

THE INTERNET OF THINGS



IoT

Internet of Things

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The Internet of Things (IoT)

is the network of physical objects—devices, vehicles, buildings and other items—embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data.

The Internet of Things (IoT)

refers to the networking of physical objects through the use of embedded sensors, actuators, and other devices that can collect or transmit information about the objects

The beginning...

Round about 1982 a modified Coke machine at Carnegie Mellon University became the first internet-connected appliance, able to report its inventory and whether newly loaded drinks were cold





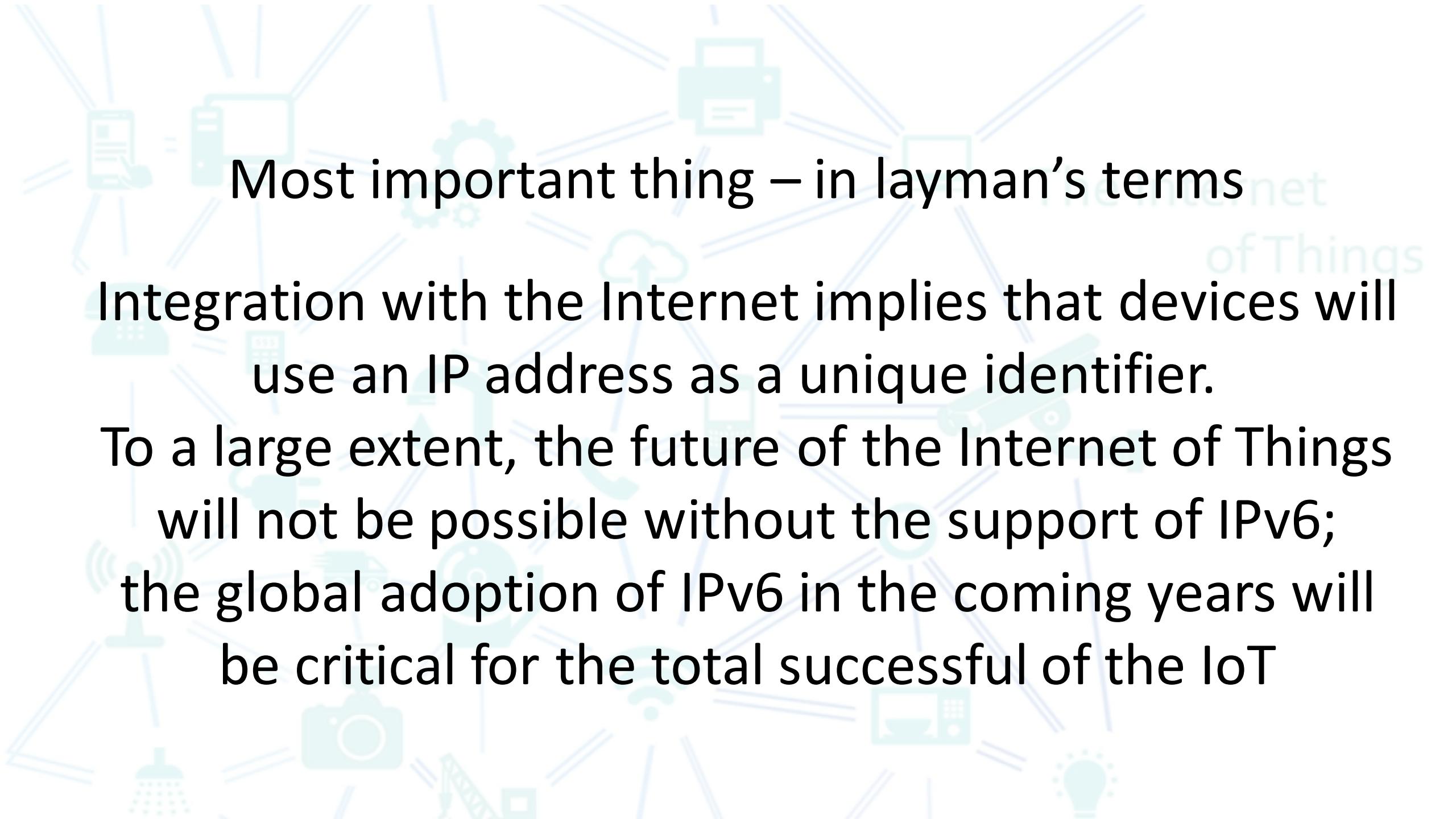
Coke Machine ... my story

<https://goo.gl/1mR1mC>

Run Forest run ...



