

IOT Definition

- The Internet of Things (IoT) is the interconnection of uniquely identifiable embedded computing devices within the existing Internet infrastructure.
- Offers advanced connectivity of devices, systems, and services that goes beyond machine-to-machine communications (M2M) and covers a variety of protocols, domains, and applications.

IOT Definition

Things, in the IoT, refer to:

- Automobiles with built-in sensors
- Biochip transponders on animals
- Medical monitoring implants
- Smart home appliances
- Smart wearable devices
- Any smart device connected to the internet

IOT History

- In 1982, The Coke machine demonstrated the first concept of a network of smart devices and was the first internet connected appliance.
- For more than 20 years the Internet almost wholly was dependent on human beings for data.
- *In 2009*, Kevin Ashton a British technology pioneer, talked about the Internet of Things as a potential to change the world, by relying on devices to collect data.

IOT Facts

- In 2008, the number of *things* connected to the internet exceeded the number of people on Earth.
- By 2020, 90% of cars will be connected and **50 billion devices** connected.
- By 2050, we are expected to surpass **50 million different products** connected to the internet.

IOT Known Products

- **Google Glass Explorer**



- **Apple iWatch**



- **Nest Home Thermostat System**



IOT New Products

- **Hexo+** *(to be released end of 2015)*

This cool drone, will take your pics and videos in a whole new perspective.



IOT Open source projects

- **Google**

In May 2015, Google announced **Brillo**, the "underlying operating system for the internet of things," with a developer preview coming in Q3 of this year.

IOT Open source projects

- **Linux Foundation:**

Announced the creation of the **AllSeen Alliance** to promote an open source code framework to enable devices to discover one another and then connect and interact.

IOT Open source projects

- **KVM / ARM - ARM Virtualization System**

The first full system ARM virtualization solution that can run unmodified guest operating systems on ARM multicore hardware.

- **Contiki**

Open source operating system for the Internet of Things. Contiki connects tiny low-cost, low-power microcontrollers to the Internet.

IoT Open source projects

- **Eclipse Open IoT**
- **Node-RED: Visual Tool for IoT**
- **mbed: Development Platform**
- **TinyOS: Open-Source OS for IoT**
- **InfluxDB: Time Series Database**
- **Raspbian: Operating System**
- **Energia**
- **Kaa**

IOT New Products

- **Amazon Echo** (*introduced Nov, 2014*)

Speaker with microphone controlled by your voice for hands-free convenience and is connected to the cloud so it's always getting smarter.



IOT New Products

- **Dyson 360 Eye robot vacuum cleaner**
(introduced Sept, 2014)

A robot that cleans without human assistance.
It sees its environment and can be controlled using an app.



IOT Advantages

- **Improved quality of life**
- **Energy saving and efficiency**
- **Industrial automation**
- **Smart cities**
 - Air and noise monitoring
 - Intelligent waste management
 - Traffic monitoring
 - Smart parking and lighting

IOT Disadvantages

- **Privacy concerns**
- **Security concerns**
- **No standard regulations in place yet**
- **Overdependence on technology**

IOT New Products

- **Amazon Dash** (*introduced 2015*)
Automatically reorder hundreds of items from anywhere in your home.

amazon dash
BUTTON



IOT New Products

- **Vessyl** (*introduced June, 2014*)

Automatically knows and tracks everything you drink (calories, caffeine, fats, sugars, etc).



IOT Skills Needed

- As the Internet of Things becomes a mainstream phenomenon in 2020, your ability to adopt these five skills now will determine your workplace success or failure.
- National Science Foundation (NSF) completed a two-year study on what it takes to be ‘innovative’ as an individual and released the **5 Skills needed for the future.**

IOT Skills Needed

- *Associative Thinker*

Joins or connects ideas and facts from different experiences. Transposes observations across unrelated domains.

- *Collaborator*

Brings together people with a diversity of knowledge to solve complex problems.

IOT Skills Needed

- *Communicator*

Explains ideas or concepts effectively through multiple means including writing, speaking, gestures, pictures, diagrams or stories.

- *Knowledgeable*

Possesses expertise that is both broad and deep.

- *Persistent*

Continues to do something although it is hard, and other people want your actions to stop. Continues beyond the usual or expected effort.

IOT New Products

- **Jibo** (*introduced July, 2014*)
The World's First Family Robot



IOT Connect



www.Twitter.com/weboqcom



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TEXT MINING References

- **Amazon Echo (2014).** <https://www.Amazon.com>
- **Vessyl (2004).** <https://www.myvessyl.com>
- **Dyson (2014).** <http://www.dyson360eye.com>
- **Jibo (2014).** <http://www.myjibo.com>
- **Wikipedia. (2014).** *Internet of Things* Retrieved from Wikipedia: http://en.wikipedia.org/wiki/Internet_of_Things
- **IoT 5 Skills (2014).** *Internet of Things 5 Skills*: Retrieved from Forbes Magazine <http://www.forbes.com/sites/sarahcaldicott/2014/11/30/ready-for-the-internet-of-things-5-skills-youll-need/>