

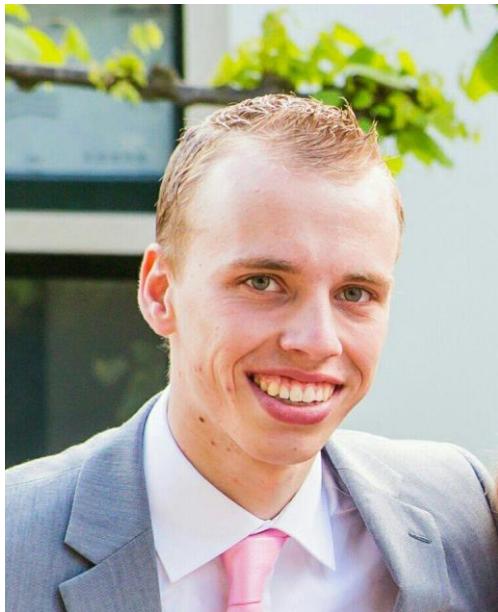
# HOW BIG DATA KEEPS US ROLLING

Marc Lelijveld

22 september 2016



# Even voorstellen...



## Marc Lelijveld

### BI-Consultant

Focus op Microsoft BI & Analytics

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HOW BIG DATA KEEPS US ROLLING

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# Big Data...?

## Volume



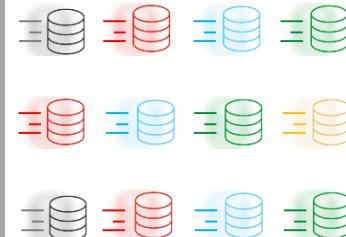
**Data at Scale**  
Terabytes to petabytes of data.

## Variety



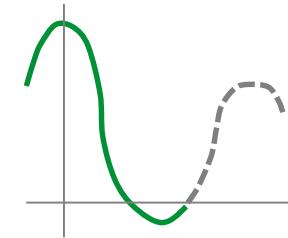
**Data in many forms**  
Structured, unstructured, text, multimedia.