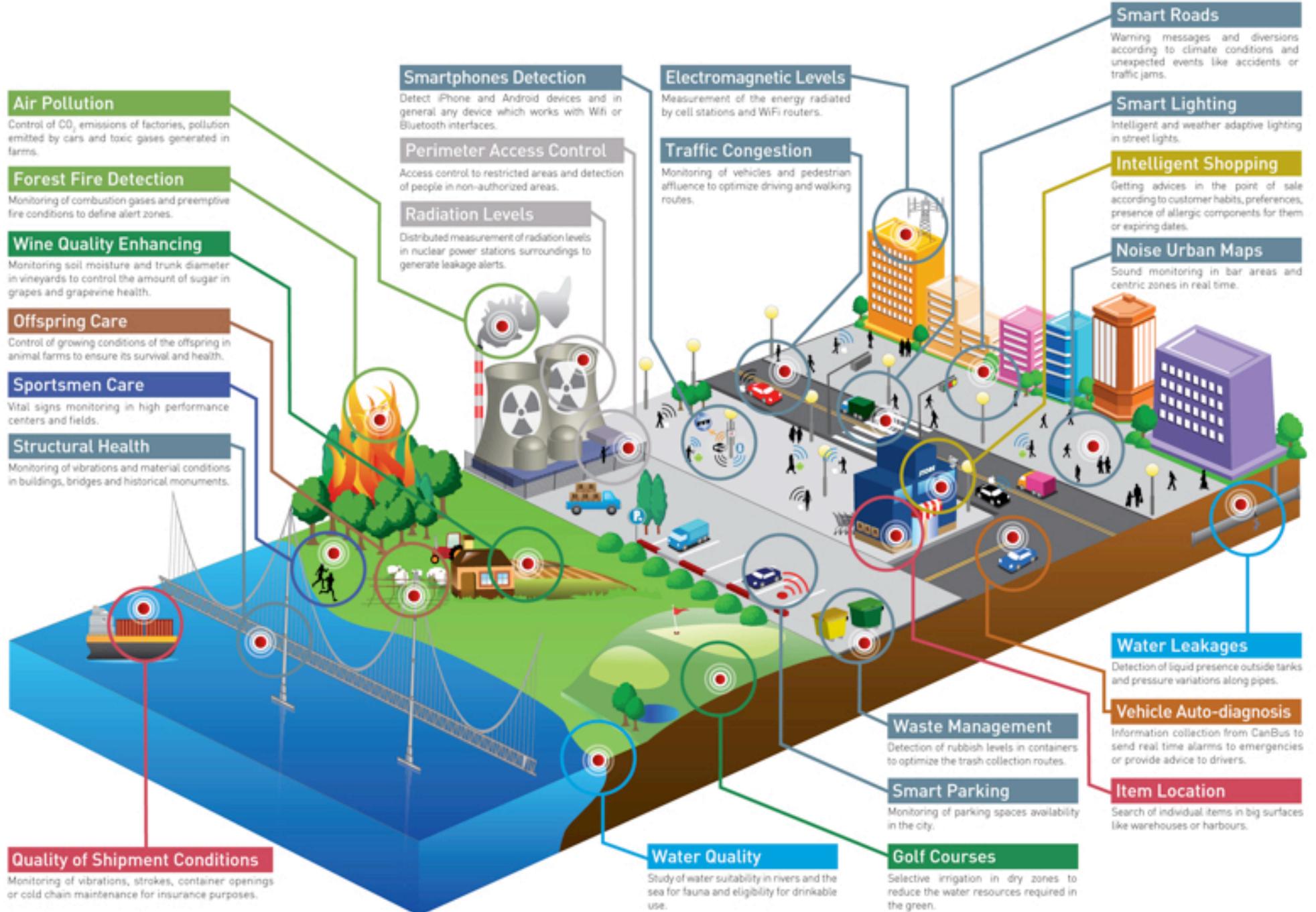
Source: Cisco IBSG, April 2011



Most important thing – in layman's terms

Integration with the Internet implies that devices will use an IP address as a unique identifier.

To a large extent, the future of the Internet of Things will not be possible without the support of IPv6; the global adoption of IPv6 in the coming years will be critical for the total successful of the IoT





