

# Definition of IoT and connected objects

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## Internet of Things, connected objects?

The Internet of things (IoT) is the inter-networking of physical devices, vehicles (also referred to as "connected devices" and "smart devices"), buildings, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to collect and exchange data.

— Wikipedia, entry "Internet of Things" visited on 2017/08/01

Some comments on this definition:

- we are familiar with Internet used to transmit information from computer to computer (sending an email, visiting a web page...)
- the expression "Internet of things" insists on a different kind of use: what if we could connect any object (not just computers or smartphones) to the Internet?

The idea to connect objects to the Internet is not new: professors connected a Coke Machine in the late 1970s or early 1980s... [1: [https://www.cs.cmu.edu/~coke/history\\_long.txt](https://www.cs.cmu.edu/~coke/history_long.txt)]

But starting in the 2000s, we moved from small, fun experiments to the development of an entire industry based on this concept.

"Connected objects" is a popular expression, less technical than "Internet of things" but which covers the same reality.

What about "smart objects?"

This is a synonymous to connected objects, where "smart" insists that the object can have a richer set of functions thanks to being connected to the Internet. It can even improve its features (for example, [a car driving faster](#)), thanks to updates made to its software through the Internet.

## Examples

We have heard of IoT through **wearables**: these objects that we can wear and which are connected

to the Internet, such as a connected wristband:



Figure 1. source: <https://explore.garmin.com/en-US/vivo-fitness/>

Connected objects are more and more present in our lives. We can put them in 2 categories:

1. connected objects for consumers like you and me: a wrist band, or the [Amazon Echo](#), which is a sound speaker doubling as a Digital Assistant. Or a scale by [Nokia](#), which tracks your weight but also pulsations.

Companies creating these products are typically selling them to individual consumers (households). These are B2C markets : "Business to Consumers", but they also address the B2B market (Business to Business: companies selling to other companies).

1. connected objects for the industry: all kind of smart sensors and small connected devices are useful to help keep track of all pieces of material and semi-finished products along the production line, in all industries (from agriculture to manufacturing, through health care etc.)

The goal is to eliminate waste and increase speed by controlling and monitoring their processes more closely thanks to these devices.

Examples of companies providing these services are [Ripples](#), Benard Marr[Pentaho], or [PTC](#).

## What is a connected object made of?

# The end

Find references for this lesson, and other lessons, [here](#).



This course is made by Clement Levallois.

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