



Introduction to IoT

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Term and Definition

 *The integration of people, processes and technology with connectable devices and sensors to enable remote monitoring, status, manipulation and evaluation of trends of such devices* 

Peter T. Lewis, 1985

And, we often use the term

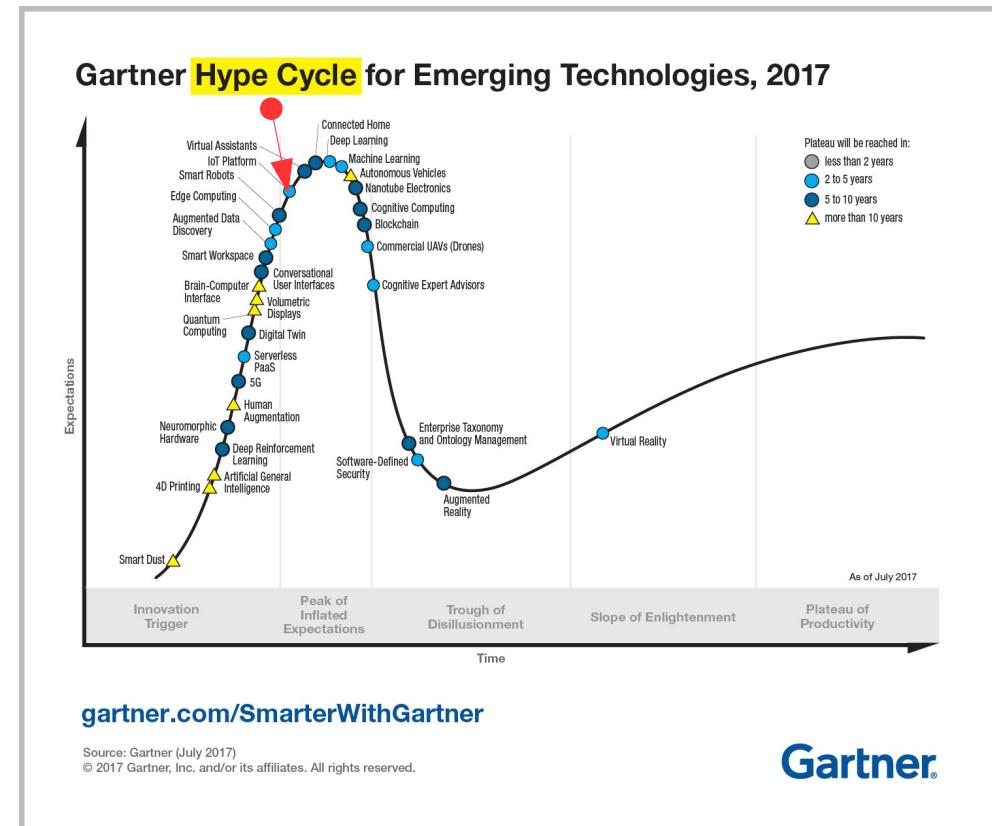
“Internet of Things”

... when it is not **Things**.

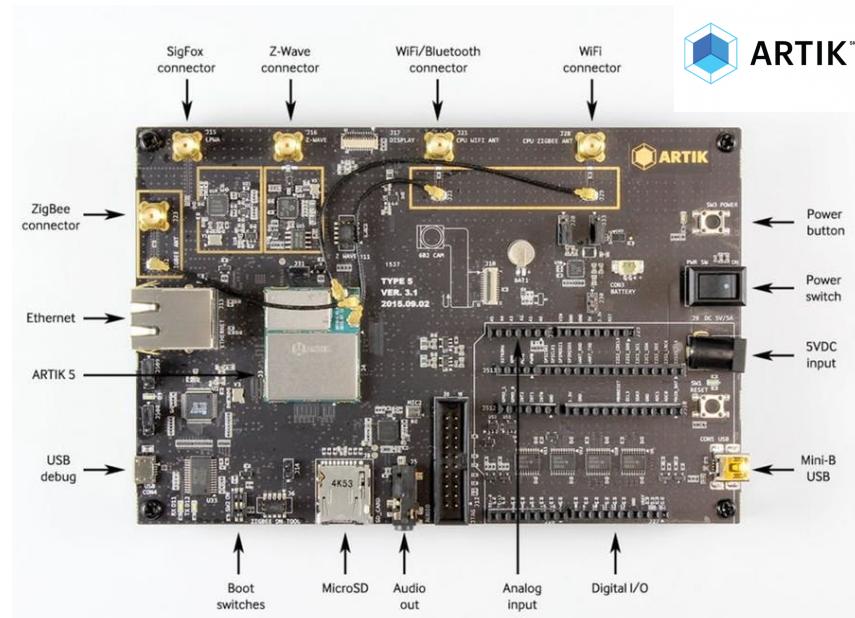
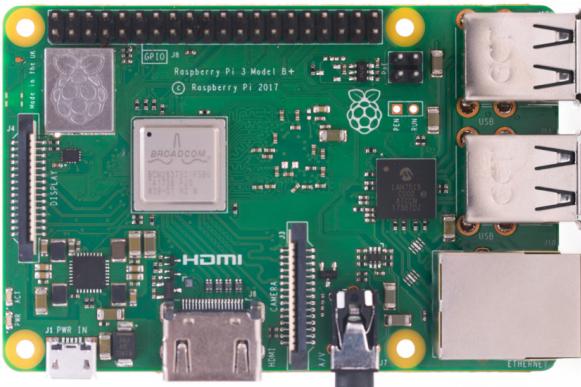
... when it is not **Internet**.