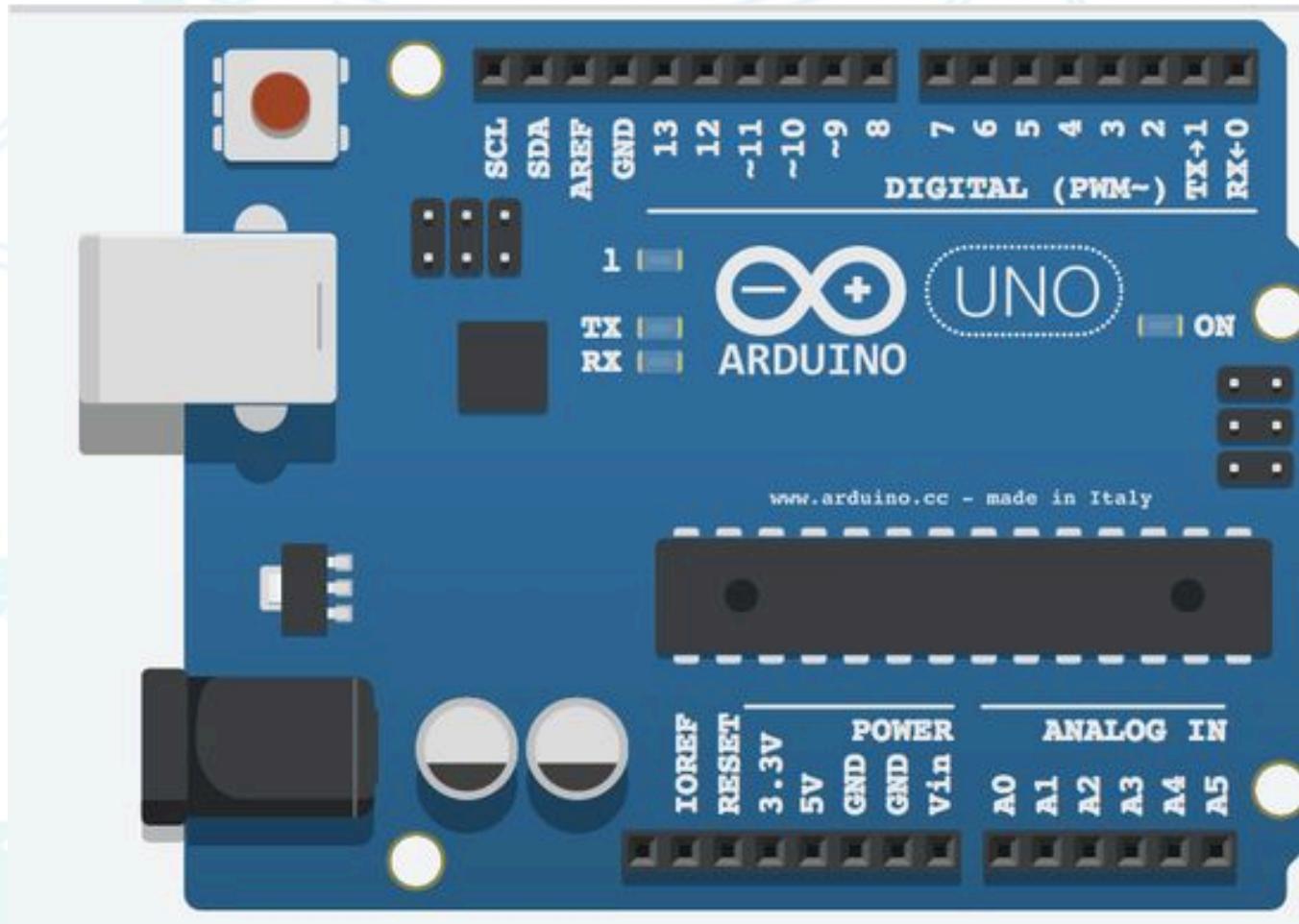
What is needed ?

1. We need devices to do things

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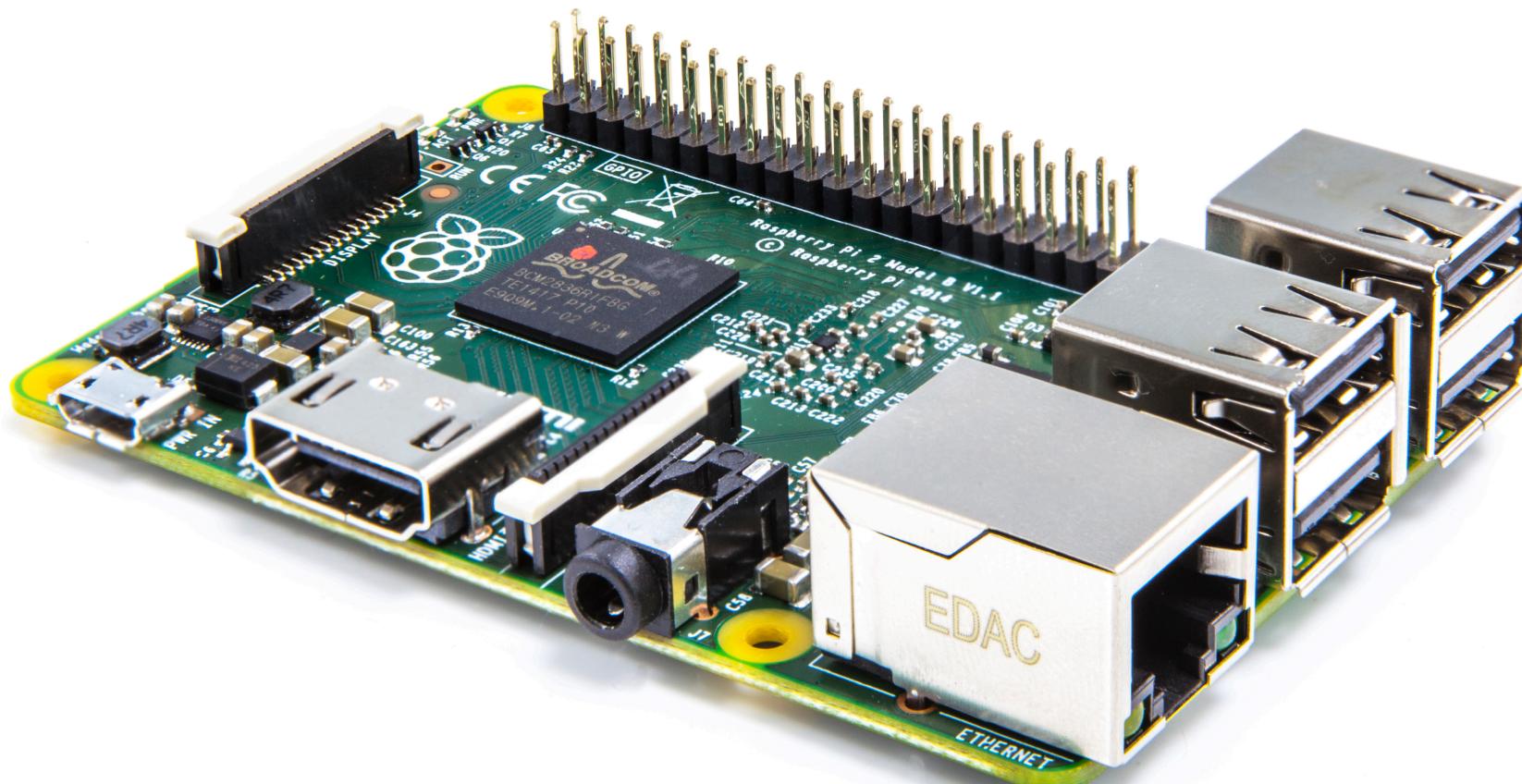
Devices

