

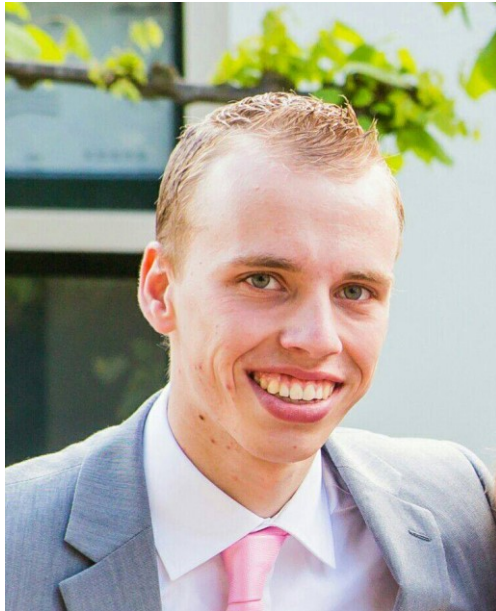
# BIG DATA

Marc Lelijveld

29 augustus 2016



# Even voorstellen...



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# Big Data...?

## Volume



### Data at Scale

Terabytes to petabytes of data.

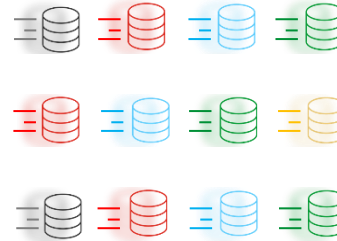
## Variety



### Data in many forms

Structured, unstructured, text, multimedia.

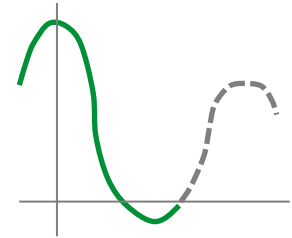
## Velocity



### Data in Motion

Analysis of streaming data to enable quick decisions.

## Veracity



### Data Uncertainty

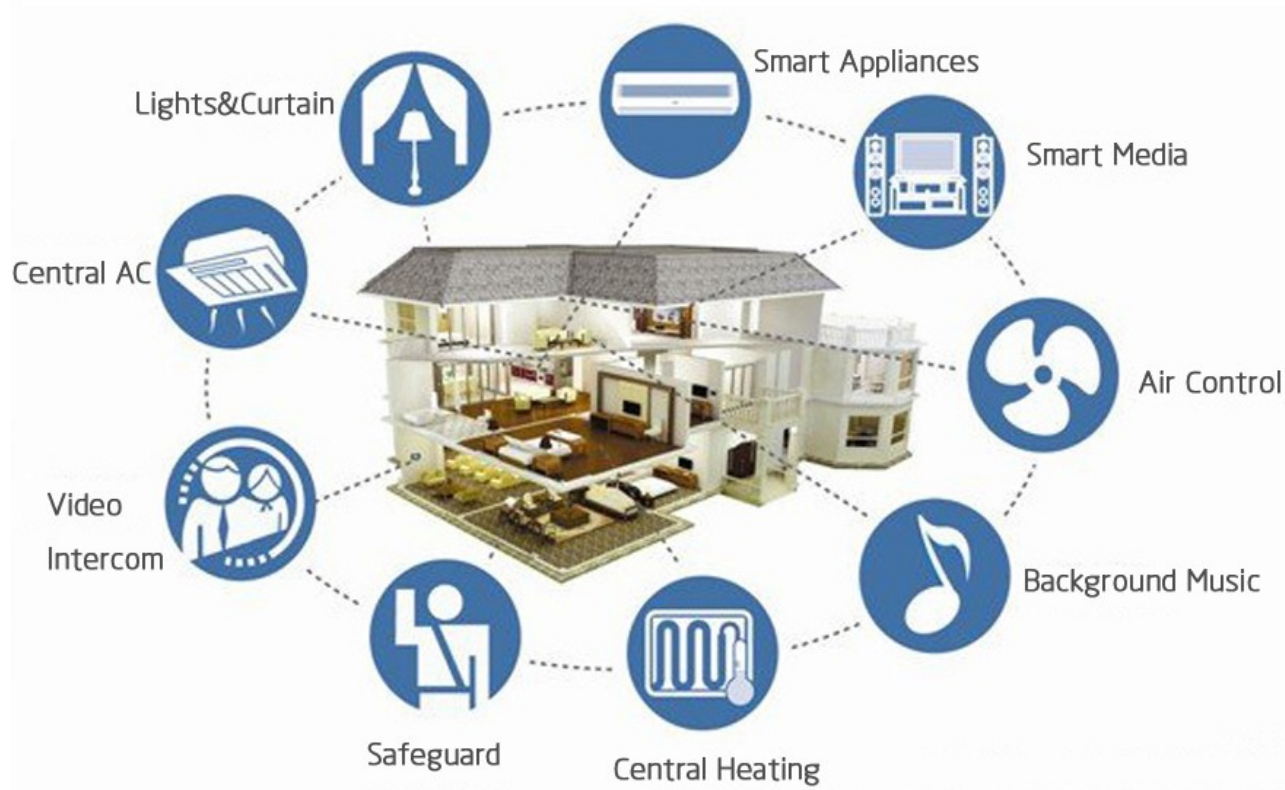
Managing the reliability and predictability of data.

