Vision for IoT & Key Technologies

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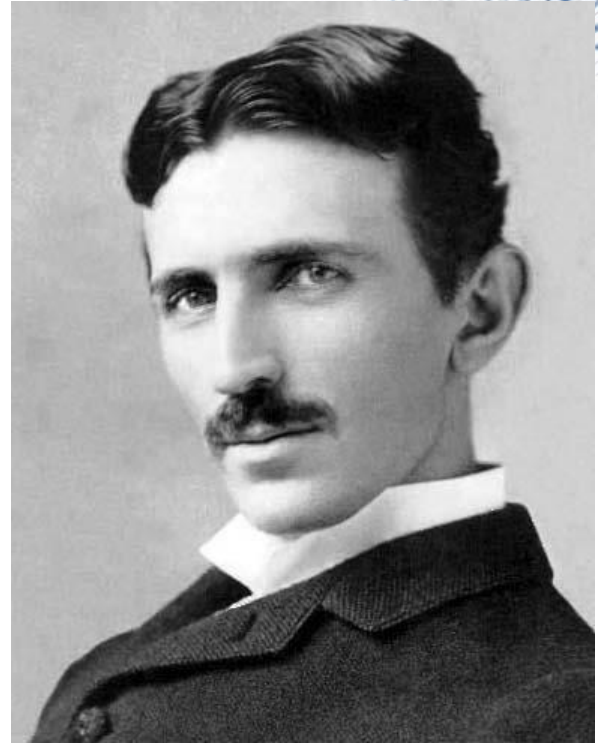
Vice President

Software R&D Center

Samsung Electronics

One man's Dream

Nikolai Tesla predicted in 1926 that,

"When wireless is perfectly applied **the whole earth will be converted into a huge brain***, which in fact it is,* **all things being particles** *of a real and rhythmic whole… A man will be able to carry one in his vest pocket"*

Nikolai Tesla (1856~1943)

Internet of Things : What & Why

 "*The problem (of current Internet) is, people have limited time, attention and accuracy—all of which means they are not very good at capturing* data about things in the real world.*"
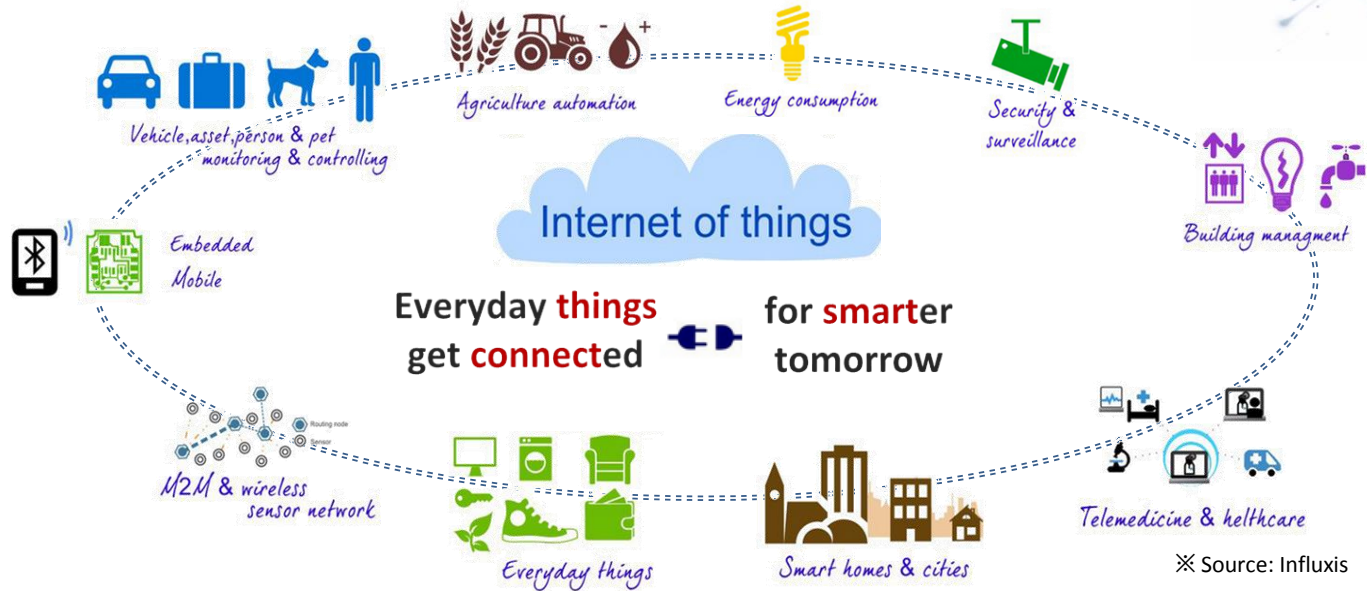
The age of the IoT has already begun

"Many people believe that the Internet of Things is something that's in the distant future. But It's not."
"100% of Samsung's products will be IoT enabled within 5 years."