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of Things



Devices

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of Things



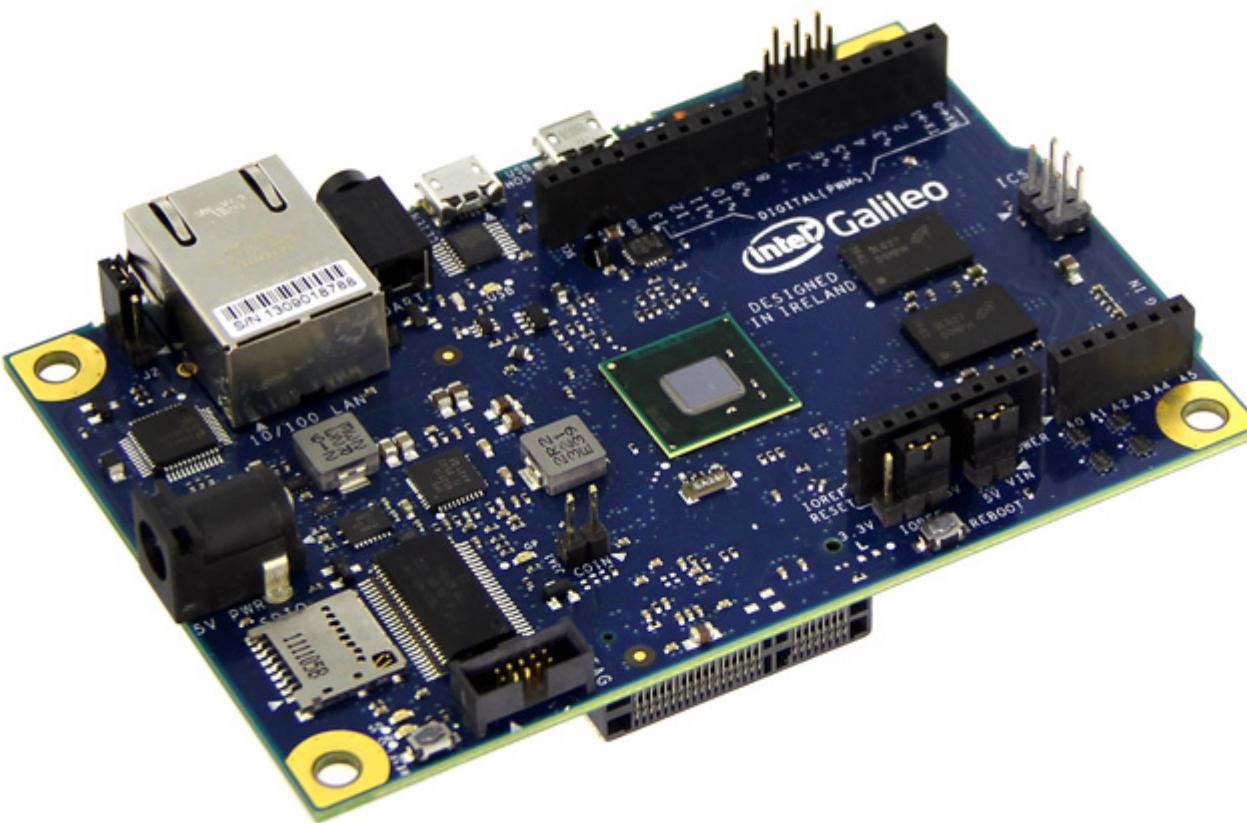
Devices



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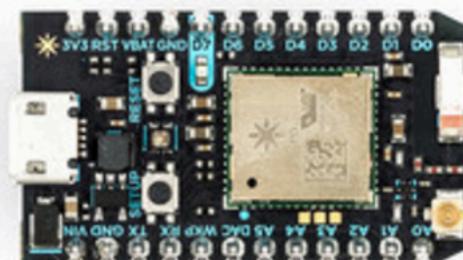
Devices

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Devices

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What is needed ?