IoT - riding the hype wave a 2nd time

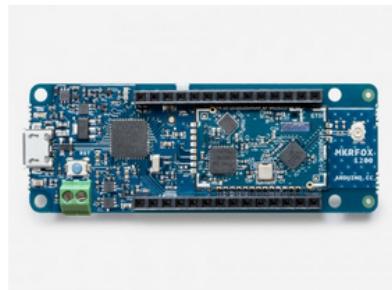


IoT devices



€30.99

Arduino MKR1000 WIFI



€35.00

Arduino MKR FOX 1200



€35.00

Arduino MKR WAN 1300 (LoRa connectivity)



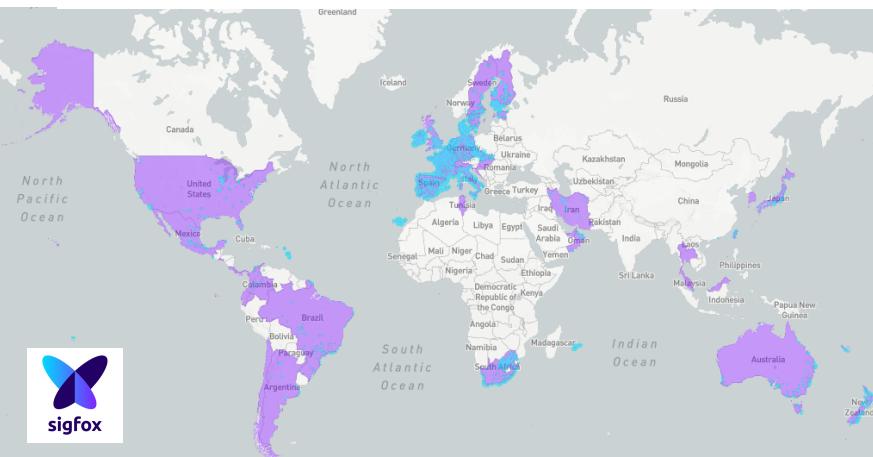
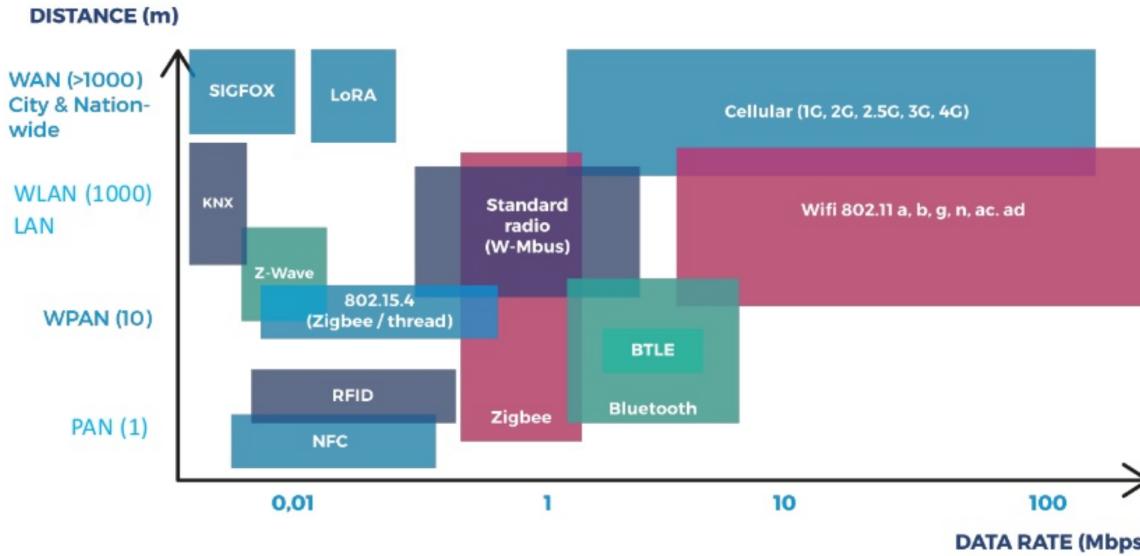
€59.90