The CEO and president of Samsung Electronics BK Yoon, CES 2015

What is the main objective of IoT ?

Internet of things

Everyday **things** get **connect**ed for **smart**er tomorrow

Vehicle, asset, person & pet monitoring & controlling

Agriculture automation

Energy consumption

Security & surveillance

Building managment

Embedded Mobile

M2M & wireless sensor network

Everyday things

Smart homes & cities

Telemedicine & helthcare

※ Source: Influxis

What is the IoT Service Operation Model ?

Making sense of data

Turning it into Knowledge

Taking meaningful action

What makes IoT possible Today ?

1 **Sensing**
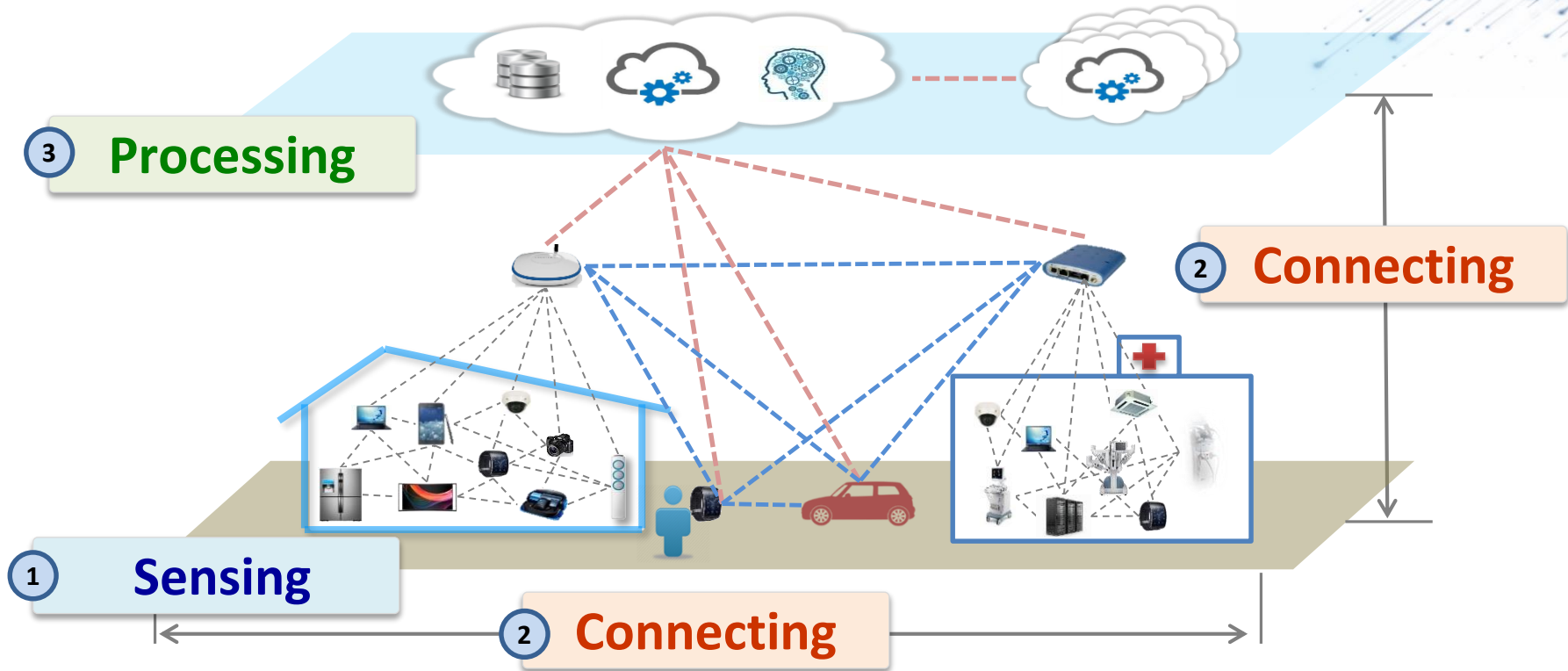
2 **Connecting**

Bandwidth
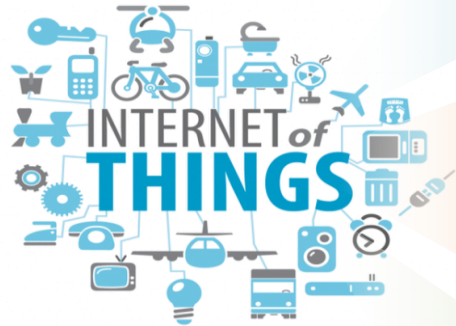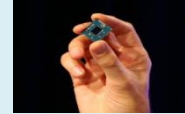
IPv6 = 2^{128} IP ADDRESSES

3 **Processing**

Cloud

Hadoop data

What is IoT Building Blocks ?