1. We need devices to do things
2. We need sensors

Sensors

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of Things



Sensors

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of Things



Sensors

The Internet
of Things



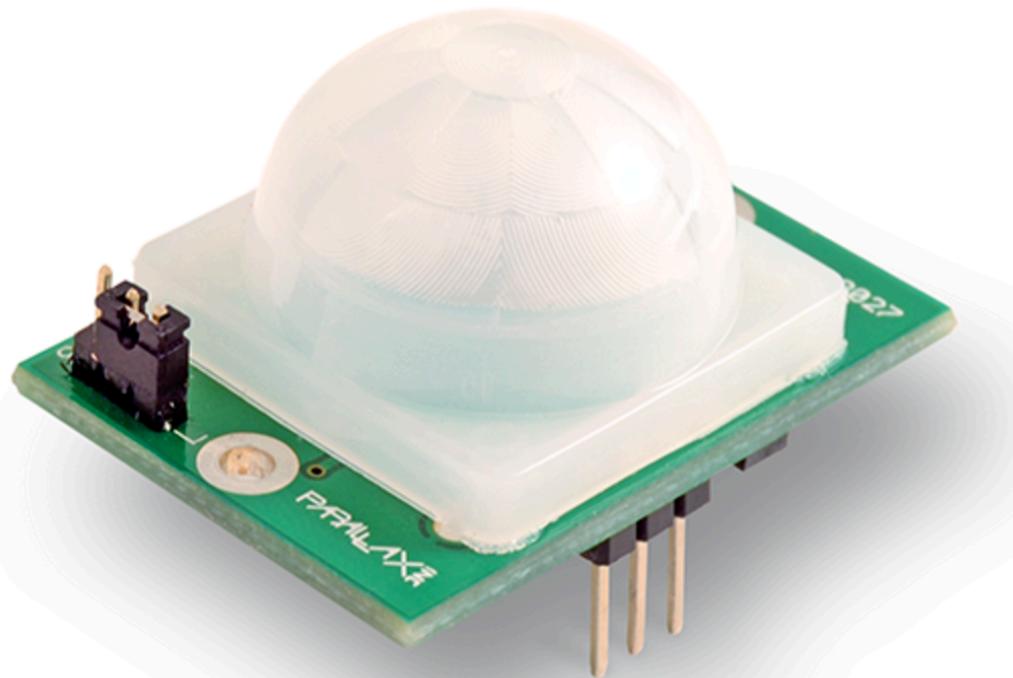
Sensors

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Sensors

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What is needed ?