## Velocity



**Data in Motion**  
Analysis of streaming data to enable quick decisions.

## Veracity

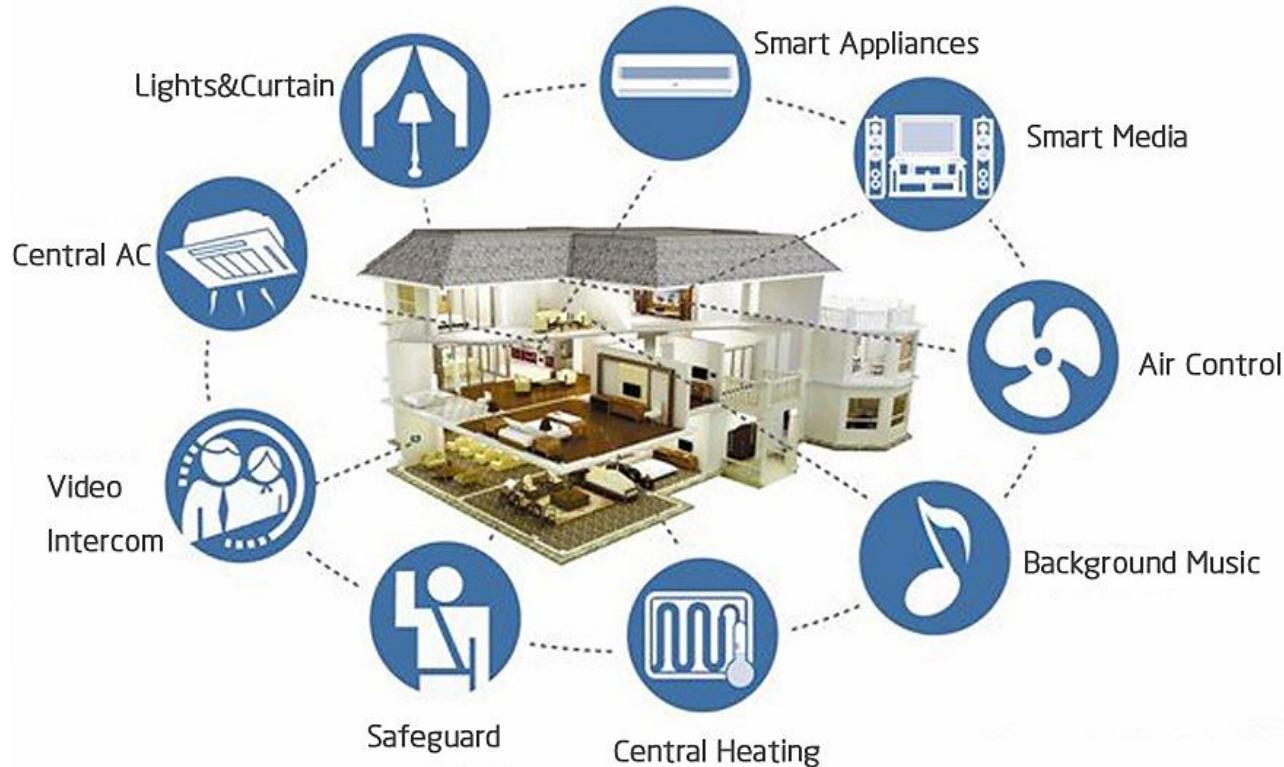


**Data Uncertainty**  
Managing the reliability and predictability of data.

# The Internet of Things



# Smart Homes



# Smart Cities



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# Maar ook...

## Social Media



## Open data



Centraal Bureau  
voor de Statistiek



RDW

Koninklijk Nederlands  
Meteorologisch Instituut  
*Ministerie van Infrastructuur en Milieu*

# Maar hoeveel dan...?

Hoeveelheid data op de wereld

# VERDUBBELT

iedere twee jaar

Dagelijks

# 5.7 GB

Per huishouden

In 2020 wereldwijd

# 44 zettabyte

data

In 2020

# 40%

data in de cloud

IoT devices

# 200

miljard



HOW BIG DATA KEEPS US ROLLING

# En nu in de praktijk...



# Strukton

## Worksphere

### Werkomgevingen

Zowel installatietechnisch als bouwkundig.