3 Processing
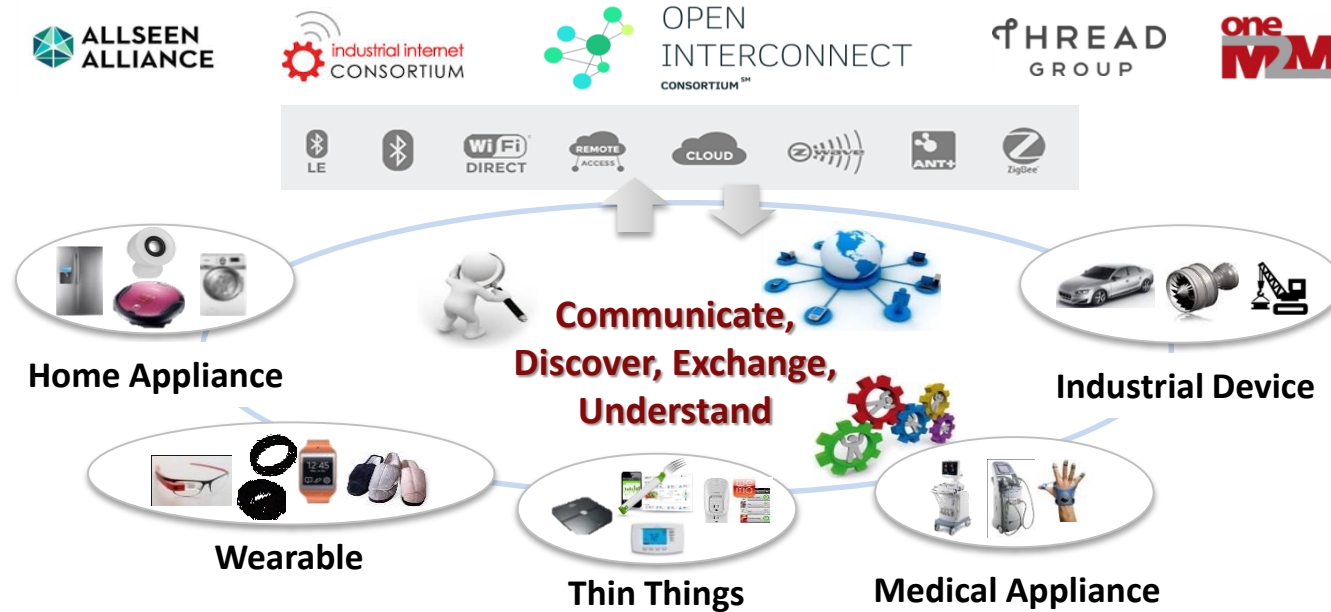
2 Connecting

1 Sensing

2 Connecting

① Sensing : Sensor and Actuator

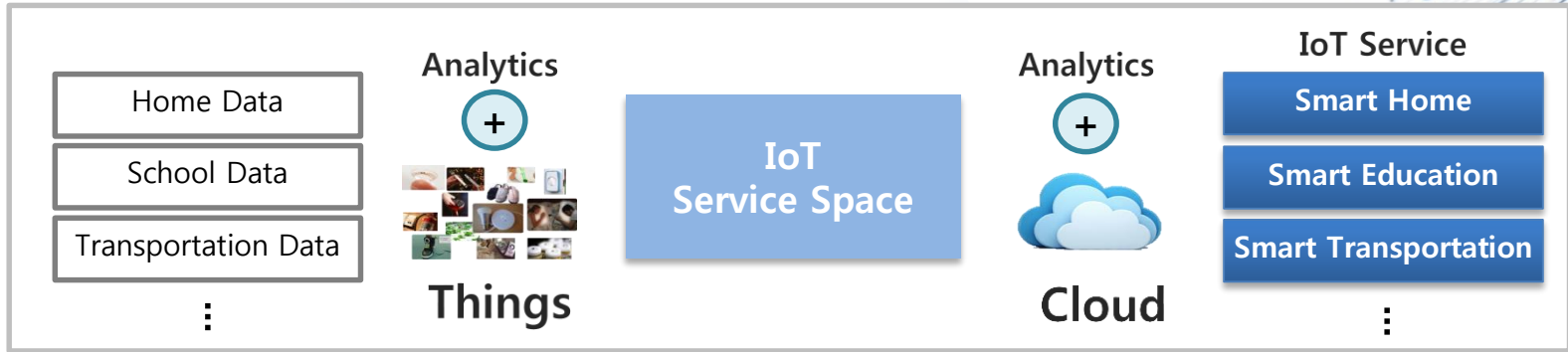- Device technologies covering sensing and actuating from smart devices to small things in a variety of industries

② Connecting : Connectivity and Interoperability

- Connectivity technologies for providing broad interoperability among multiple devices

③ Processing : Big Data Analytics

IoT Services based on Big Data

Thermostat

Life Pattern Data :
**Energy Saving
Service**

Wearable