# The Internet of Things





# Smart Homes



# Smart Cities



# Maar ook...

## Social Media



## Open data



Centraal Bureau  
voor de Statistiek



Koninklijk Nederlands  
Meteorologisch Instituut  
*Ministerie van Infrastructuur en Milieu*



RDW



# Maar hoeveel dan...?

Hoeveelheid data op de wereld

# VERDUBBELT

iedere twee jaar

In 2020

# 40%

data in de cloud

Dagelijks

# 5.7 GB

Per huishouden

In 2020 wereldwijd

# 44 zettabyte

data

IoT devices

# 200

miljard



BIG DATA

# En nu in de praktijk...



# Strukton

## Worksphere

### Werkomgevingen

Zowel installatietechnisch  
als bouwkundig.

## Civil

### Infrastructuur

Zowel weg- als waterbouw.

## Rail

### Spoor en trein

Onderhoud, nieuwbouw,  
infrastructuur, hardware  
en software.

## International

### Infra en rail

Internationale projecten  
voor infrastructuur en  
railsystemen.

En nu in de praktijk...

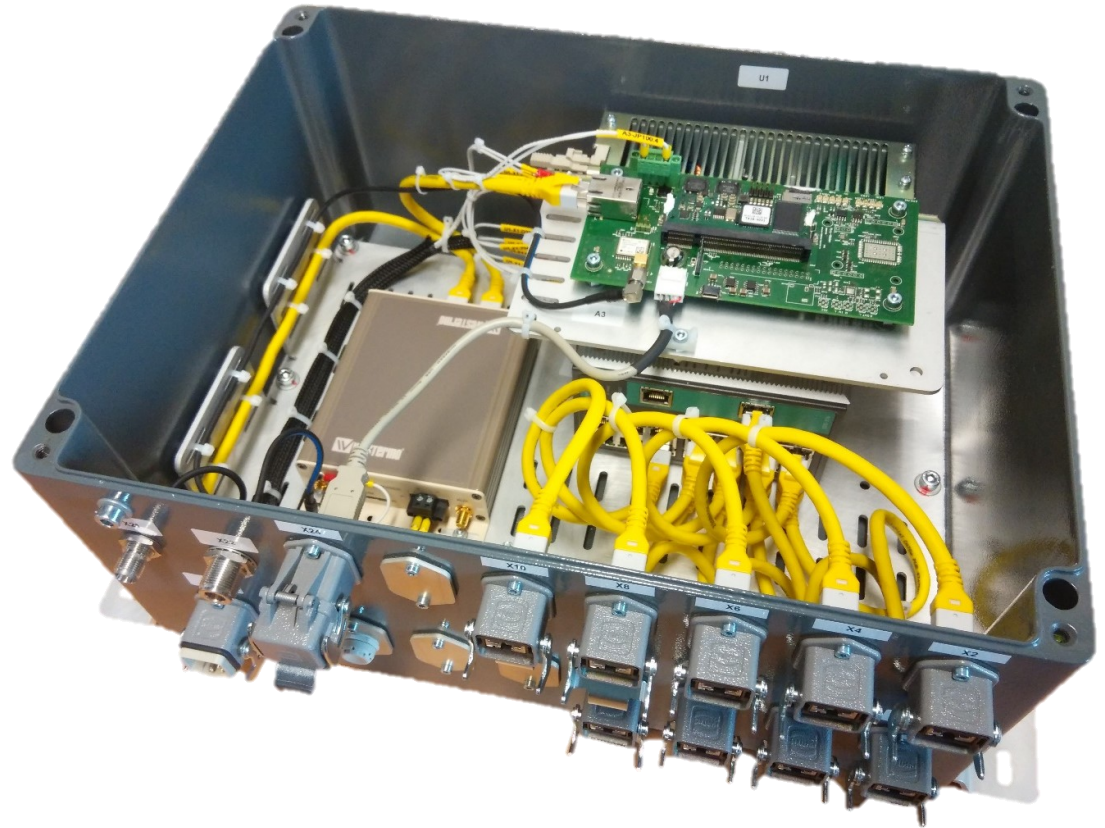


**Strukton**  
Rail

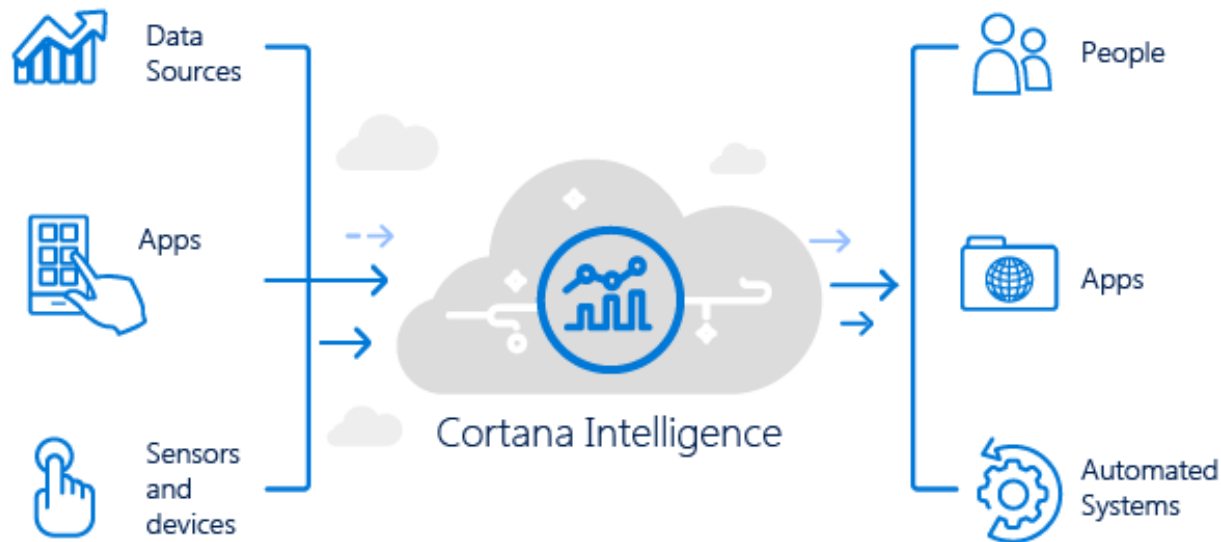




# Remote Monitoring Box



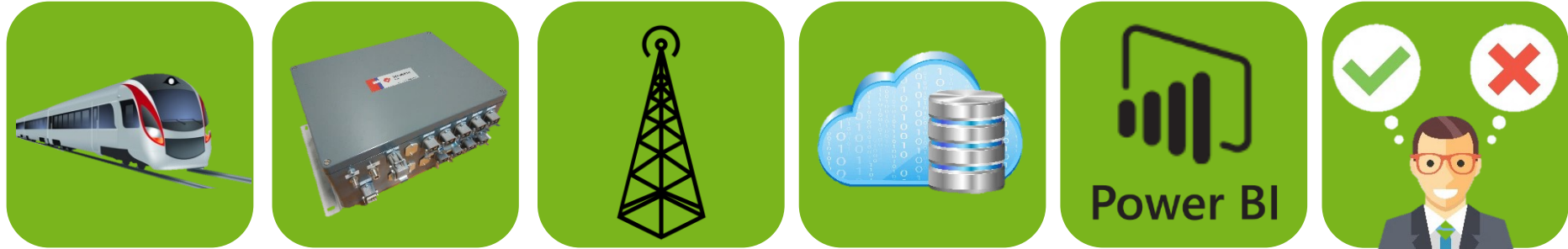
# Cortana Intelligence Suite



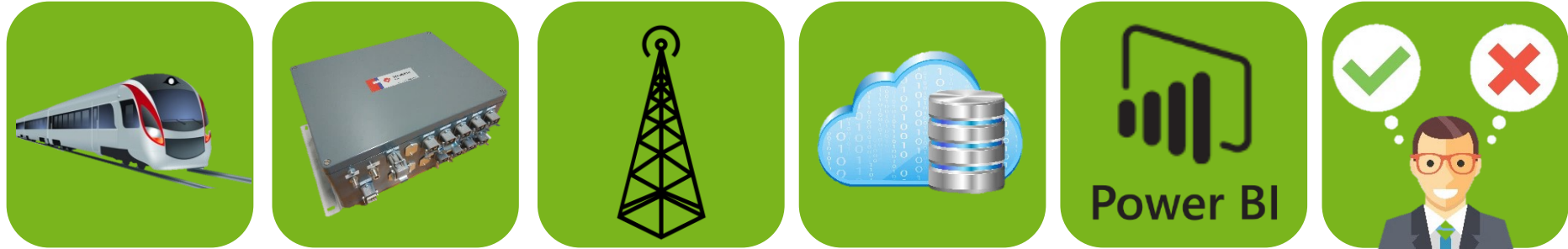
Data → Intelligence → Action



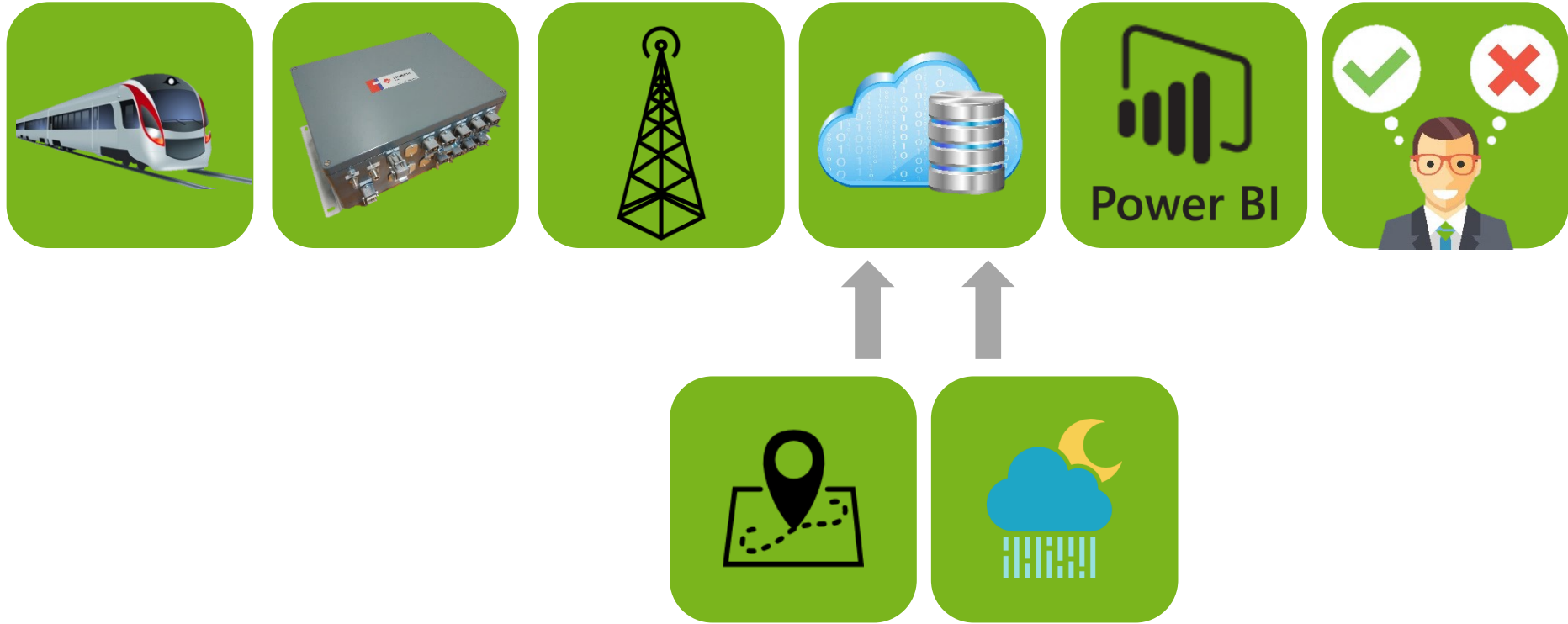
# Procesflow



# Procesflow



# Procesflow





Project

388018

Type

Boardnet

Tractie

InstallationNumber



30314?T1