## Civiel

### 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.

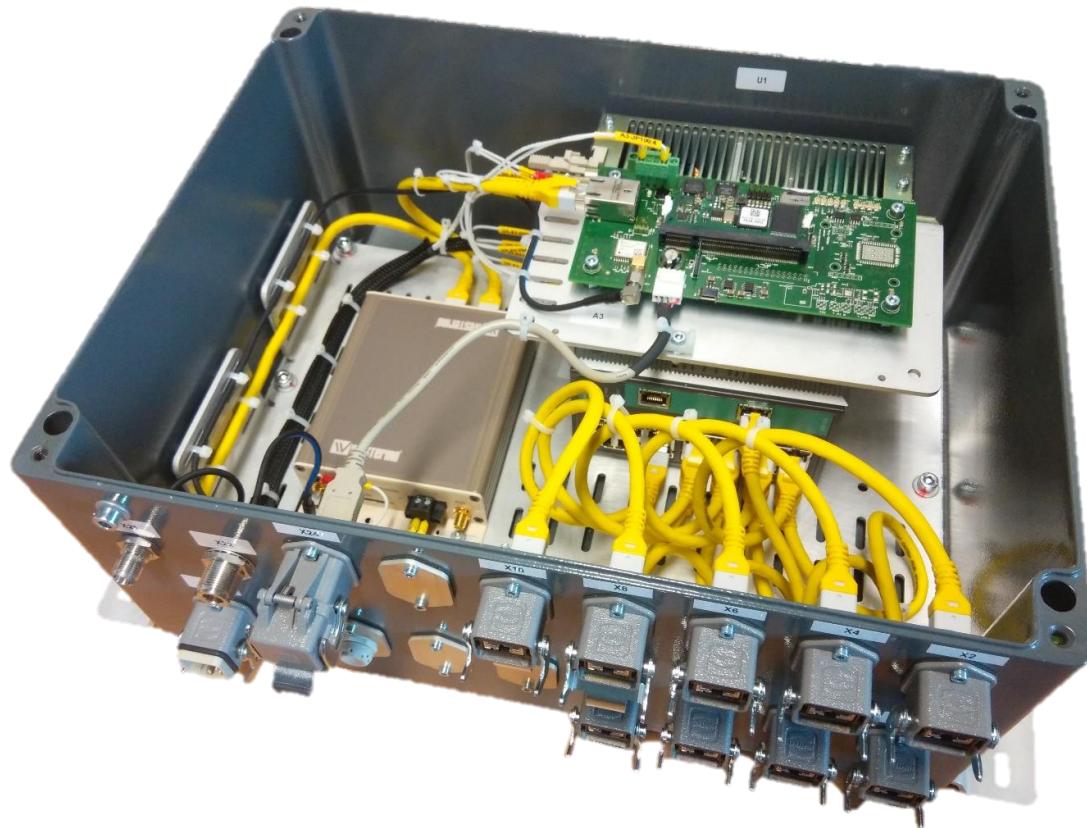
**En nu in de praktijk...**



**Strukton**  
Rail

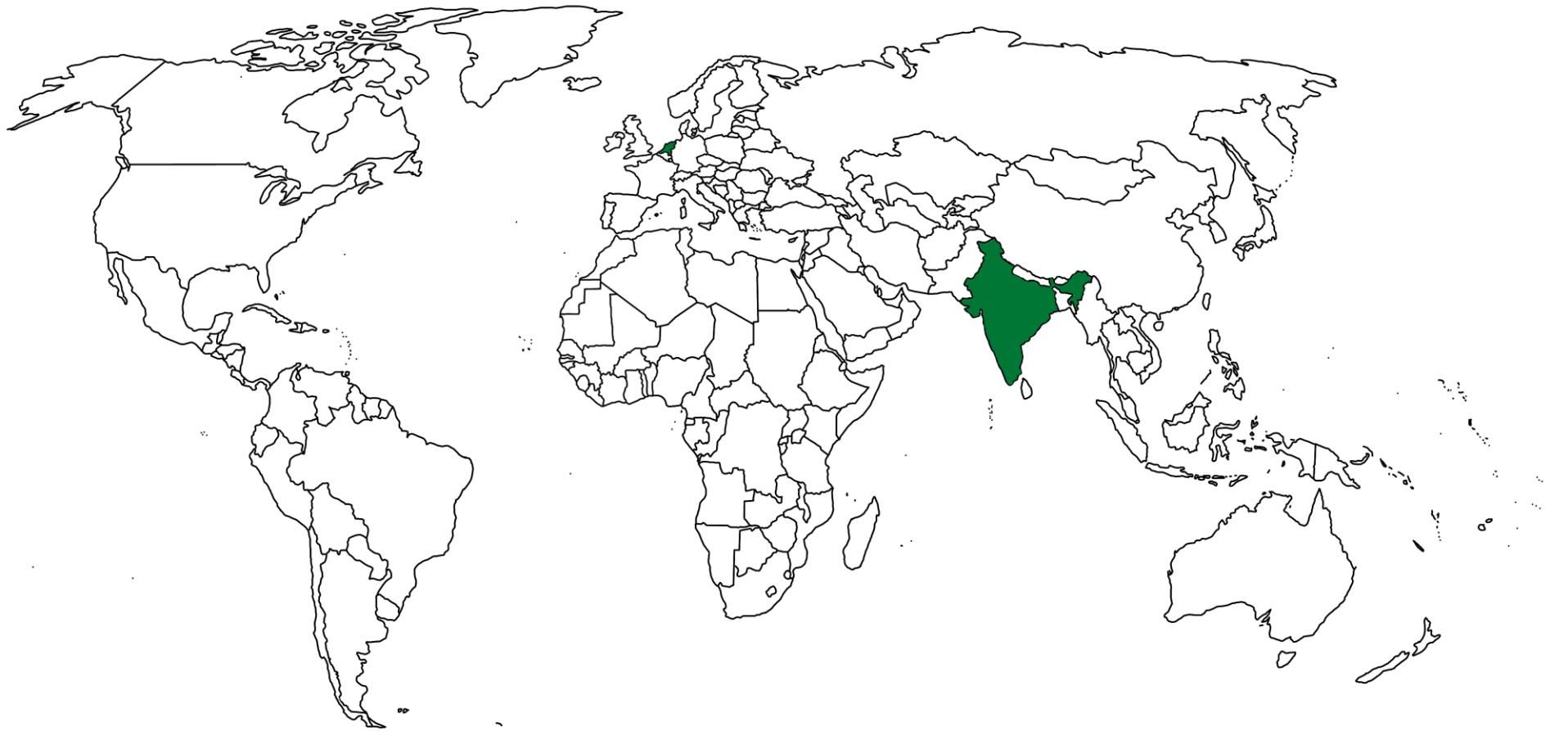