Biometric Data :
**Healthcare
Service**

Automotive

Traffic Data :
**Auto Navigation
Service**

An IoT device senses all its environment and gathers the data, which is analyzed, put into context and acted upon - offering the right solution or service

※ Source: B K YOON, CES 2015

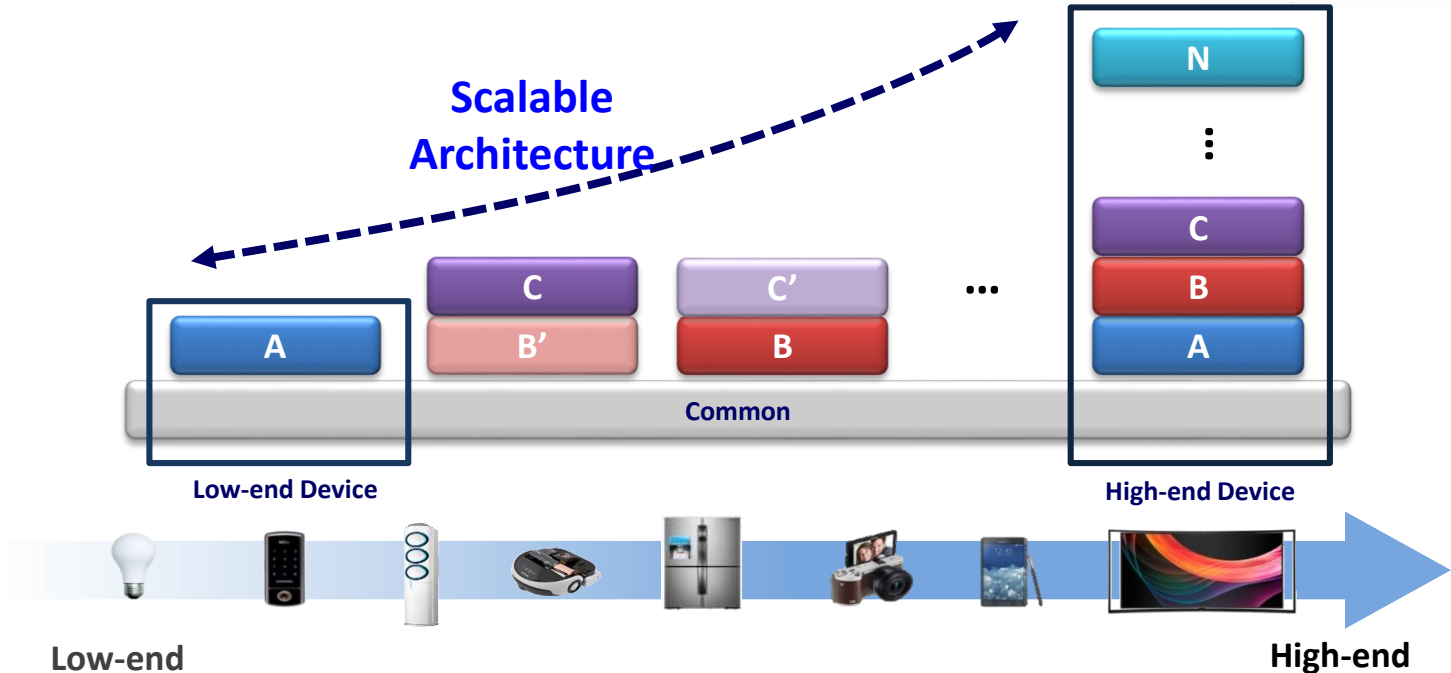# Samsung IoT Building Blocks

Samsung's Presence in IoT

Sensing

Connecting

Processing

3rd Party

TIZEN : The OS of Everything

Open Device S/W Platform that is applicable to various types of devices
http://www.tizen.org

