after hours
- Monitoring personal devices connected to the system
- Monitoring safety conditions

- Using remote access to interfere with connected devices
    - Smart buildings
    - Smart production
    - Automobile systems
- Monitoring tenants' activities, locations and habits

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The Ugly

- Are there laws that apply to the internet of things?

- There are no specific laws, but

- All, generally-applicable laws are relevant

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Case Law on Internet of Things

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The Ugly

- **Privacy**
  - Who owns the data and the obligation to disclose
  - How can data be used, combined, shared
  - Device approvals, policies and procedures
  - Disclosures to Employees
  - Consent from Employees
  - Disclosures to Consumers
  - Consumer choices
  - Signage

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The Ugly

- **Security**
  - Inventorying all connected or connectable devices
  - Preserving logs
  - Devices connected to company systems may be insecure
  - Encrypting device can impair its function (e.g., vehicles)
  - Remote access to system
  - Open wireless

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The Ugly

- Unfair/Deceptive Practices

- Anti-Spyware

- Wiretapping and Eavesdropping
  - Intended and unintended surveillance
  - Compliance with anti-wiretapping regulations

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The Ugly

- **Labor and Employment**

- **Quiet possession of leased property**
  - Landlord intrusion
  - Disclosure and consent

- **Retail and Hospitality**
  - Signage
  - Data use
  - System security

- **Medical Services**
  - HIPAA

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The Ugly

- Law Enforcement
  - There is significantly more information available to law enforcement
  - Can they use that information without violating rights to privacy?
    - Can you get a ticket for speeding based on the time it takes to get from one toll booth to the next (or for going through the booth itself too quickly)?
    - Can law enforcement use cell phone location data to find out where you are/were?
  - If your company collects information (for whatever reason), will you be forced to share it with law enforcement?
    - How do you protect your customers?
    - How do you protect your database?
    - How do you protect your reputation?

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Internet of Things

- Unchartered territory

- Technology advancing at lightning speed

- Disclose, disclose, disclose

  □ Clear, concise and readily available

  □ May not be enough; especially outside the United States

- Provide choices

- International regulatory issues

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QUESTIONS?

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Thank You for Participating!

Joshua B. Konvisser
Partner
Pillsbury Winthrop Shaw Pittman LLP
Phone: 212.858.1027
joshua.konvisser@pillsburylaw.com

Catherine D. Meyer
Senior Counsel
Pillsbury Winthrop Shaw Pittman LLP
Phone: 213.488.7362
catherine.meyer@pillsburylaw.com

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