# Remote Monitoring Box



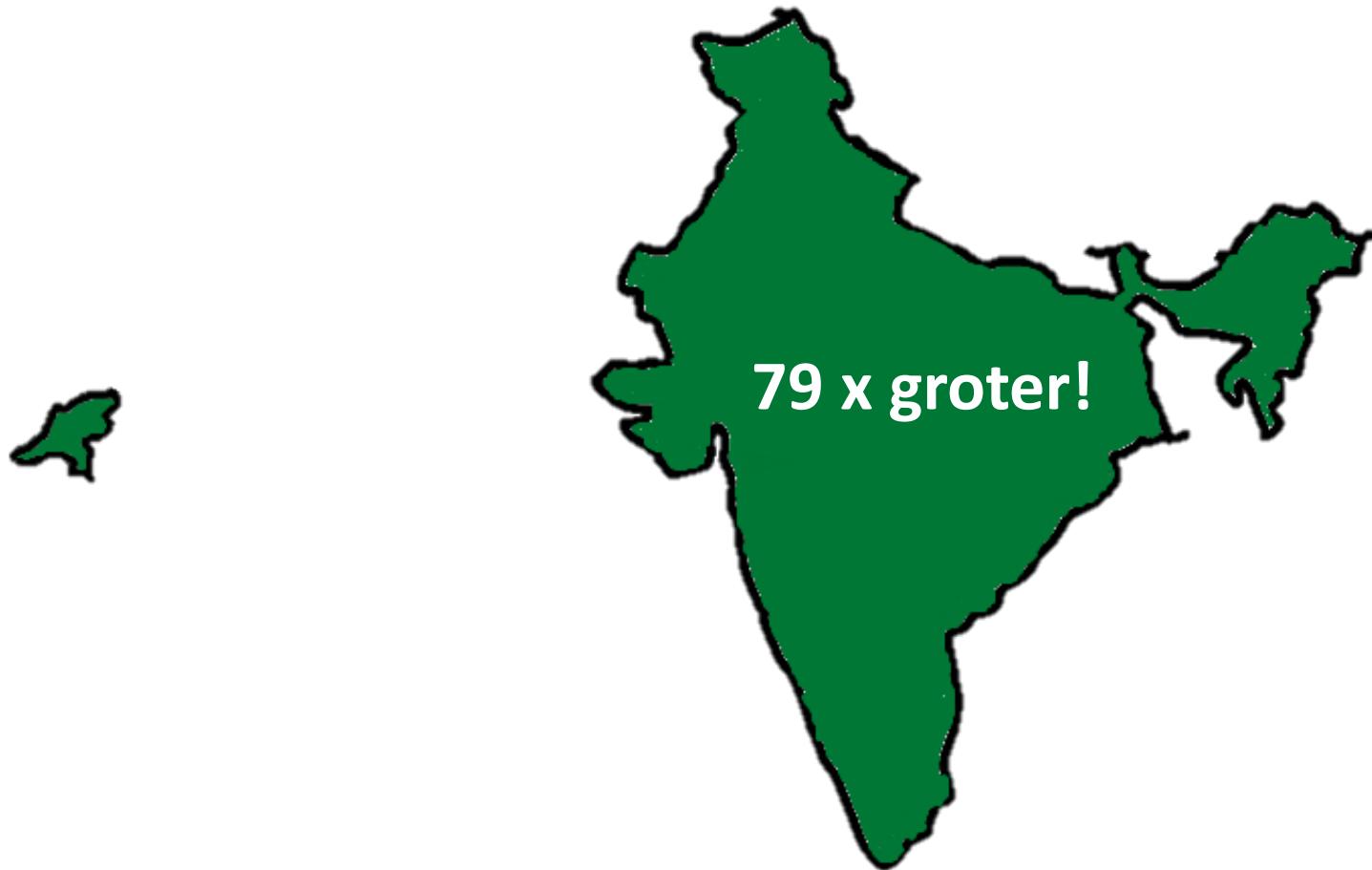
HOW BIG DATA KEEPS US ROLLING

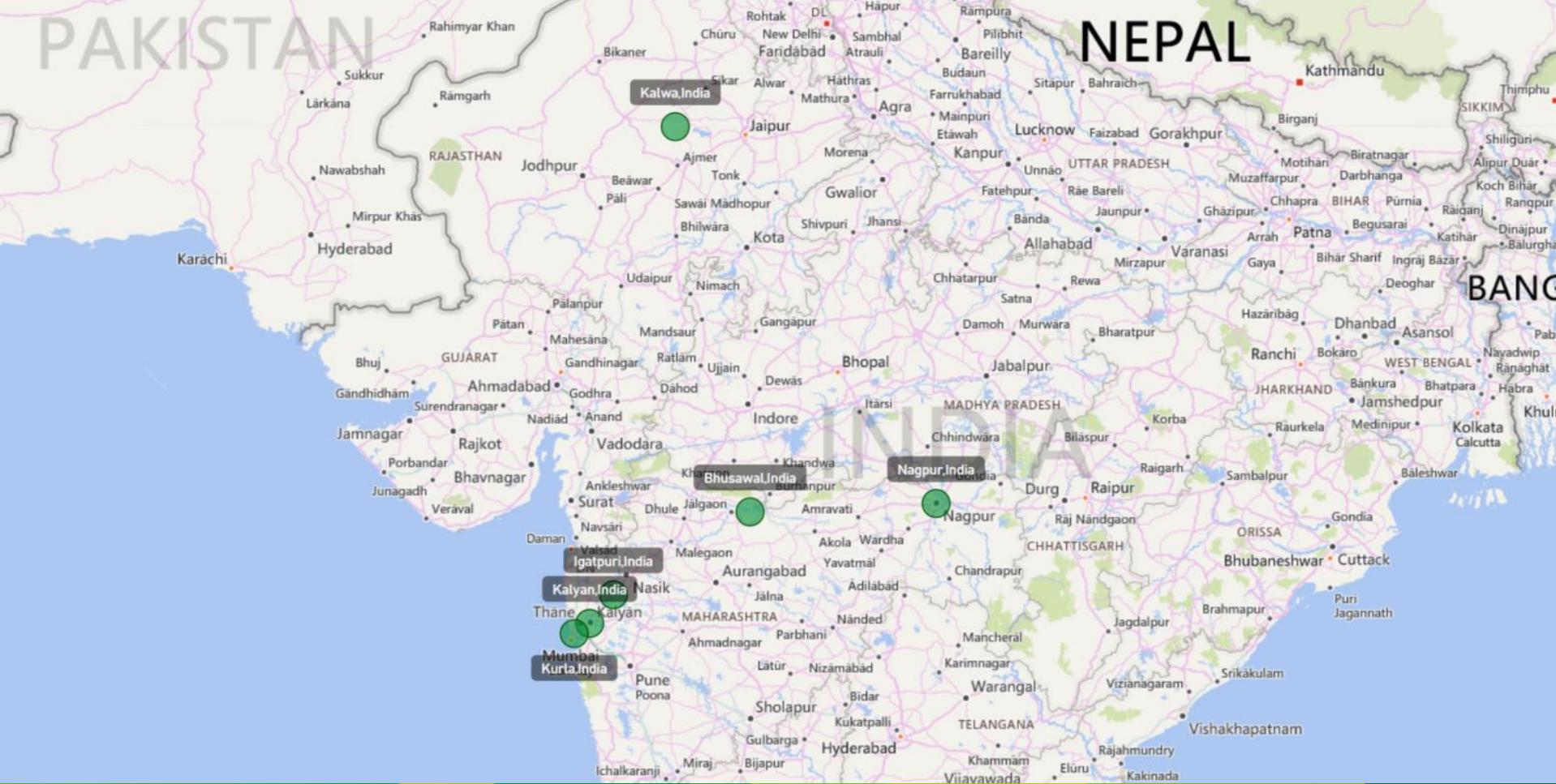
 centric



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