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Big Data sources and modern ways of data storage (or processing?)

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Introduction

Economical development – technical progress.

What history tells us:

- GSM and mobile networks – 1946
- Internet – (idea by DARPA – 1957) – 1969
- Social Networks – let's say the Facebook – 2004
- Mobile applications networks etc. – 2010
- Big Data era

M. Zuckerberg: "We're going to execute this mission to make the world connected and build value over the long-term. The bigger question that will define how we've done is how we do with mobile"

http://www.youtube.com/watch?v=xzmQm-hRgTg&feature=player_embedded

http://www.youtube.com/watch?feature=endscreen&NR=1&v=lUljrP6ILN0

Real-time monitoring

Real-time monitoring service - Monitoring and measuring environmental developments with technology and communications systems that provide time-relevant information to the public in an easily understood format people can use in day-to-day decision-making about their health and the environment.[1]

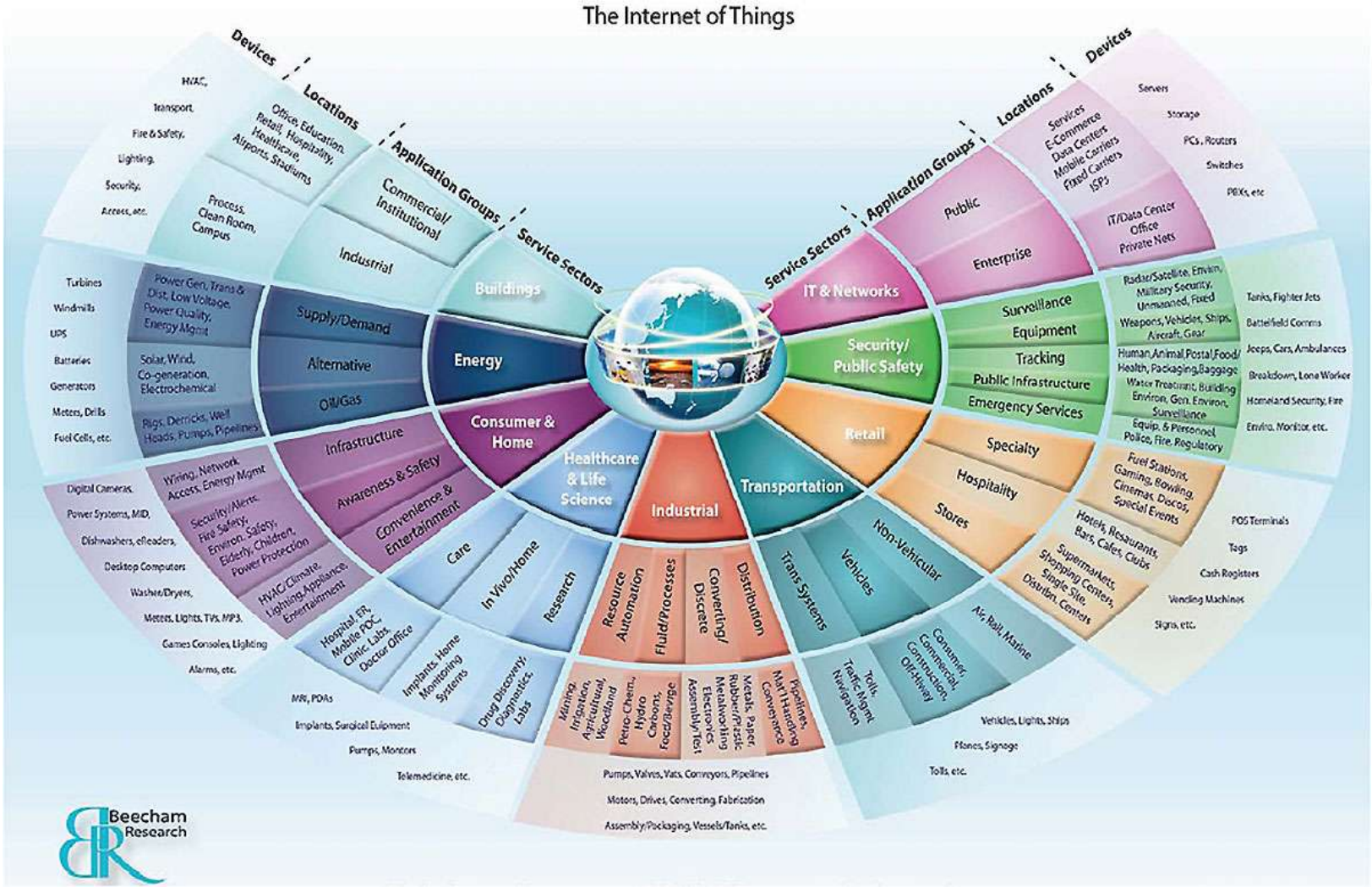
1. http://www.caslab.com/Real-Time_Monitoring_Meaning/

Service evolution

a Service - is a set of one time consumable and perishable benefits
delivered from the accountable **service provider**, mostly in close coaction with his internal and external service suppliers,
effectuated by **distinct functions** of technical systems and by distinct activities of individuals, respectively,
commissioned according to **the needs of his service consumers** by the **service customer** from the accountable service provider,
rendered **individually** to an **authorized service consumer** at his/her dedicated trigger,
and, finally, consumed and **utilized** by the **triggering service consumer** for **executing** his/her upcoming **business activity** or **private activity**.

