Devices

An Overview

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CDD101, 2017

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Definitions

Device a thing made or adapted for a particular purpose, especially a piece of mechanical or electronic equipment.

Device a piece of equipment or a mechanism designed to serve a special purpose or perform a special function.

IoT the interconnection via the Internet of computing devices embedded in everyday objects, enabling them to send and receive data.

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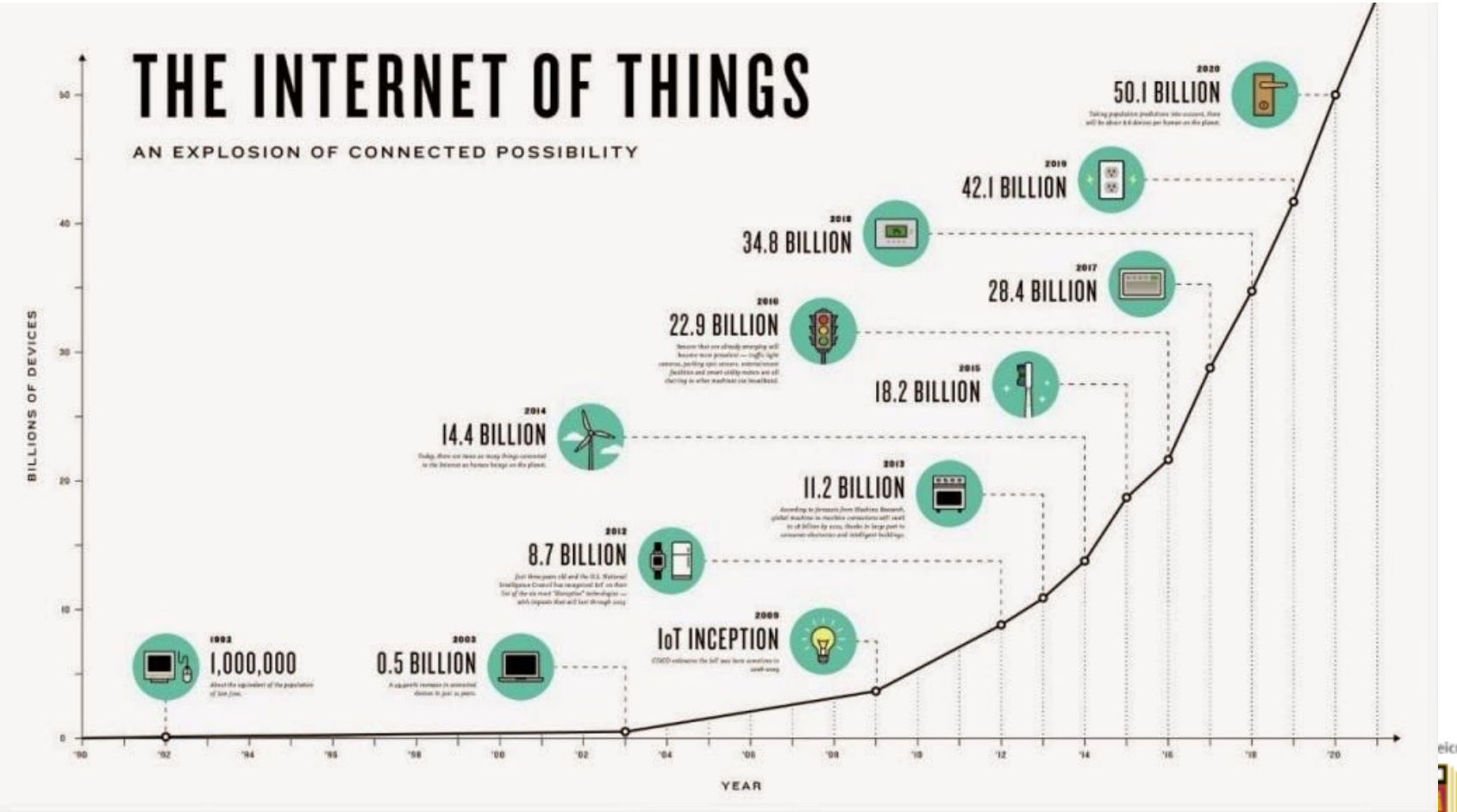
Growth



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Examples

- Cars
- Kitchen Appliances
- Medical Equipmen
- Military Equipment
- Wearables

- How many devices are you carrying at the moment?
- Devices are becomming programmable - this is a huge change!
- Devices can include Sensors and Actuators - this gives them unique advantages or GP Computers