Arduino MKR GSM 1400



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IoT communications

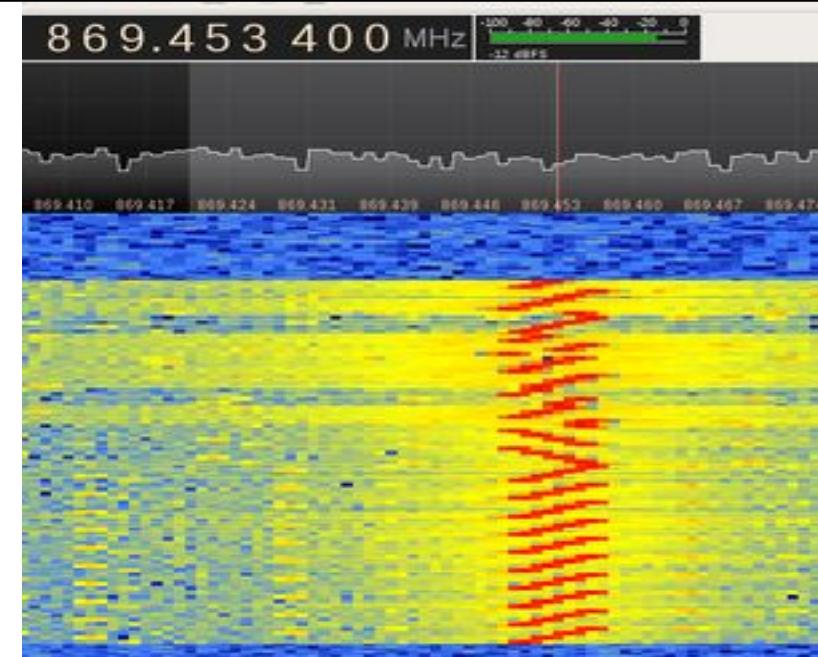
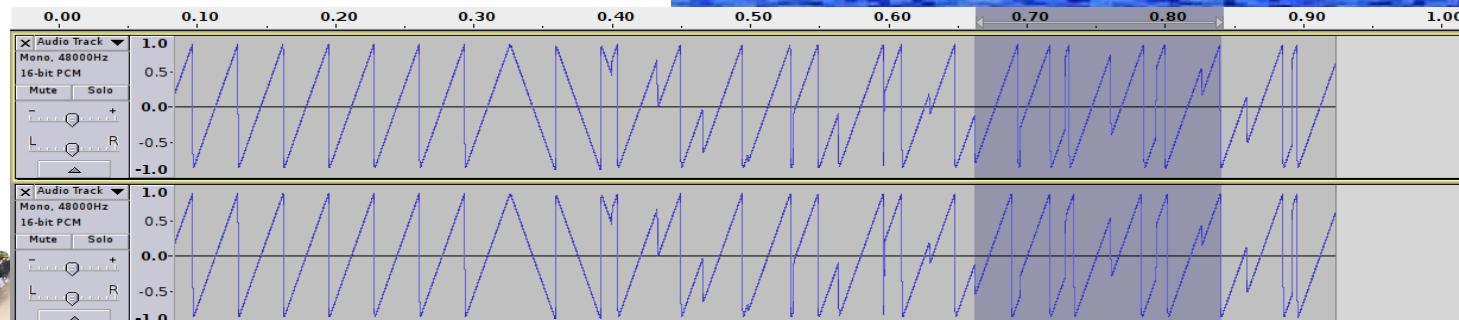


