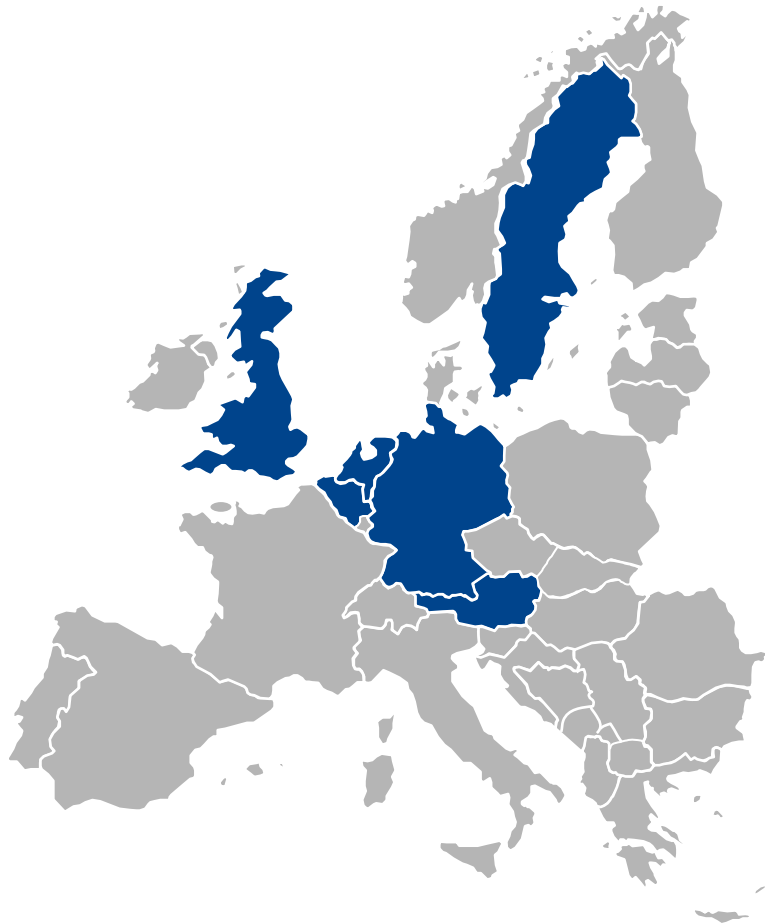


# Imtech ICT @ Research Day Vinci

Mike Bauwens



## Imtech ICT is active in 6 countries

- Belgium, The Netherlands, Germany, UK, Austria and Sweden
- 740 Mio Revenue
- 2400 FTE's

## Imtech ICT acquired by Vinci Energies

- Operating in 49 countries
- 9,25 billion Revenue
- 63.000 employees



**Axians is VINCI Energies' brand specialized in information communication technologies**

**The brand's consolidated activities include\*:**

- Operations in 13 key countries
- 1,6 billion € of Revenue
- 6,600 people

*\*Imtech ICT figures included*



The background of the slide is a complex, 3D visualization of data. It features a central tunnel-like structure composed of numerous glowing, blue and white lines that curve and twist, creating a sense of depth and movement. The lines are interspersed with various symbols, including binary digits (0s and 1s), mathematical symbols like pi (π), and other abstract characters. The overall effect is that of a vast, flowing stream of information, rendered in a futuristic, digital style. The lighting is dramatic, with the lines appearing to glow from within, set against a dark, almost black background.

# How to turn **Big Data** into **Smart Data**?



# Or how to turn THIS



```
0265640 132304 133732 032051 037334 024721 015013 052226 001662
0265660 025537 064663 054606 043244 074076 124153 135216 126614
0265700 144210 056426 044700 042650 165230 137037 003655 006254
0265720 134453 124327 176005 027034 107614 170774 073702 067274
0265740 072451 007735 147620 061064 157435 113057 155356 114603
0265760 107204 102316 171451 046040 120223 001774 030477 046673
0266000 171317 116055 155117 134444 167210 041405 147127 050505
0266020 004137 046472 124015 134360 173550 053517 044635 021135
0266040 070176 047705 113754 175477 105532 076515 177366 056333
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0266120 006716 071402 055672 132571 105645 170073 050376 072117
0266140 024451 007424 114200 077733 024434 012546 172404 102345
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0266220 117156 030746 154234 125001 151144 163706 136237 164376
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0266440 133614 106171 144160 010652 007365 026416 160716 100413
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0266540 146207 015135 024446 130101 072457 040764 165513 156412
0266560 166410 067251 156160 106406 136770 030516 064740 022032
0266600 142166 123707 175121 071170 076357 037233 031136 015232
0266620 075074 016744 044055 102230 110063 033350 052765 172463
```

