



Innovation in Connected things &
Big data

towards platforms for cities

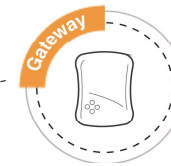
November 11th, 2014
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The D-Shirt: the original product

The D-Shirt (Prototype)



Fabric embedded sensors
Physiological data



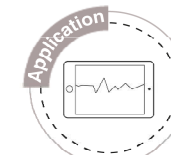
Sensors embedded in the gateway
Actimetric data



Real time monitoring



Data Management Indicators



Data Analytics

Available sensors

- Electrocardiogram (ECG)
- GPS
- 3-axis accelerometers
- Altimeter
- Bluetooth connector

Sensors available in 2015

- Temperature
- Respiration
- Hygrometry
- Muscles: Mechanomyogram (MMG) / electromyogram (EMG)



Sport

A close-up photograph of a stethoscope and a bundle of fiber optic cables. The stethoscope is positioned in the lower right, with its chest piece resting on a dark surface. The fiber optic cables are bundled together and extend from the top left towards the center, with light reflecting off their tips. The background is dark and textured.

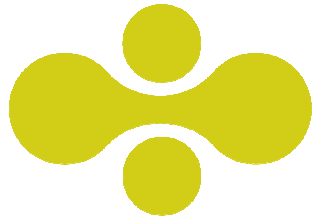
Health

The logo for Cityzen Sciences. It features a stylized icon of three overlapping circles in blue, orange, and grey, with a central dot. Below the icon, the word "Cityzen" is written in a bold, sans-serif font, with "City" in blue and "zen" in orange. Underneath "Cityzen", the word "Sciences" is written in a smaller, grey, sans-serif font.

Cityzen
Sciences

Wellness





Smart Sensing

The starting consortium

Electronic manufacturer



Sportswear company



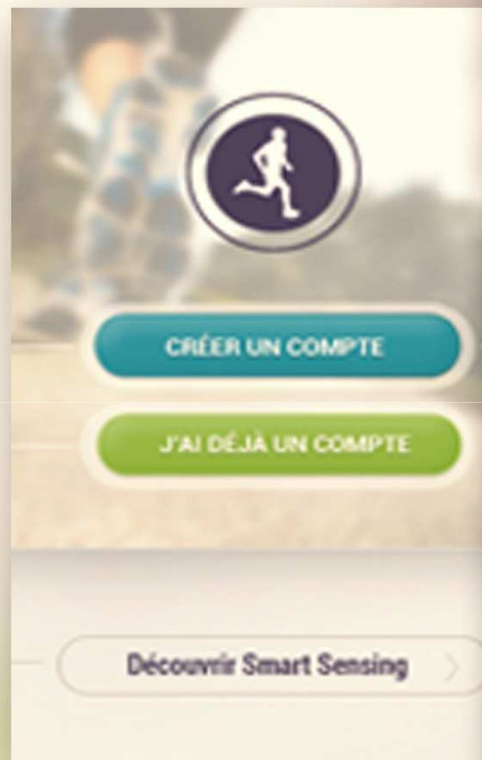
Academic Lab specialized in Sensors and data