LoRa - the one with the Chirp

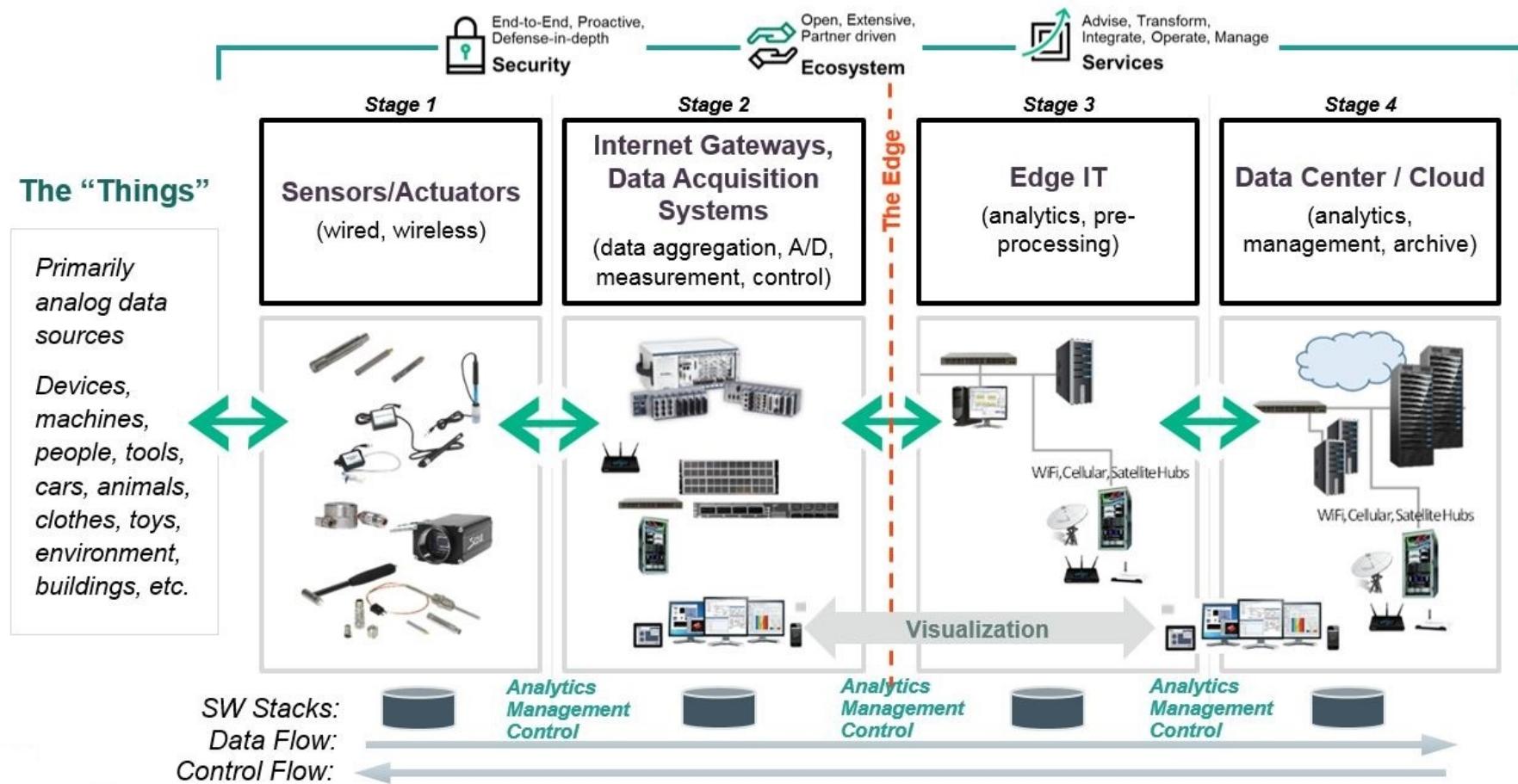
Chirp spread spectrum (CSS), typically on 169 MHz, 433 MHz, 868/915 MHz

Proprietary technology (Semtech), Open standard LoRaWan (LoRa-Alliance)