EXECUTIVE FACILITY IT OPERATIONS

## Building 1000

Building 1000

Scheduler

Chiller Pad

Chiller 1

Chiller 2

Chiller 3

Chiller 4

Bunker 9605

Bunker 9607

Bunker 9609

Bunker 9611

Bunker 9613

Bunker 9615

Bunker 9617

### CRAC 20

Start Command	Command On	Communication Loss	false
	Command Off	Local Off	true
Space Temperature	67.0 °F		
Space Humidity	56.0 %		
Stages	0.0		
Percent Load	0.0 %		
Remote Off	false		
Air Flow Loss	false		
Leak	false		
Change Filters	false		
H Temp	false		
Lo Temp	false		
Smoke Detected	false		

### Generator

Water Temperature	Oil Pressure	
Water 90.54	Oil 0 psi	
Full Tank	Half Tank	Empty Tank
false	false	false

### PDU K2

Input Voltage L1-L2	Output Voltage L1-L2
472.76 V	208.40 V
Input Voltage L2-L3	Output Voltage L2-L3
476.40 V	207.99 V
Input Voltage L3-L1	Output Voltage L3-L1
476.15 V	207.34 V
Average Input Voltage L-L	Average Output Voltage L-L
475.08 V	207.34 V
Input kW	Output kW
98.88 kW	98.03 kW