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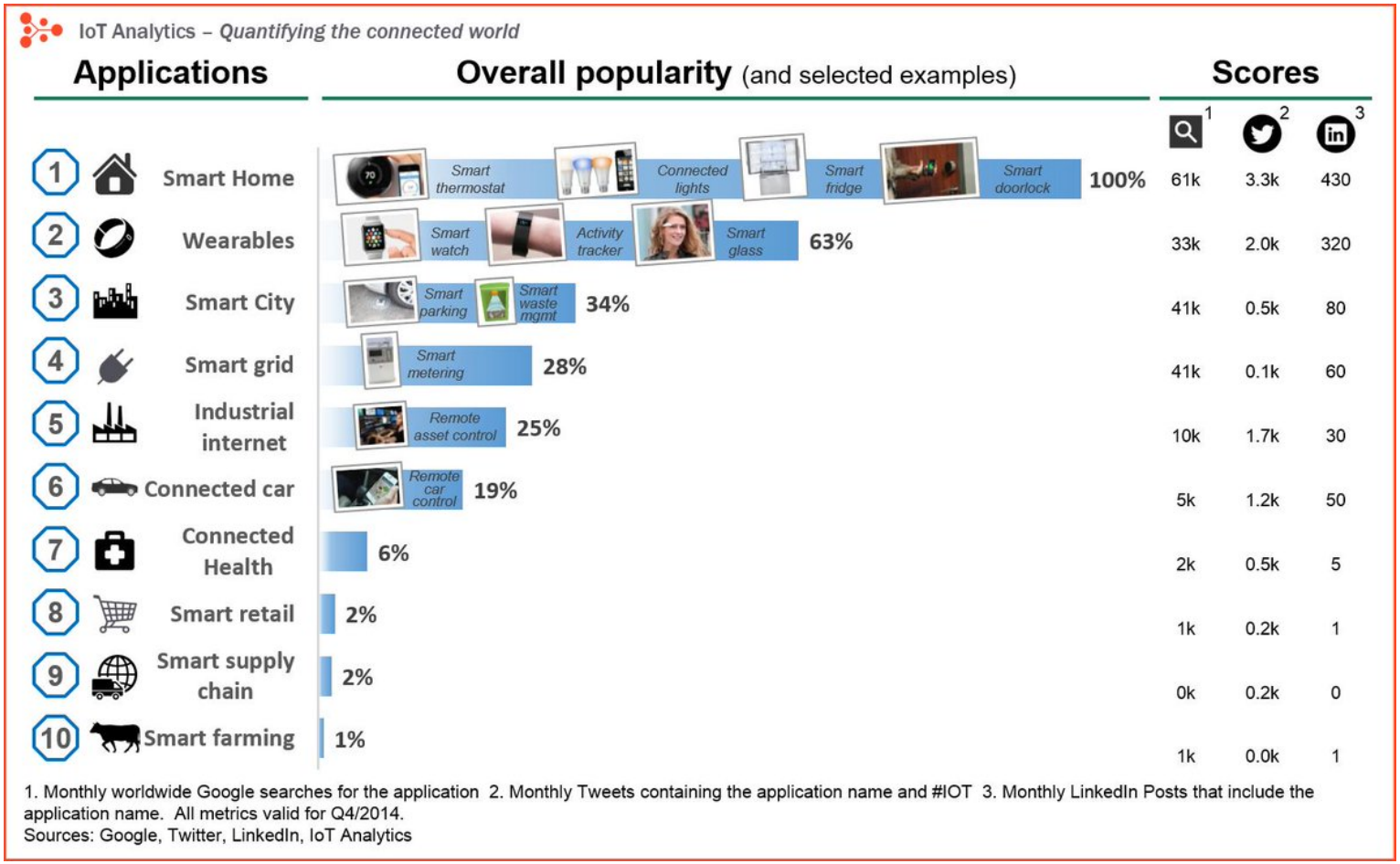

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Sensors and Actuators

Sensor A device which detects or measures a physical property and records, indicates, or otherwise responds to it

Actuator A component that is responsible for moving or controlling a mechanism or system; in simple terms, it is a "mover". An actuator requires a control signal and a source of energy. There are five main types of actuators – hydraulic, pneumatic, electrical, Thermal or Magnetic and Mechanical.