Long Range, small data, low power, low cost

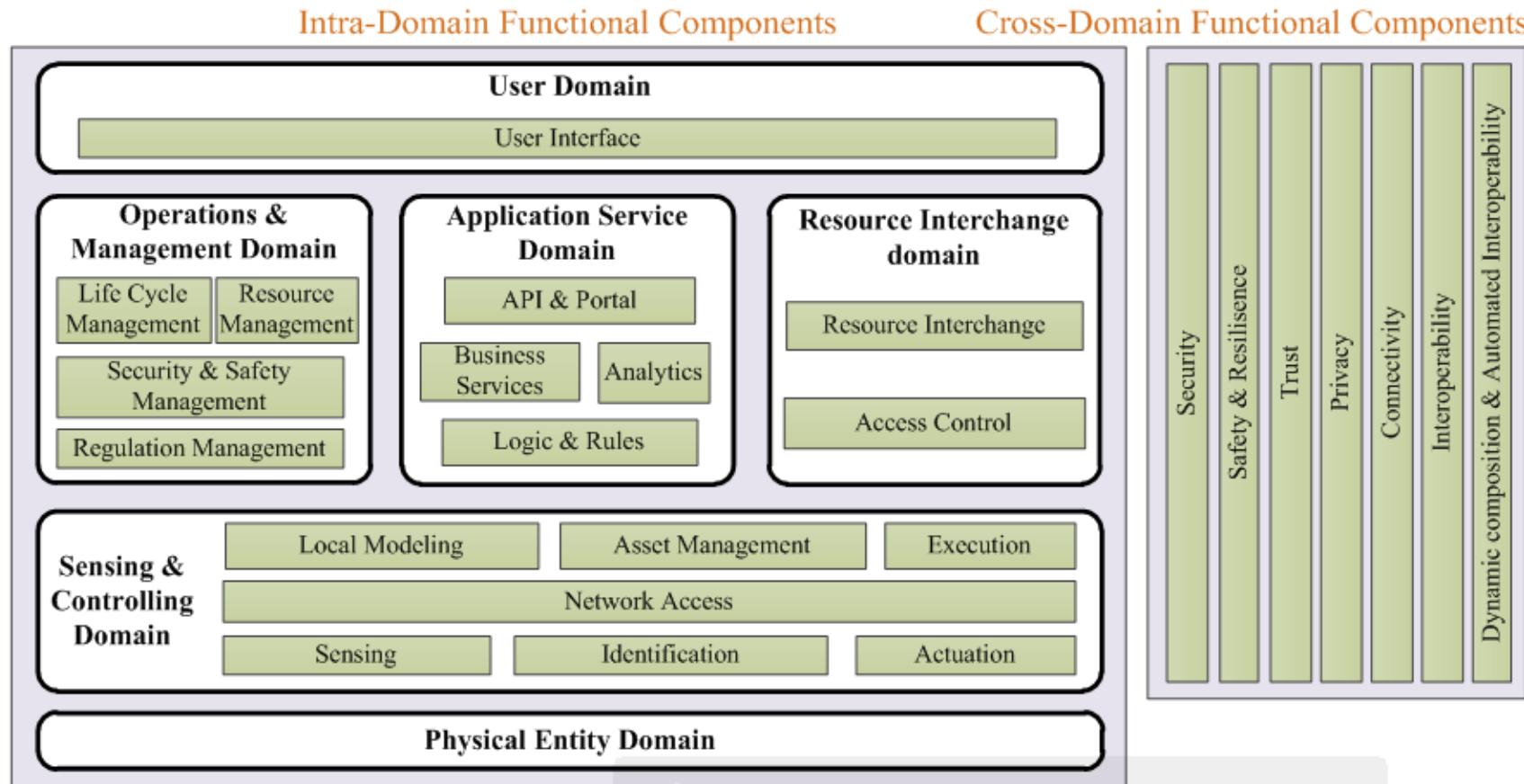


The 4 Stage IoT Solutions Architecture



IoT Reference Architectures

Example: ISO/IEC CD 30141: Internet of Things Reference Architecture (IoT RA)