### Haise 8

Pressure	18
Temperature	73.6

### Power Usage

kW

Temperature

### Floorplan

### History Builder

### Computer Room Cooling Units

10	11
15	16
18	19
20	21
22	

### PDU's

H1	H2
H3	K1
K2	K3

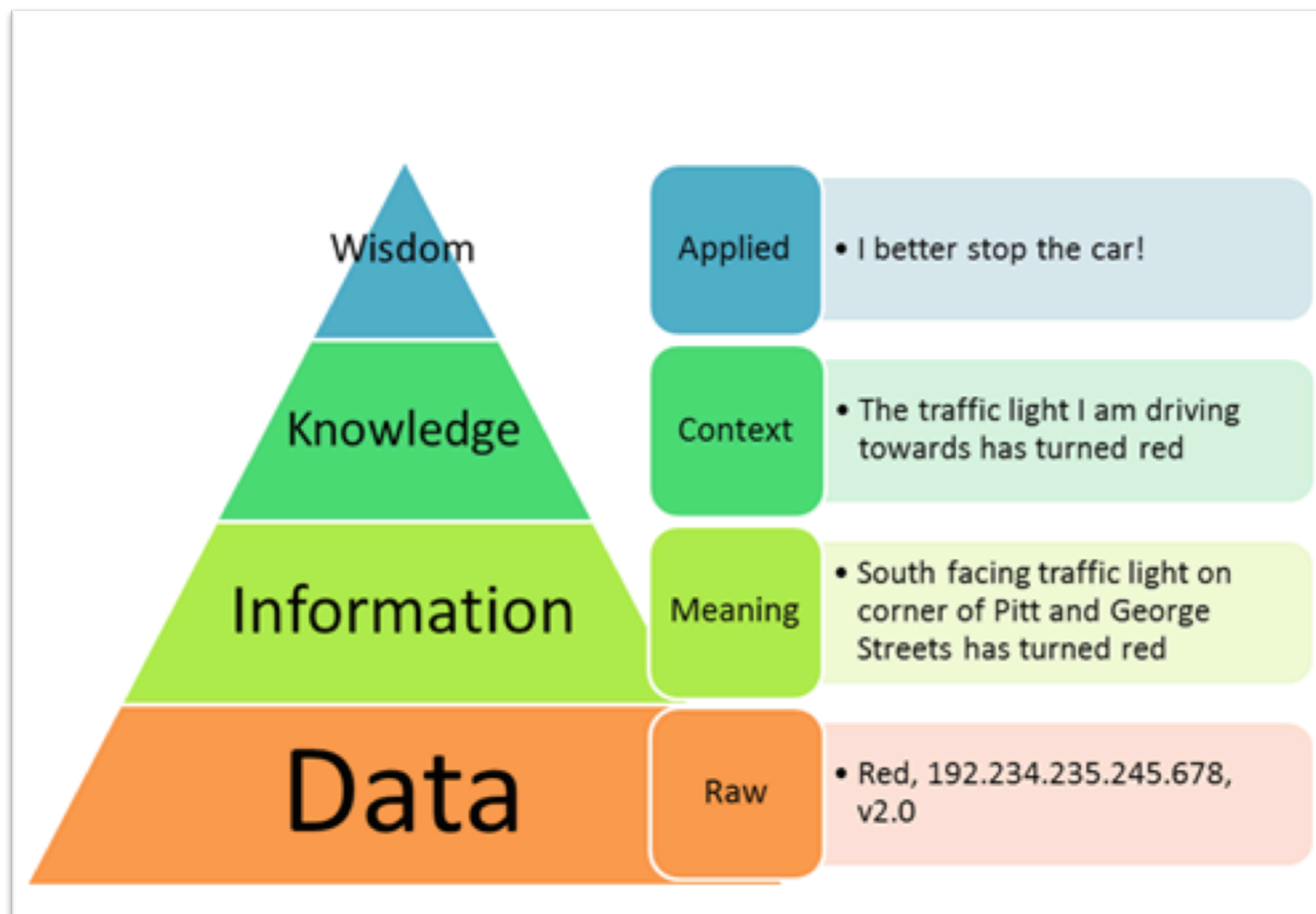
### Breaker Panels

Rm 139 4PI	Rm 139 DPCC
Rm 145 145A	Rm 145 145B
Rm 145 5B3	Rm 147 5B2
Rm 147 5B3	Rm 147 5B4
Haise C-D	Kilrain A-B
BL 1000 CFA	BL 1000 CF2A
BL 1000 HPA	BL 1000 HBACKP
Rm 100 100A HVE	Rm 100 100B