31364?T1

31364?T2

31365?T2

31366?T1

31366?T2

31367?T1

31367?T2

31384?T1

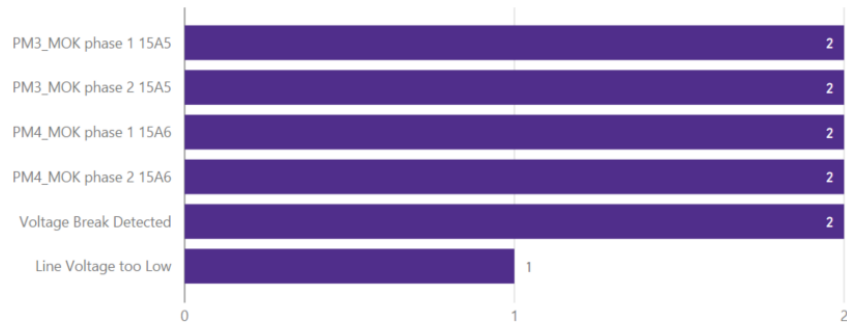
31384?T2



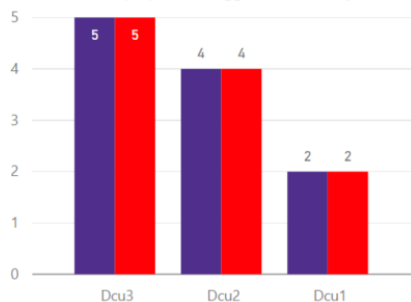
Triggerfaults



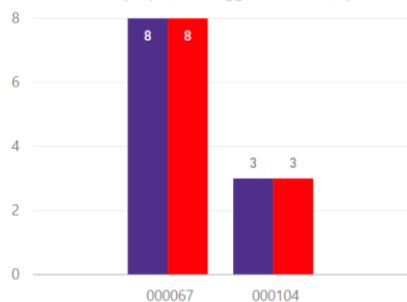
Faults



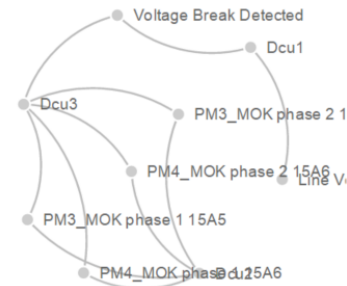
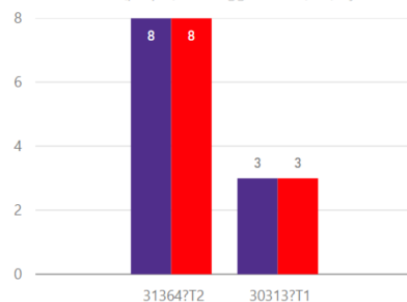
Count of faults (purple) and triggerfaults (red) by board



Count of faults (purple) and triggerfaults (red) by board...