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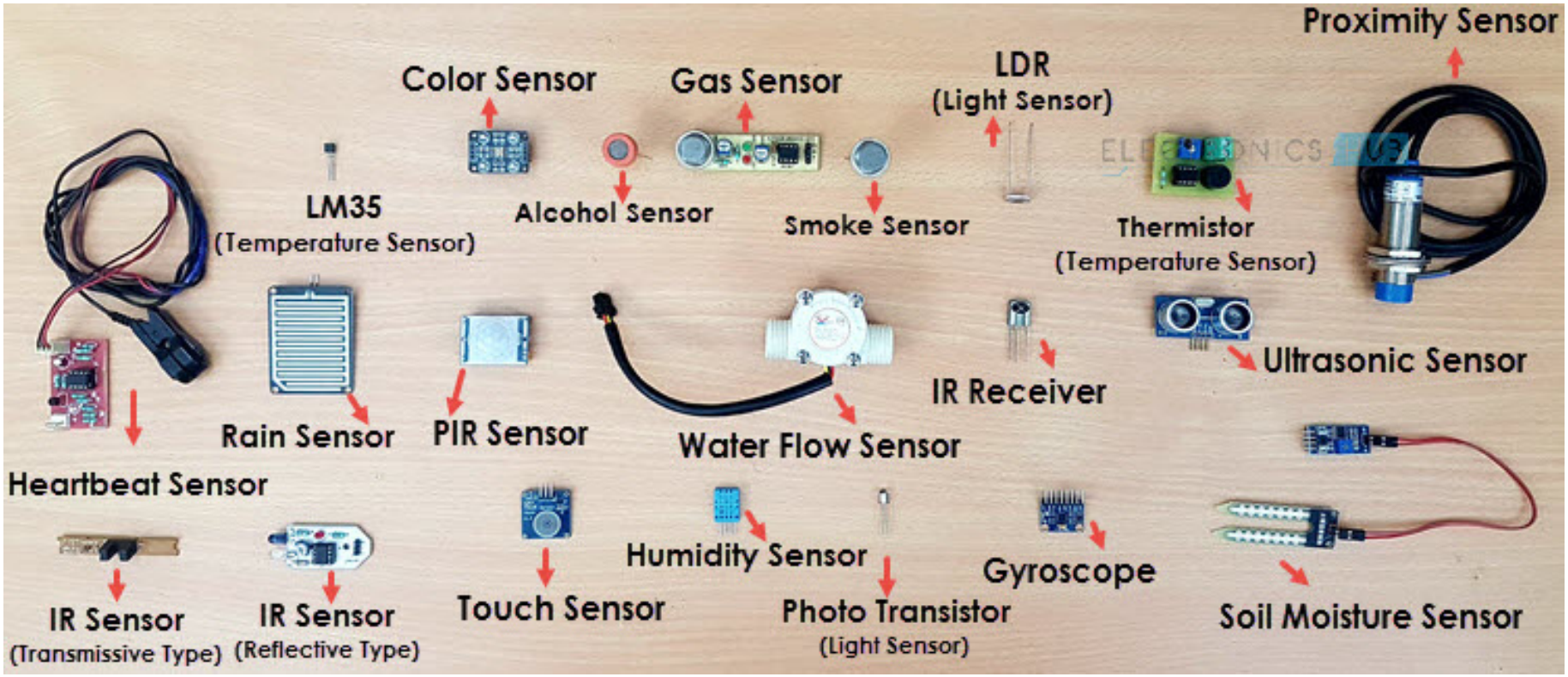

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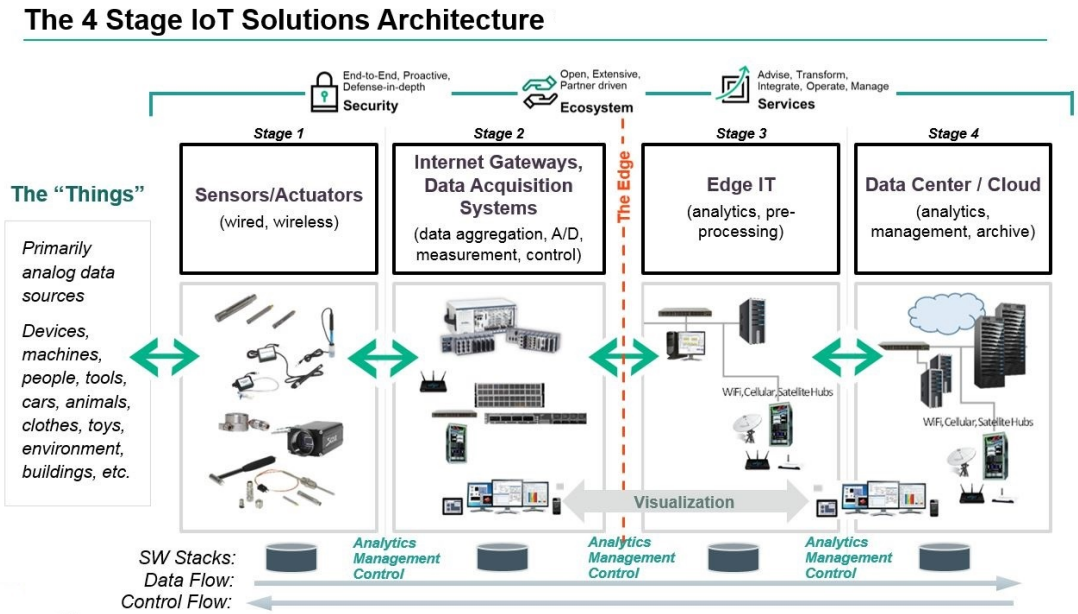
General Architecture

Each type of device can have a unique architecture. The differ from GP Computing architecture in:

- Power Constraints
- Speed Constraints
- Space Constraints



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Issues

- We are restricted in how we program a device
- UX/UI design must be completely rethought
- How do we stay connected?
- Security and privacy issues

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