# Big Data wil change our world







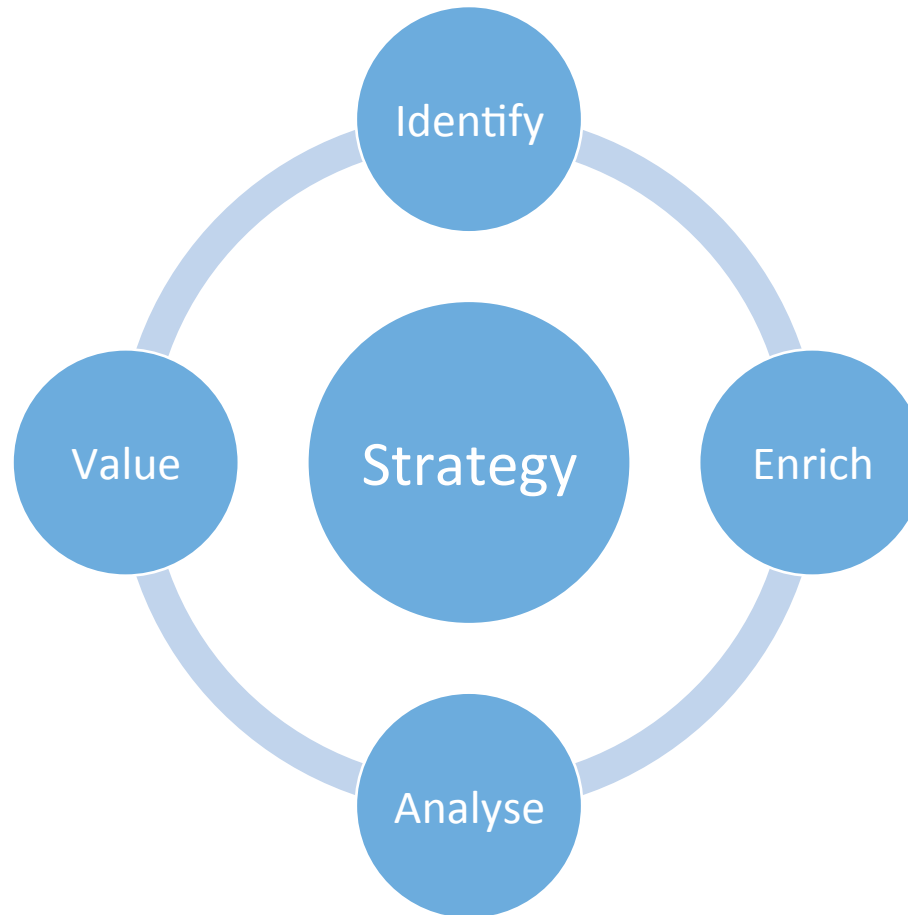


- **What is Big Data?**
- **Structured & unstructured**
- **De 4 V's**
  - Volume
  - Velocity
  - Variaty
  - Verosity
- **Examples**



What structured & unstructured data  
do I have available?

What can I do with  
the knowledge?



What context is  
relevant?

What does the data tell me?

- **What is the intended result/goal**
- **Identify the available data (structured / unstructured )**
- **Understand the data**
- **What is lacking?**
  - External data (Open / Proprietary)
  - Contextual information
- **How to integrate?**
- **Analyse**
- **Value – the 5th V of Smart Data**

**40 ZETTABYTES**  
[ 43 TRILLION GIGABYTES ]  
of data will be created by 2020, an increase of 300 times from 2005



It's estimated that **2.5 QUINTILLION BYTES** [ 2.3 TRILLION GIGABYTES ] of data are created each day



Most companies in the U.S. have at least **100 TERABYTES** [ 100,000 GIGABYTES ] of data stored

## Volume SCALE OF DATA



# The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

[www.ibm.com/bizstat/bigdata](http://www.ibm.com/bizstat/bigdata)

By 2015, **4.4 MILLION IT JOBS** will be created globally to support big data, with 1.9 million in the United States



As of 2011, the global size of data in healthcare was estimated to be **150 EXABYTES** [ 161 BILLION GIGABYTES ]



**30 BILLION PIECES OF CONTENT** are shared on Facebook every month



By 2014, it's anticipated there will be **420 MILLION WEARABLE, WIRELESS HEALTH MONITORS**

**4 BILLION+ HOURS OF VIDEO** are watched on YouTube each month



**400 MILLION TWEETS** are sent per day by about 200 million monthly active users

## Variety DIFFERENT FORMS OF DATA



The New York Stock Exchange captures **1 TB OF TRADE INFORMATION** during each trading session



Modern cars have close to **100 SENSORS** that monitor items such as fuel level and tire pressure

## Velocity ANALYSIS OF STREAMING DATA

By 2016, it is projected there will be **18.9 BILLION NETWORK CONNECTIONS** - almost 2.5 connections per person on earth