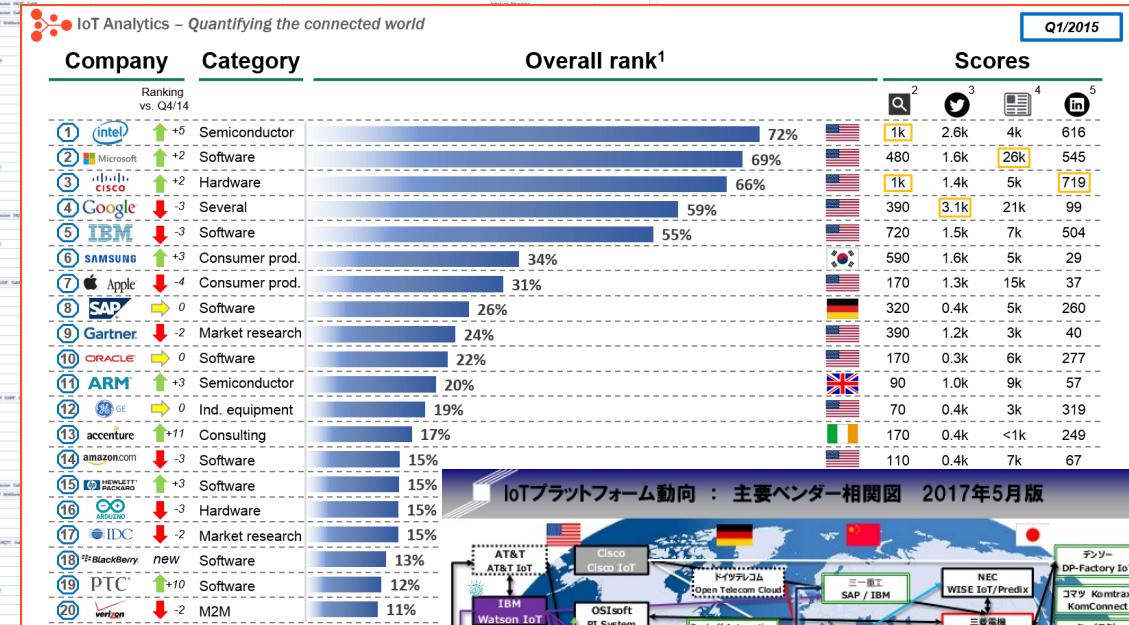


Here's the top 100 IoT platforms ... or so ...

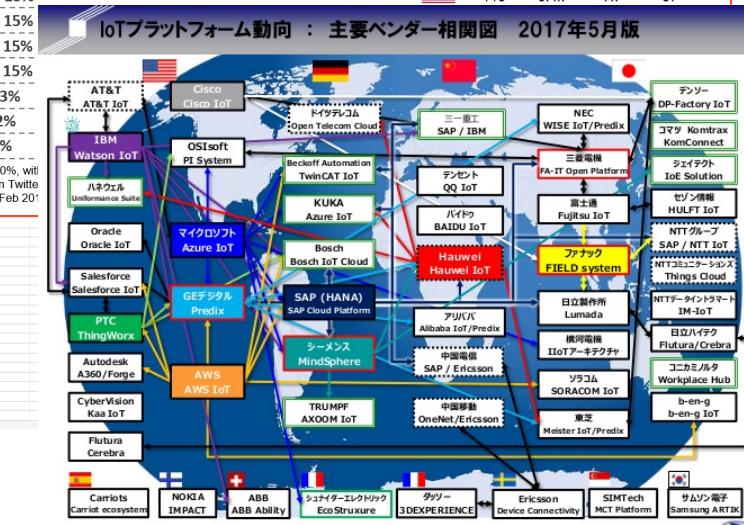
IoT Analytics – Quantifying the connected world

Company	Category	Overall rank
1 Intel	Semiconductor	+5
2 Microsoft	Software	+2
3 Cisco	Hardware	+2
4 Google	Several	-3
5 IBM	Software	-3
6 SAMSUNG	Consumer prod.	+3
7 Apple	Consumer prod.	-4
8 SAP	Software	0
9 Gartner	Market research	-2
10 ORACLE	Software	0
11 ARM	Semiconductor	+3
12 GE	Ind. equipment	-1
13 accenture	Consulting	+11
14 amazon.com	Software	-3
15 HEWLETT PACKARD	Software	+3
16 ARDUINO	Hardware	-3
17 IDC	Market research	-2
18 BlackBerry	Software	new
19 PTC	Software	+10
20 verizon	M2M	-2

1. The highest ranking company in each aspect received a rating of 100%, with categories 2. Searches on Google in conjunction with IoT. 3. Tweets on Twitter tag "Internet of Things" on LinkedIn. All numbers valid for Dec 2014 to Feb 2015.