1. We need devices to do things
2. We need sensors
3. Connectivity

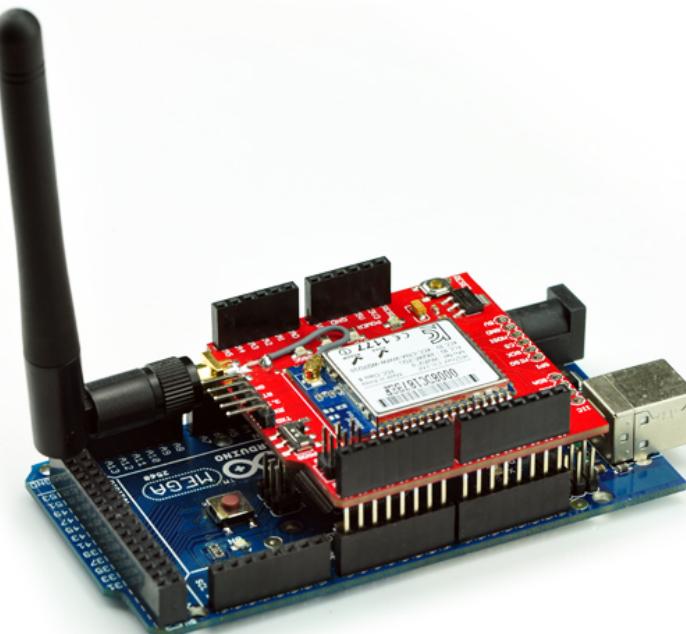
Connectivity

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Connectivity

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of Things



Connectivity

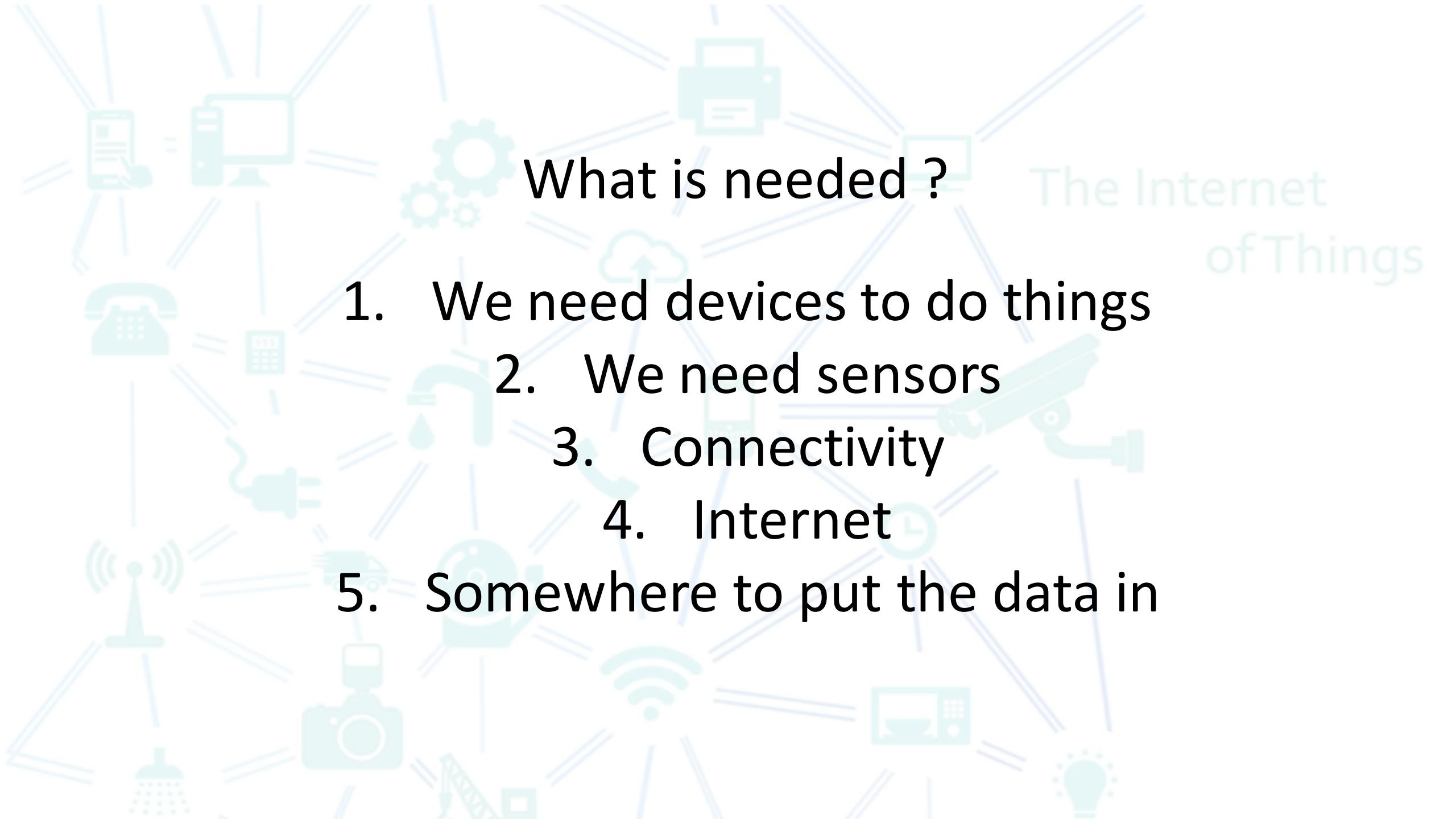
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What is needed ?

1. We need devices to do things
2. We need sensors
3. Connectivity
4. Internet





The Internet of Things

What is needed ?

1. We need devices to do things
2. We need sensors
3. Connectivity
4. Internet
5. Somewhere to put the data in

BIG DATA

Data collection / aggregation

The Internet
of Things

Data collection / aggregation

1. We need devices to do things
2. We need sensors
3. Connectivity
4. Internet
5. Somewhere to put the data in
6. Display and interact

Display and interact

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English

Your username



Your password

[Forgot Password?](#)A laptop screen is the central focus, displaying the carriots logo and the text "IOT APPLICATION PLATFORM". The background is a dark, out-of-focus image of city lights at night.

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Display and interact

afero

The Internet of Things
starts **here**.

Display and interact



Nearbus

An IoT Open Project

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NEARBUS IN 30 SECONDS

NearBus is a **Cloud Connector** that allows you to fully integrate in the cloud different MCU platforms (like Arduino, OpenPicus, etc.) in a very **easy** and **transparent** way. Installing a light agent (the NearAgent) in your MCU hardware the NearBus system will allow you to see the MCU as a real extension of the cloud, **controlling** it via the NearAPI (a very **simple set** of Web Services API functions).