**1 IN 3 BUSINESS LEADERS** don't trust the information they use to make decisions



Poor data quality costs the US economy around **\$3.1 TRILLION A YEAR**

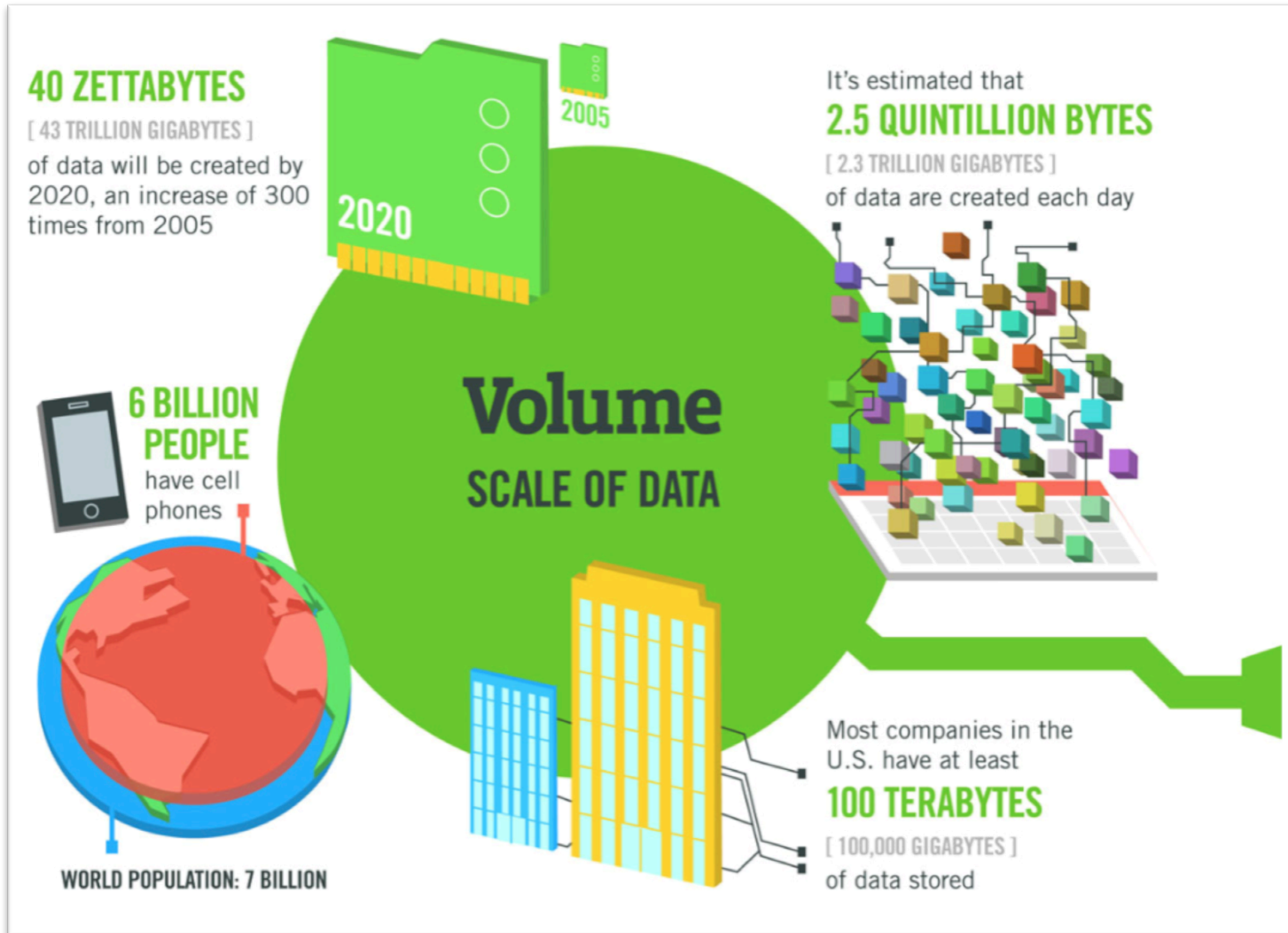


## Veracity UNCERTAINTY OF DATA

in one survey were unsure of how much of their data was inaccurate

Sources: McKinsey Global Institute, Twitter, Cisco, Gartner, EMC, SAS, IBM, MEPTec, QAS