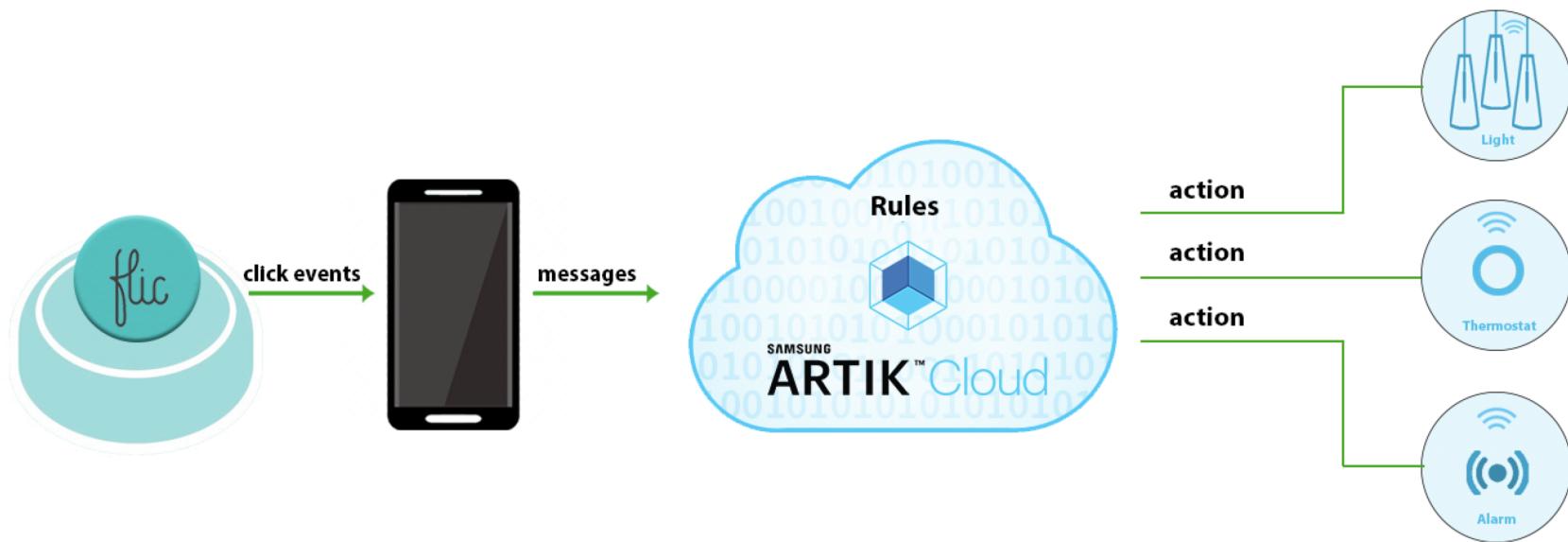


1. The highest ranking company in each aspect received a rating of 100%, while the lowest ranking company received 0%. Categories 2. Searches on Google in conjunction with IoT. 3. Tweets on Twitter tag "Internet of Things" on LinkedIn. All numbers valid for Dec 2014 to Feb 2015.



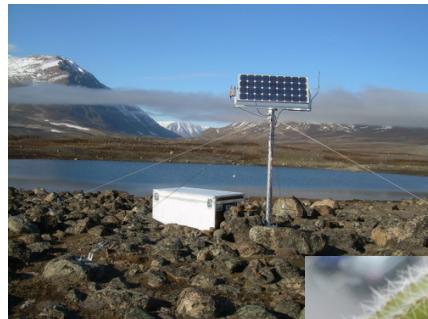
Commercial IoT platforms

Azure, IBM, Amazon, OVH...