7.2 M€ granted by



Fabric manufacturer

Data : The key factor in the value added for services providers and for citizens



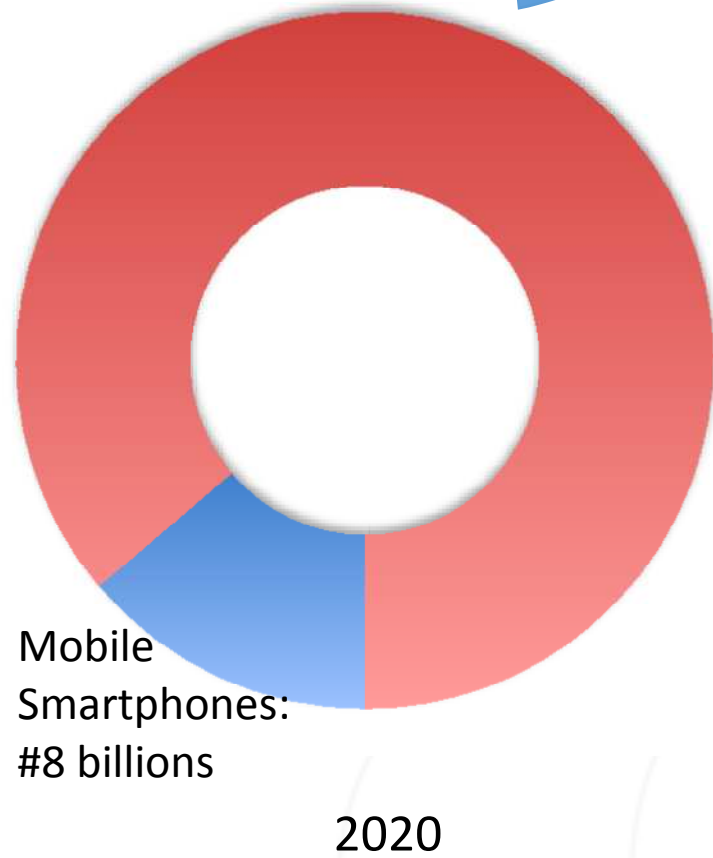
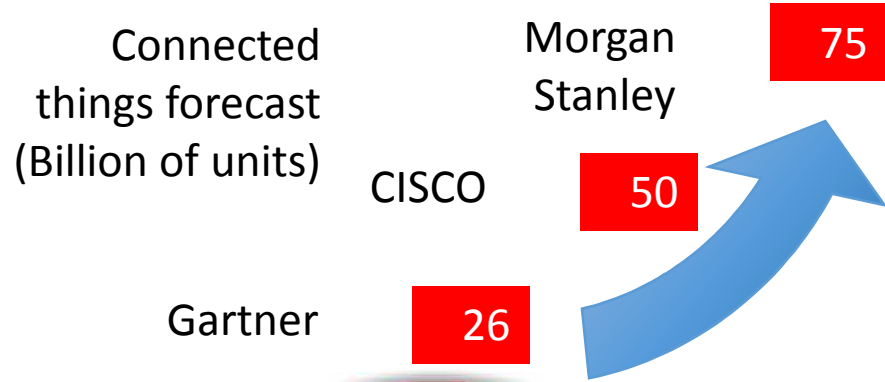
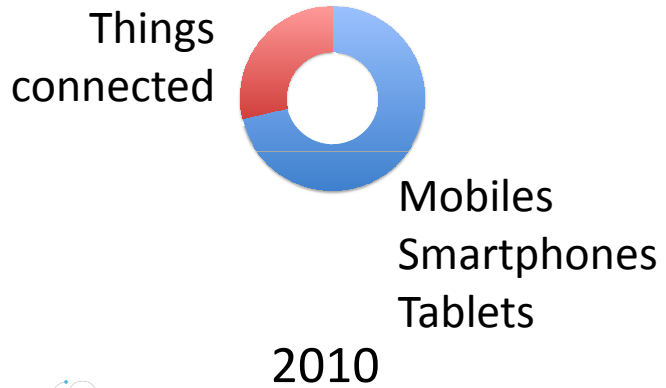
Cityzen
Data

Cityzen
Sciences

Cityzen Data addressing the market of Internet of Things



2 billions of connected things,
7 billions mobiles



ITEMS International

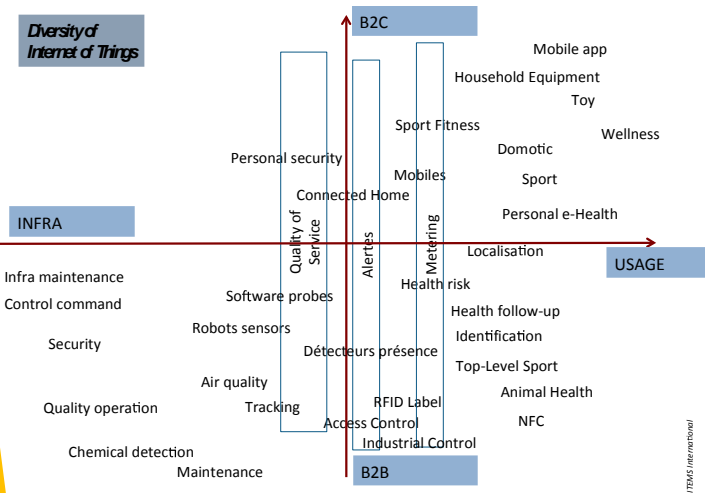
A key challenge within the triangle Cities, Things and Data

Internet of Things

Internet of things: \$8.9 trillion market in 2020, 212 billion connected thing, [IDC](#)

Smart Cities

Smart Homes, Smart Buildings, Energy efficiency, Smart Transportation, Waste & Sewer systems, Water, Lighting Traffic, Security, Territoire CONTACT, Monitoring, Green Data Center, e-Services, Communications.



Data

Big Data Market Reaches \$18.6 B in 2013, heading for \$50 B in 2017, [Wikibon](#)