Scalable Architecture

N

⋮

C

B

A

Low-end Device

Common

High-end Device

Low-end

High-end

IoTivity : Interoperability

- **Open Source Project** for connecting things, sponsored by Open Interconnect Consortium http://www.iotivity.org

- Delivers necessary connectivity from **data of things** to **applications of other things**
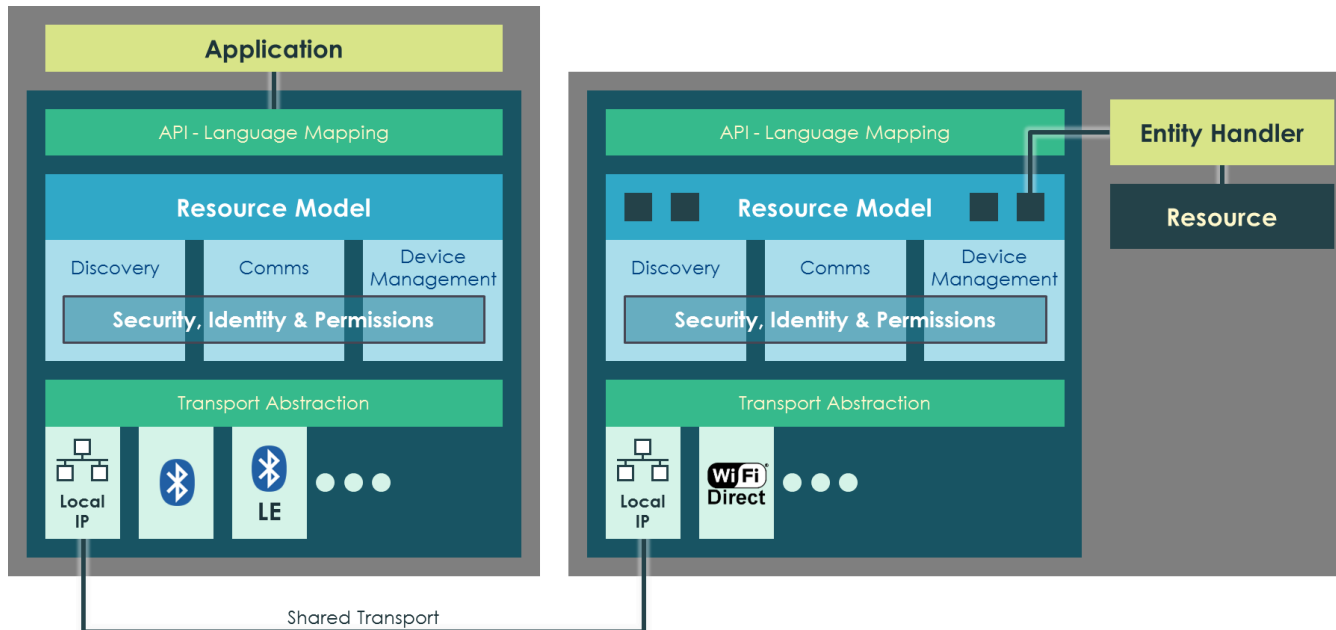
: Global Alliance