Display and interact



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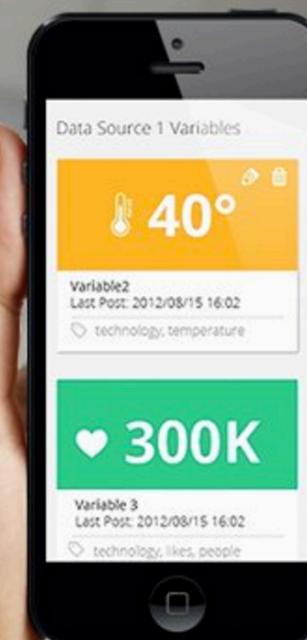
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A cloud service to capture and make sense of sensor data

Start Now

See how it works





Display and interact

thethings.io

YOU MAKE COOL THINGS WE CONNECT THEM

the IoT platform to connect and manage your products

START CONNECTING THINGS NOW





IoT vs IoE

Internet of Everything

Cisco defines IoE as bringing together **people, process, data and things** to make networked connections more relevant and valuable than ever before—turning information into actions that create new capabilities, richer experiences, and unprecedented economic opportunity for businesses, individuals, and countries.

IoT vs M2M

Machine to machine

This is a Telco terminology. M2M does not pinpoint specific wireless or wired networking. Simply put, M2M is where “machines” use network resources to communicate with remote application infrastructure for the purposes of monitoring and control, either of the “machine” itself, or the surrounding environment.

IoT vs WoT

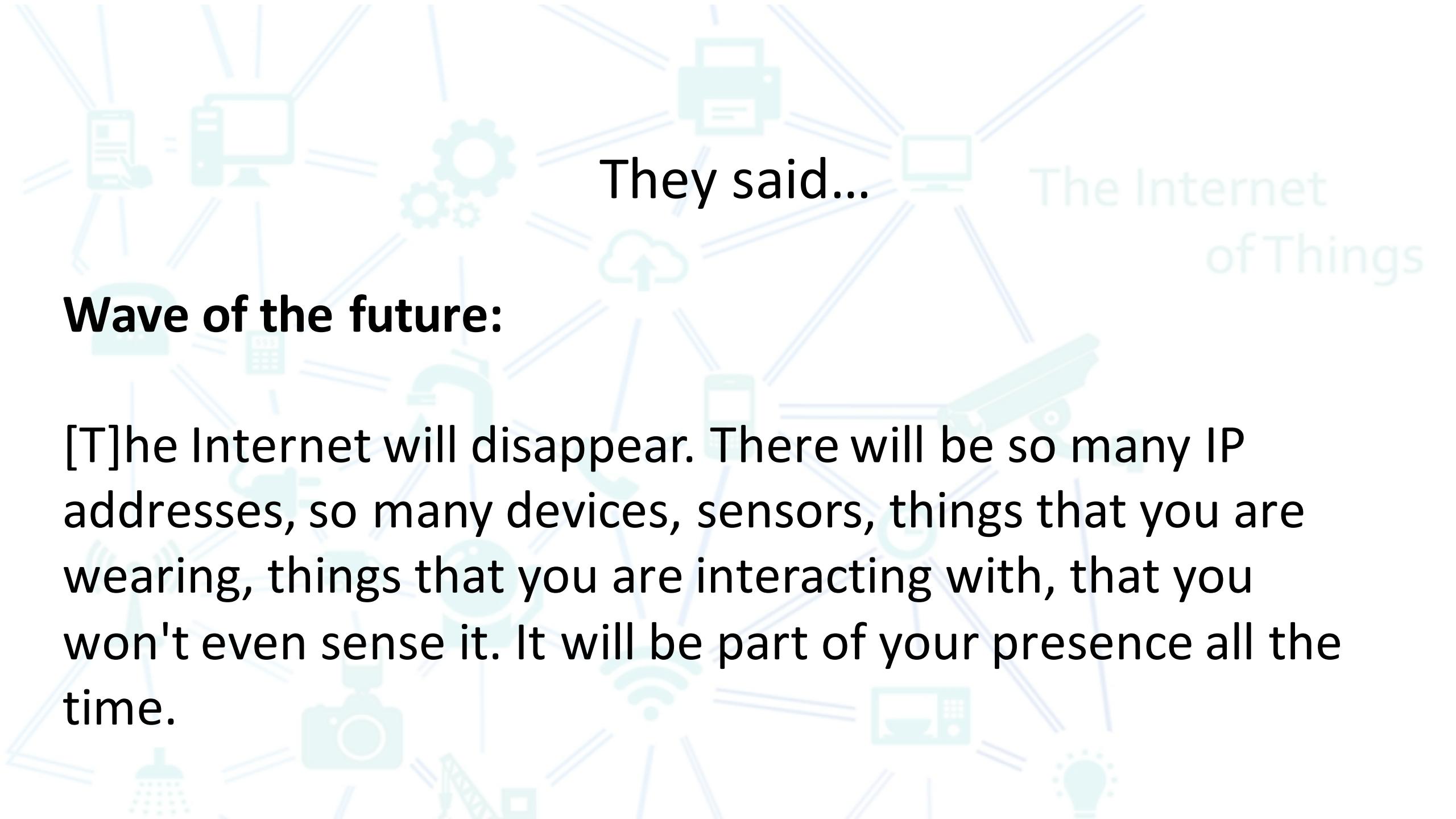
Web of Things

WoT is the higher levels. The authentication, the ReST APIs, the data layers and the http protocol connections. The Identity and authorization and authentication levels lie in the WoT layers. The devices themselves reside in the IoT layers.