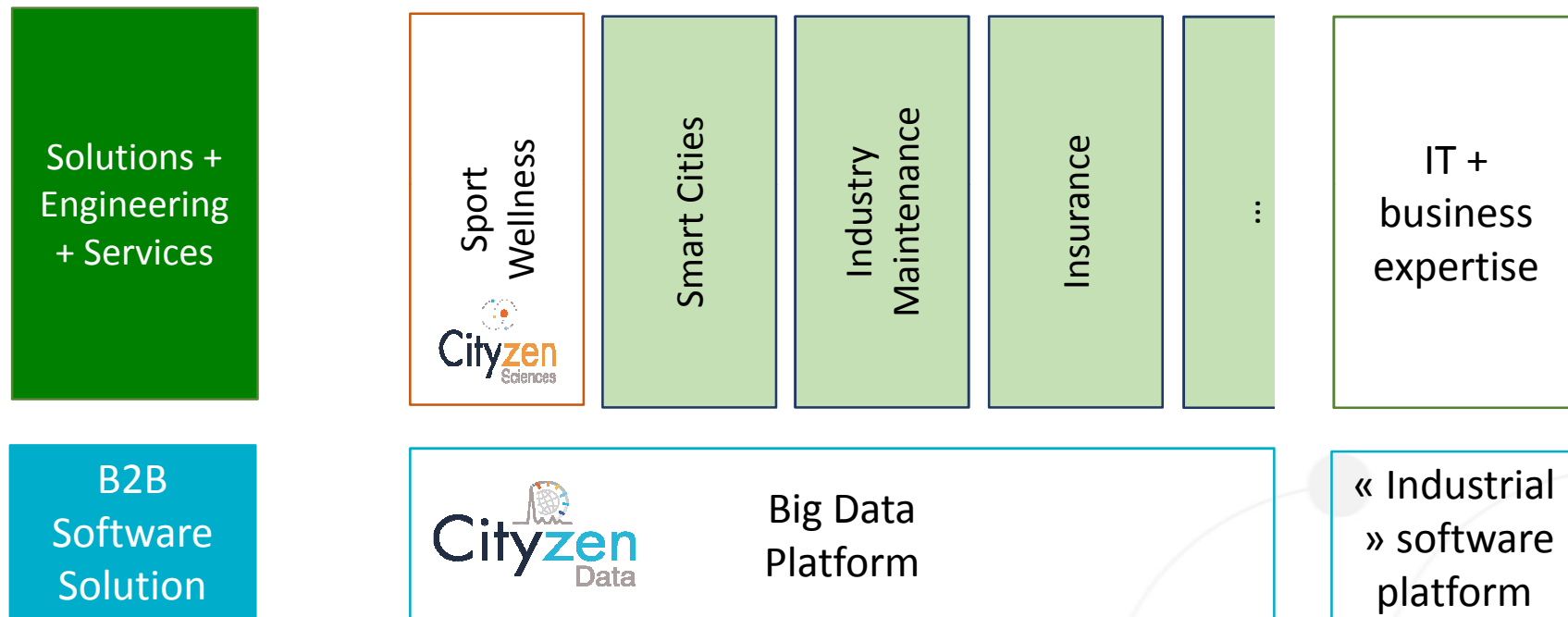
THE LANDSCAPE OF BIG DATA

- Big data is projected to grow into a \$53.4 BILLION market by 2017, up from \$10.2 BILLION in 2013.
- All of the world's digital data equals about 900 exabytes, of which is created by 70% individuals.
- China will account for more than 1/5 of the world's data by 2020.
- 90% of the data in the world today has been created in the last two years alone.
- 1 Terabyte = 1000 gigabytes or 250 million MP3s
- 1 Petabyte = 1000 terabytes
- 1 Exabyte = 1000 petabytes
- 1 Zettabyte = 1000 exabytes
- 1 EB is nearly 2 times as large as the web archive of the US Library of Congress.
- Average online cart usage increases 10% with a digit of personalized advice lasting 45 minutes.
- MORE THAN 570 NEW WEBSITES are created every minute of the day.
- Global mobile data traffic grew 81% IN 2013.
- OVER 500 MILLION mobile devices and connections were added in 2013.
- IMPACT OF BIG DATA: Poor data costs businesses and the government costs \$65.7 MILLION for the average Fortune 500 company.
- WHICH IS WHY: 34% of companies implemented big data in 2013, up from 4% in 2012. 68% of companies are running two or more big data projects as part of their big data initiatives.
- BY 2015: 4.4 MILLION IT JOBS globally will be created to support big data, generating 1.6 million jobs in the United States.
- BY 2018: The United States alone could reap a shortage of 140,000 TO 150,000 PEOPLE with deep analytical skills as well as 1.4 million managers and analysts with the know-how to use the mountain of big data to make effective decisions.
- 15% of companies with big data initiatives spent of least \$10 million on big data initiatives in 2013. 7% invested at least \$50 million and 2% invested less than \$2.5 million a piece.
- \$200 MILLION into big data research projects.

mushroom NETWORK
www.mushroomnetwork.com

The Business model for Cityzen Data

- > Cityzen Data addresses Cityzen data needs
- > Big data platforms and tools designed to address any other needs for data coming from sensors, connected thing, mobiles ...



> 1: A disruptive architecture

GEO TIME SERIES

Time + Location at the same level of priority in the platform

CityZen Data manage data coming from sensors, mobiles, connected things, real time events ... Internet of Things



Data: dianping shanghai 2012

> 2: Data Analytics Tools and Language

Real Time Data Analytics
Total scalability



A specific language to
manipulate Big Data:
A successful bet

> 3: High level security

Encryption of critical data

Differentiation of data manager and user




Cityzen
Sciences


Cityzen
Data



Award au
CES Las Vegas




Cityzen
Sciences





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