IoT at IT University

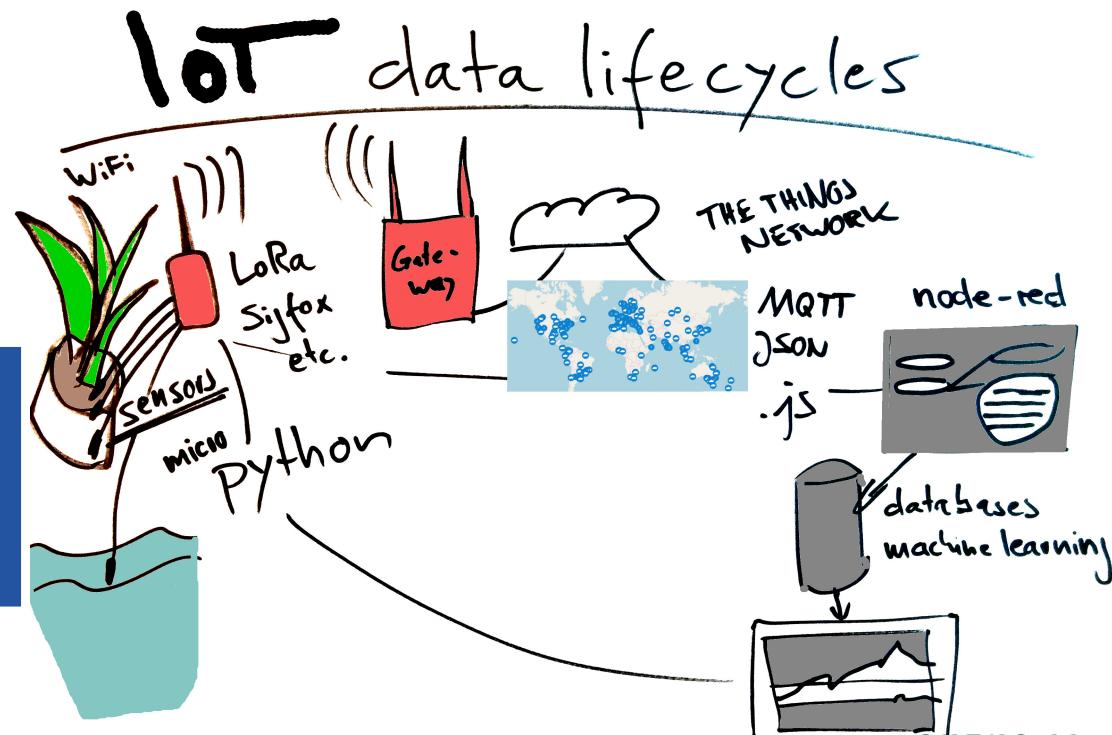
Owning the stack, DIY, learning *how stuff works*



InfluxData, LoRaWan, The ThingsNetwork



What makes sense for whom?



The 'People's Internet of Things'



**THE THINGS
N E T W O R K**



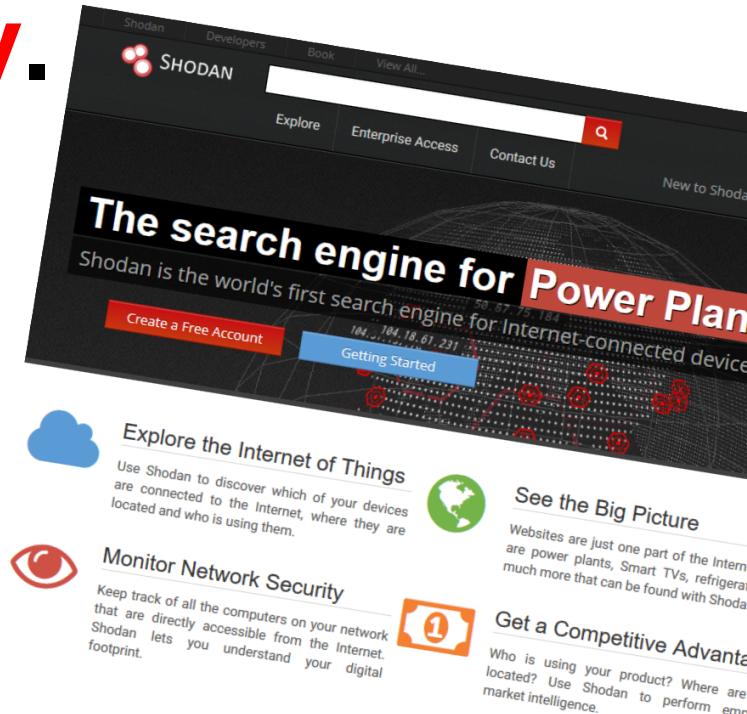
Anyone shall be [free](#) to set up "Things" and connect to "Things Gateways" that may or may not be their own.

Anyone shall be [free](#) to set up "Things Gateways" and connect to "Things Access" that may or may not be their own. Their "Things Gateways" will give [[free](#)] access to all "Things" in a net neutral manner, limited by the maximum available capacity alone.

The S ...

The S in IoT stands for Security.

But we will not even attempt to cover it here.





Internet of Shit @internetofshit · May 4

holy shit there's so much water in here!
thank god i had this app!



797



884

Thank you!

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