The New York Stock Exchange captures

**1 TB OF TRADE INFORMATION**

during each trading session



By 2016, it is projected there will be

**18.9 BILLION NETWORK CONNECTIONS**

– almost 2.5 connections per person on earth

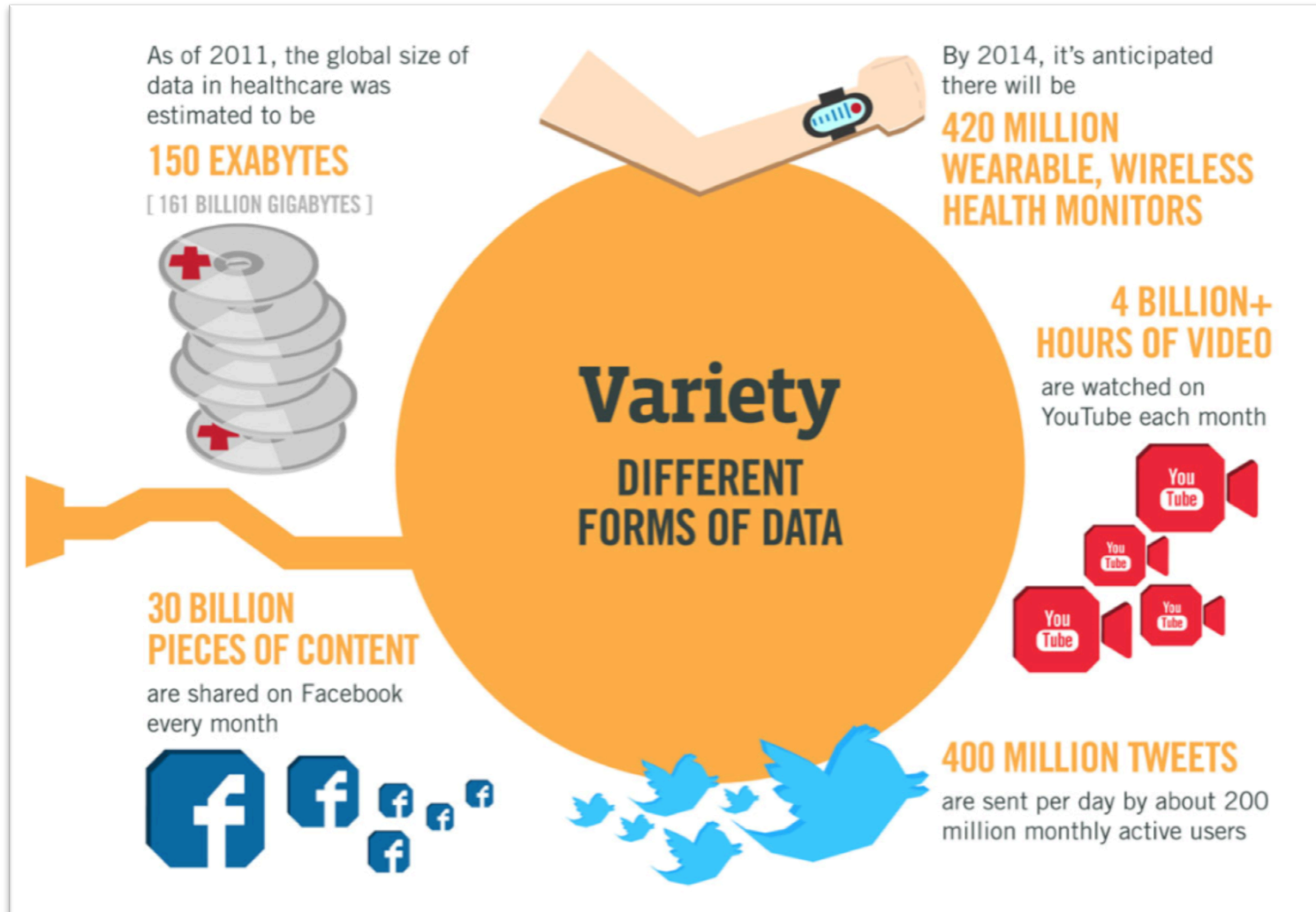


Modern cars have close to **100 SENSORS**

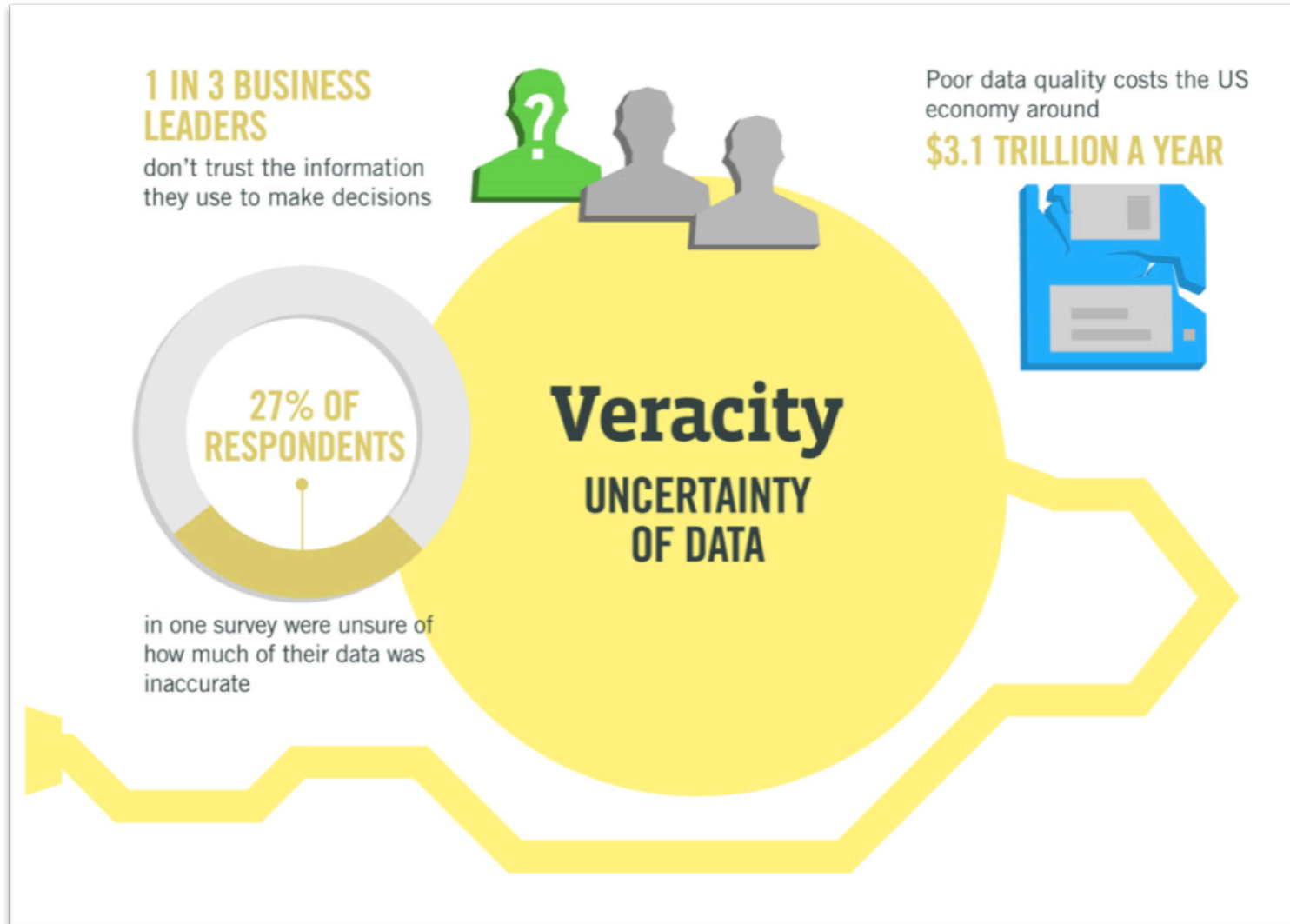
that monitor items such as fuel level and tire pressure

**Velocity**  
ANALYSIS OF  
STREAMING DATA

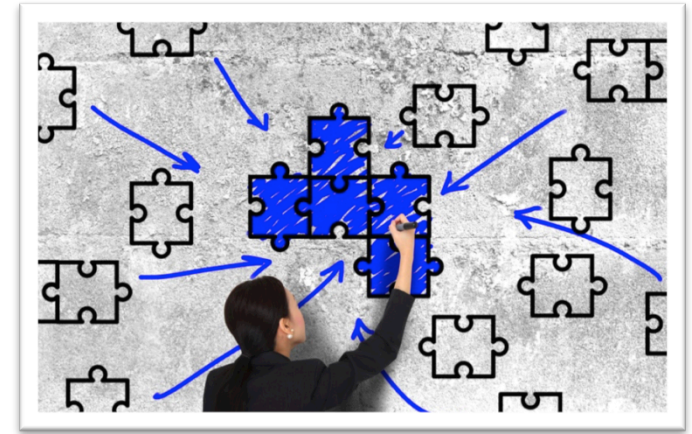








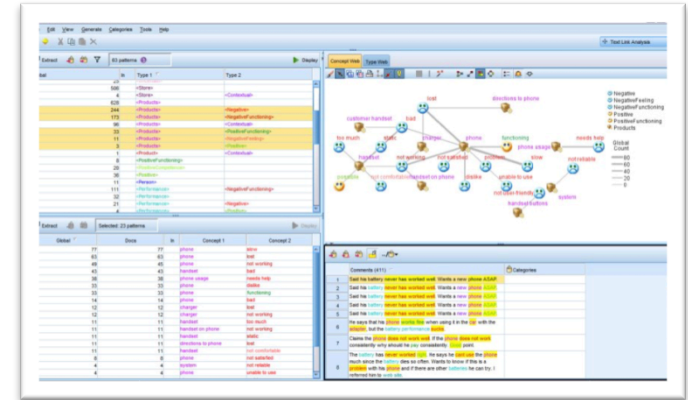
- **Enrich with existing datasources**
  - ERP, CRM, Document management systems
  - External services (Social Media)
  - Open Linked Data (Weather information)



- **Integrate into the architecture & applications**
- **Ex.:**
  - Helpdesk logs
  - Social media
  - CRM data

- **Data science**
- **Use domain expertise as a base**
- **Validate the data**
- **Find new correlations**
- **Try to explain these new correlations**

→ **New insights**



- **Extra services**
  - Predictive maintenance
  - CAPEX → OPEX
    - Light as a Service
    - Printing as a Service
- **New insights:**
  - Customer profiling
  - Patient profiling
  - Enhanced quality
- **Process optimizations**







How to turn **Big Data**  
into **Smart Data**?