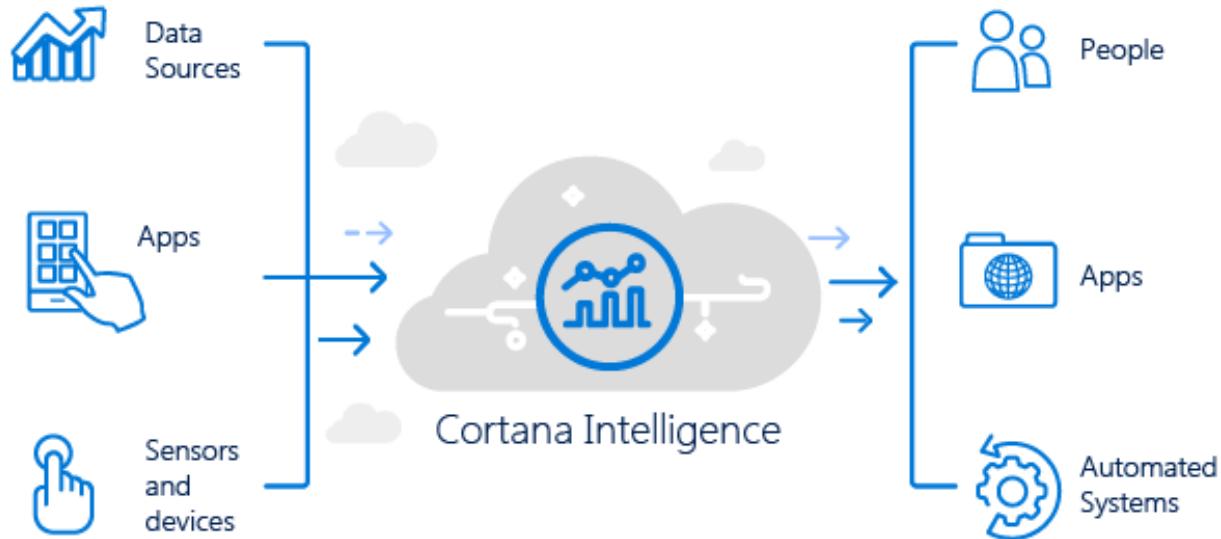
# Indian Railway



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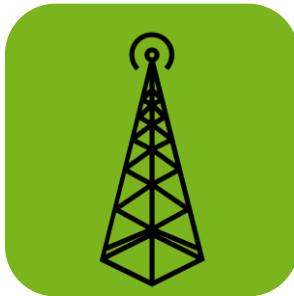


# Cortana Intelligence Suite

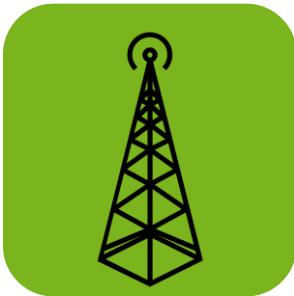