What is Open Interconnect Consortium? http://www.openinterconnect.org
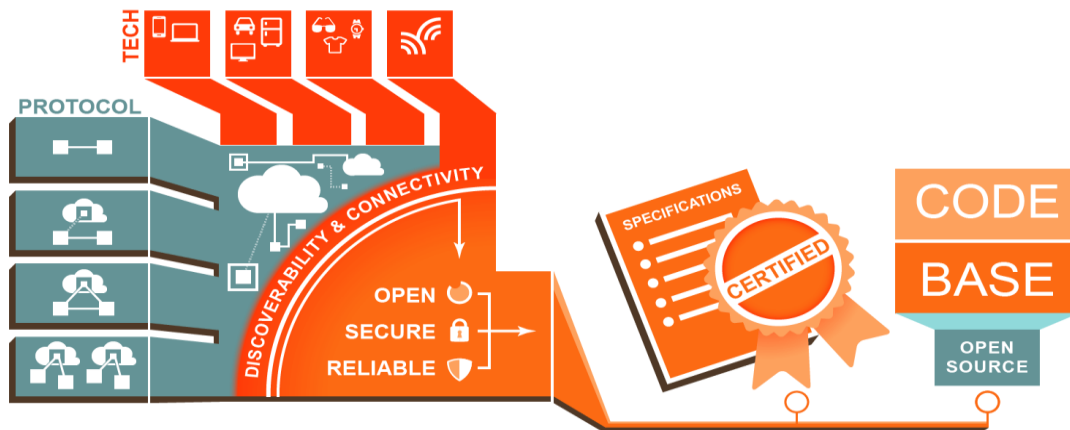
- The Global Industry alliance is being founded by leading technology companies with the goal of **defining the connectivity requirements** and **ensuring interoperability of the billions of devices** that will make up the emerging Internet of Things (IoT)

SmartThings : **Platform Builder**

Open platform on the side of the developer and device maker ecosystem

- Free to sign up, build apps, add any products to the platform
- Marketplace of connected devices, apps and services

"SmartThings Labs and a developer community dedicated to integrating lots of devices into the SmartThings family, puts the SmartThings Hub at the top of the home-automation pack." – John R. Delaney, PC Mag *
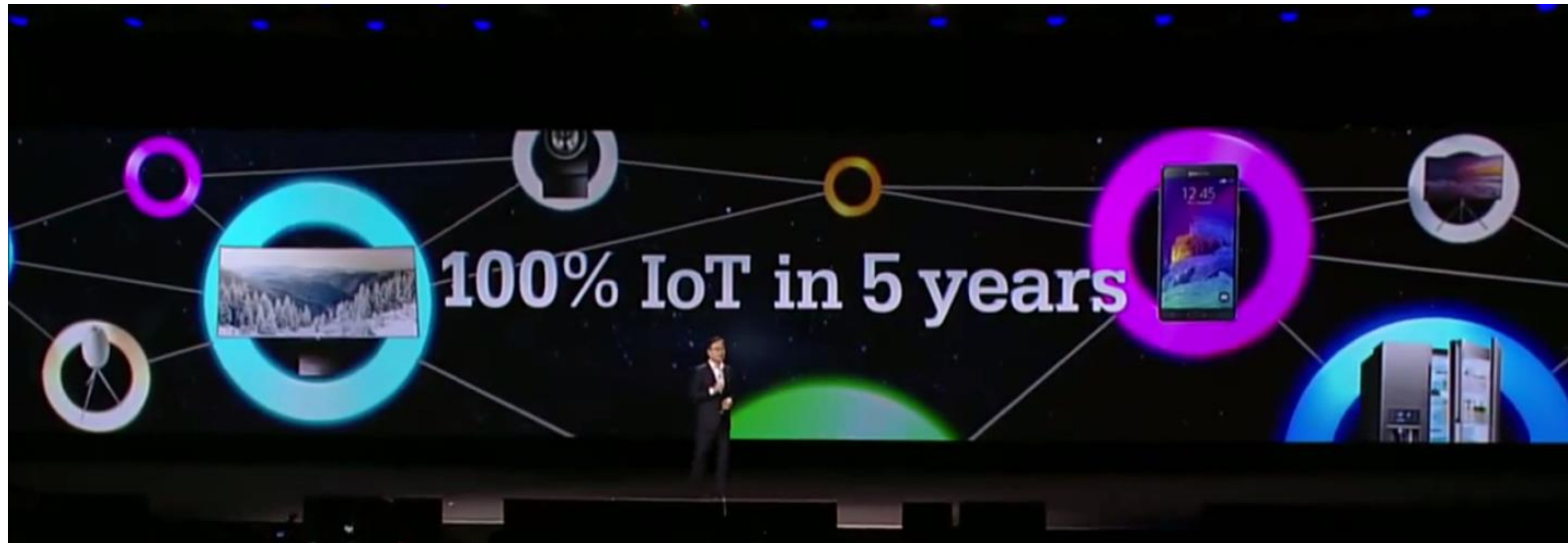
Samsung's Vision in IoT

Enable emerging solutions in all key vertical markets via

- **Contributions to the comprehensive IoT Software Platform**
- **Collaborations with major IoT players**

Adoption of IoT in Samsung Devices

- **100% of Samsung devices will be IoT enabled in 5 years**

谢谢
Thank you
감사합니다