IoT vs CpS

Cyber-physical Systems

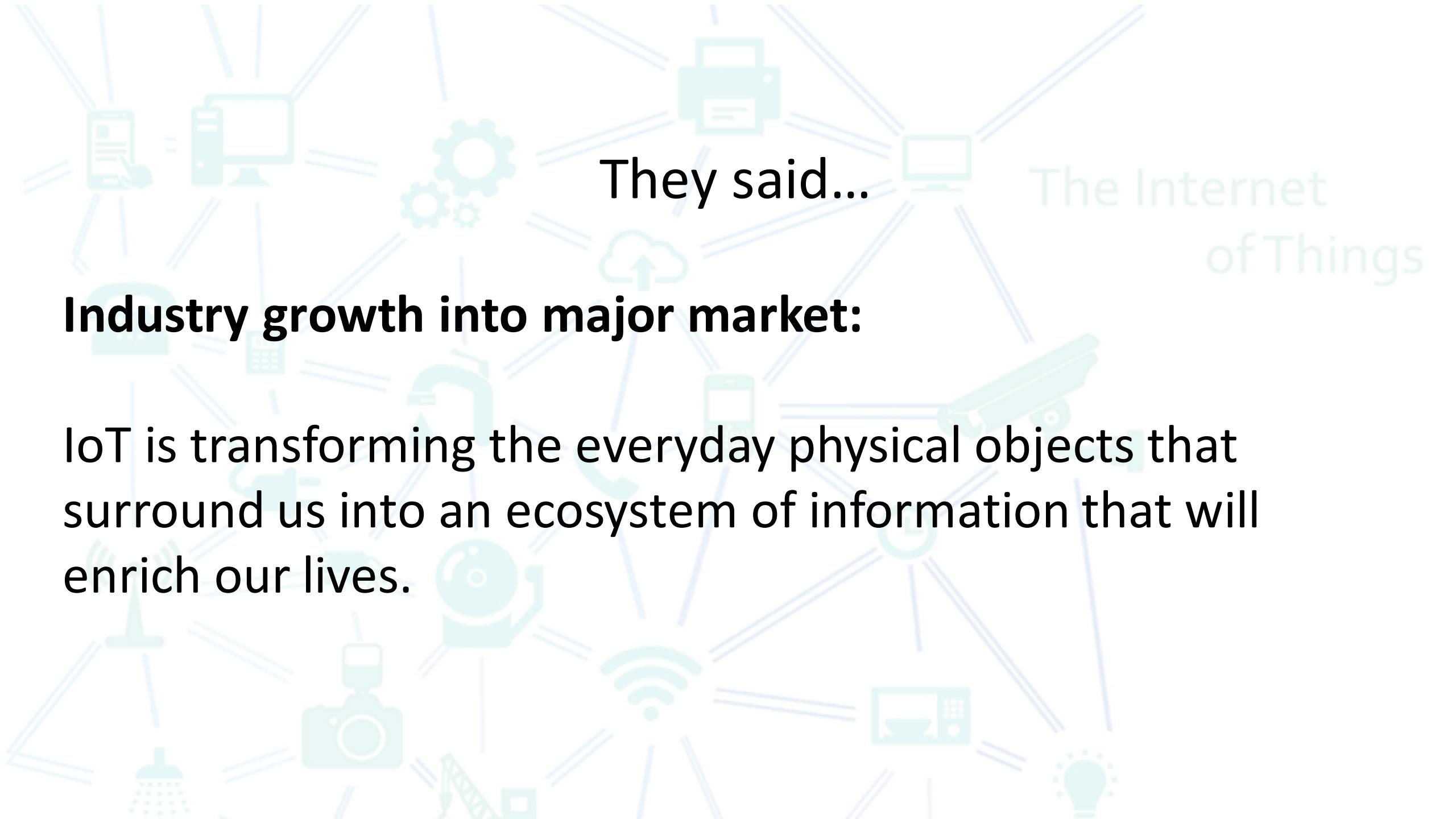
The integration of embedded computing devices, smart objects, people and physical environments, which are typically tied by a communication infrastructure. These include systems such as Smart Cities, Smart Grids, Smart Factories, Smart Buildings, Smart Homes and Smart Cars.



They said...

Wave of the future:

[T]he Internet will disappear. There will be so many IP addresses, so many devices, sensors, things that you are wearing, things that you are interacting with, that you won't even sense it. It will be part of your presence all the time.



They said...

Industry growth into major market:

IoT is transforming the everyday physical objects that surround us into an ecosystem of information that will enrich our lives.

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I say...



KEEP
CALM
AND
IOT
IT