Sources: wiki, http://www.innosight.com/

Technologies for services



Mobile Internet and services

Mobile Internet - is a new business and industry through smart mobile terminals by using a mobile wireless communications to get services, including three levels- terminals, software and applications.

Mobile services:

–Mobile social networking
–Mobile advertising
–Mobile games
–Mobile TV
–Mobile e-reading
–Mobile location services
–Mobile search
–Mobile content sharing service
–Mobile payment
–Mobile e-commerce

Mobile applications

Now there is only one major difference – mobile devices mostly represent particular person and help to get personalized service.

Mobile operating system – key point (the same OS for any devices).

Mobile device as a gateway for the Internet of Things (communications to the Internet – NFC, Bluetooth low-power etc.).

Mobile applications – personalized (adaptable, combine different mobile services (i.e. purchasing and delivery based on position (LBS)).

Mobile applications and mobile devices implementation – Internet of Services.

! Privacy issue - new transnational regulations for the data transfer from one country to another etc.

“Mobile” statistics

• **G**lobal mobile data traffic grew 81 percent in 2013. Global mobile data traffic reached 1.5 exabytes per month atthe end of 2013, up from 820 petabytes per month at the end of 2012.

• **L**ast year’s mobile data traffic was nearly 18 times the size of the entire global Internet in 2000. One exabyte of traffic traversed the global Internet in 2000, and in 2013 mobile networks carried nearly 18 exabytes of traffic.

• Mobile video traffic exceeded 50 percent for the first time in 2012. Mobile video traffic was 53 percent of traffic by the end of 2013.

• **O**ver half a billion (526 million) mobile devices and connections were added in 2013. Global mobile devices and connections in 2013 grew to 7 billion, up from 6.5 billion in 2012. Smartphones accounted for 77 percent of that growth, with 406 million net additions in 2013.

• Glo**BAL**ly, smart devices represented 21 percent of the total mobile devices and connections in 2013, they accounted for 88 percent of the mobile data traffic. In 2013, on an average, a smart device generated 29times more traffic than a non-smart device.

Cisco, 05.02.2014 *http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html*

“Mobile” statistics by 2018

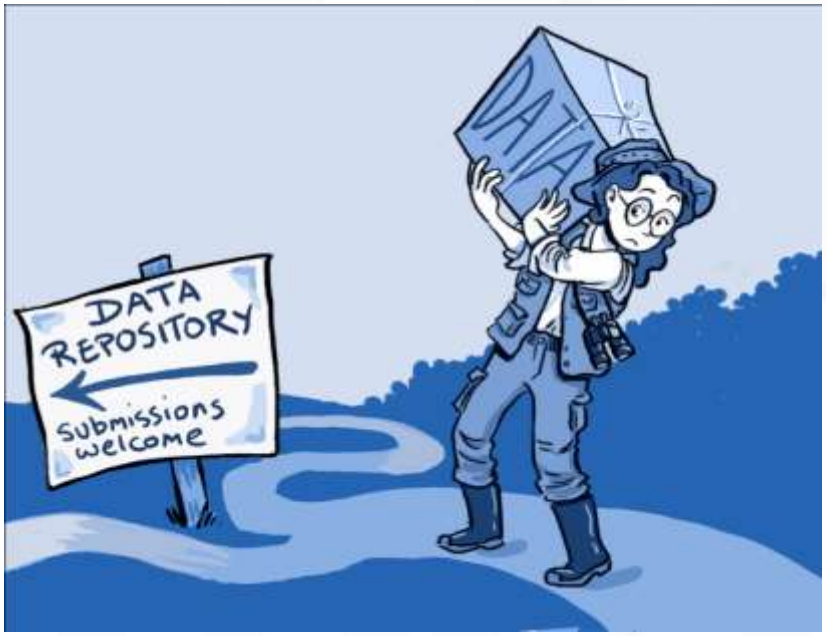
- Mobile data traffic will reach the following milestones within the next five years.
- Monthly global mobile data traffic will surpass 15 exabytes by 2018.
- The number of mobile-connected devices will exceed the world’s population by 2014.
- The average mobile connection speed will surpass 2 Mbps by 2016.
- Due to increased usage on smartphones, smartphones will reach 66 percent of mobile data traffic by 2018.
- Monthly mobile tablet traffic will surpass 2.5 exabyte per month by 2018.
- Tablets will exceed 15 percent of global mobile data traffic by 2016.
- 4G traffic will be more than half of the total mobile traffic by 2018.
- There will be more traffic offloaded from cellular networks (on to Wi-Fi) than remain on cellular networks by 2018.

Cisco, 05.02.2014 *http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html*

Collaborative data sharing

Crowd service funding – next stage of crowd funding – by official participation as a service provider/service supplier for any participant (social web of things as an example).

- ***Data sharing may violate some providers' terms of services.***
- ***Data verification.***
- ***The data should be anonymized.***



At the end…

- Real-time monitoring services - statistics – data-based services – DaaS – architecture. Personalized.
- Subscription-based predictive services.
- Mobile-based services.
- Collaborative data sharing – services suppliers.
- Social-oriented.
- Transnational nature.
- Nano-networks – processing on device.

- Personalized services - Stephan Borgert (University Darmstadt)

http://vasec.software-cluster.com:8080/UrbanPulse/index.html

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Thank you for your attention!

Should you have any questions, please do not hesitate to contact:

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