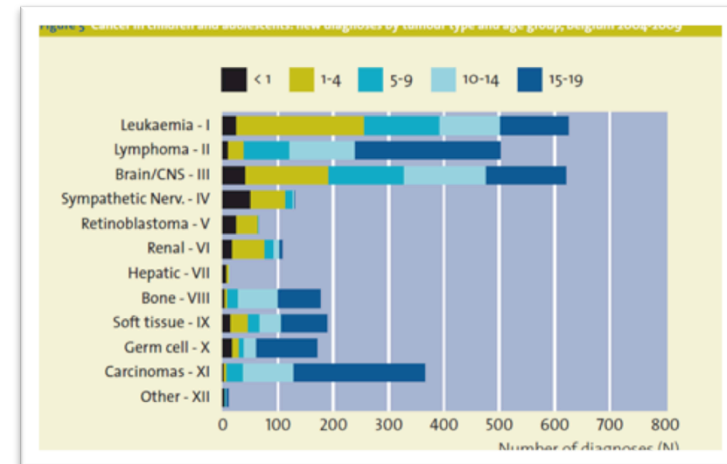


## Structured data

- Encoding
- Pathology/Registration



## Regional & National Statistics / Insights



## Unstructured data

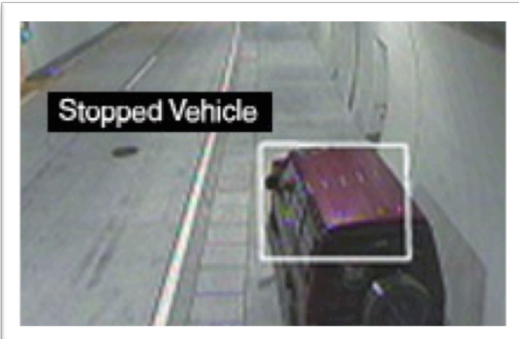
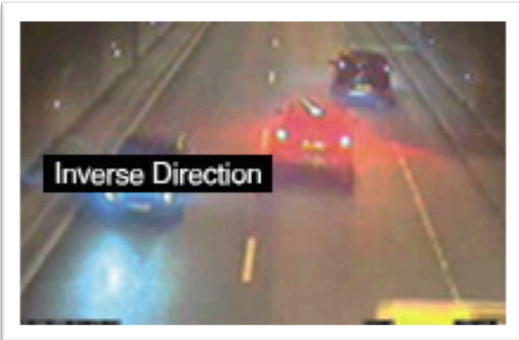
- Doctor's Protocols



## Unstructured & structured data

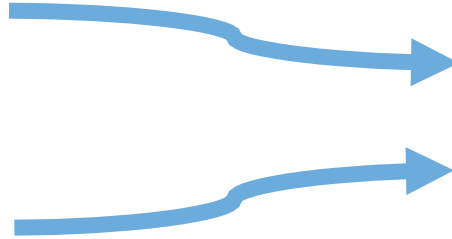
- Volume
- Variety
- Veracity





## Structured data

- Events
- Context



## Unstructured data

- Video
- Images



## Unstructured & structured data

- Volume
- Variety
- Velocity



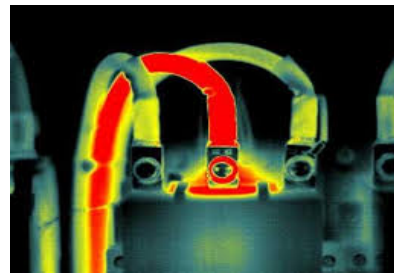
## Structured data

- Events
- Context



## Unstructured data

- E.g. infrared imaging



## Predictive Maintenance & Quality Energy Efficiency



## Unstructured & structured data

- Velocity
- Volume
- Variety
- Veracity