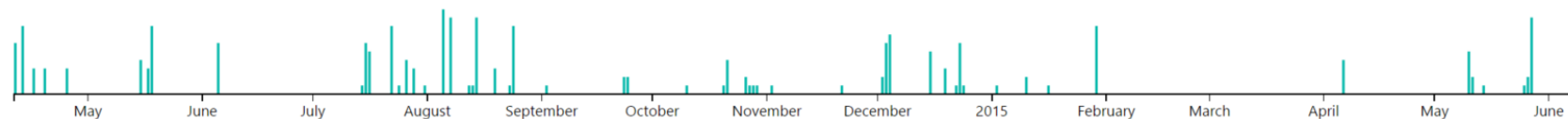


Count of faults (purple) and triggerfaults (red) by install...

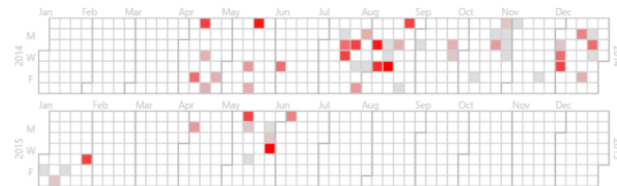
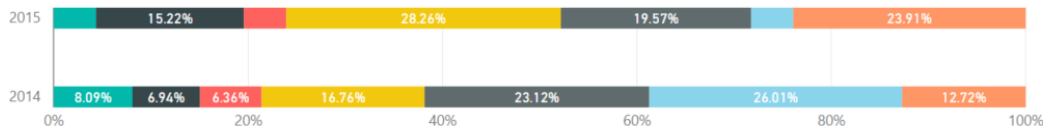


Project	Type	InstallationNumber
388018	Boardnet	Tractie
		<a href="#">31415?T1</a> <a href="#">31415?T2</a> <a href="#">31426?T1</a> <a href="#">31467?T1</a> <a href="#">31467?T2</a> <a href="#">31478?T2</a> <a href="#">31491?T1</a> <a href="#">31496?T1</a> <a href="#">31496?T2</a> <a href="#">31497?T1</a>

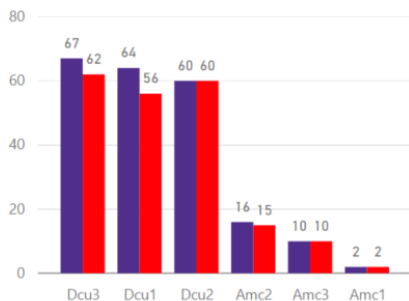
Number of faults over time



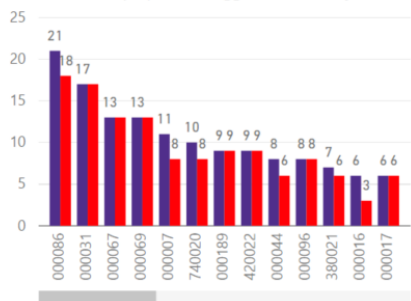
Day of week



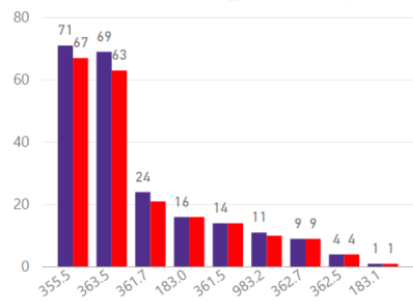
Count of faults (purple) and triggerfaults (red) by board



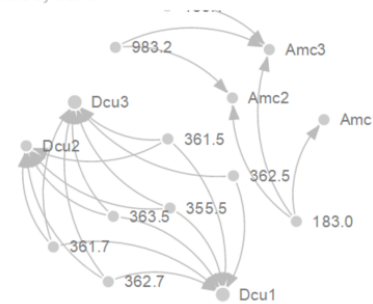
Count of faults (purple) and triggerfaults (red) by board...



Count of faults (purple) and triggerfaults (red) by board...



Versions by board



# **BIG DATA EXPO**

**21 & 22 September 2016,**  
Jaarbeurs Utrecht

**Donderdag 22 September**  
13:15 – 13:45, Zaal 3

**MIS HET NIET!**

<b>3500</b>	BEZOEKERS
<b>90</b>	LEZINGEN
<b>80</b>	EXPOSANTEN

**REGISTREER GRATIS** >

## **HOW BIG DATA KEEPS US ROLLING**



# QUESTIONS?

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