Data → Intelligence → Action

# Procesflow



# Procesflow

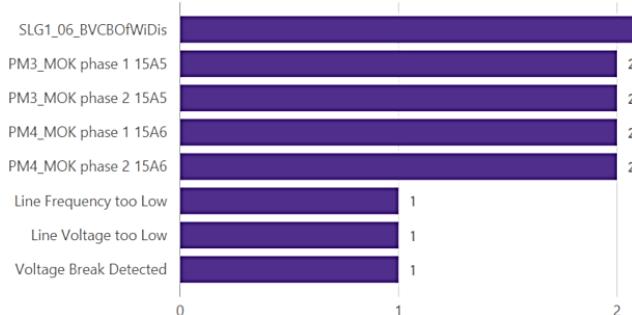


# Procesflow

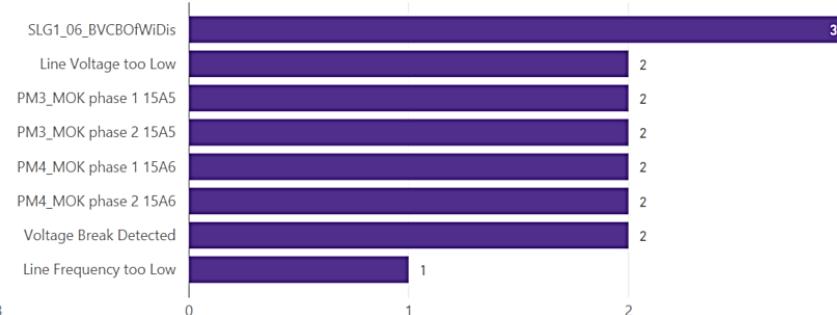


Project	Type	Boardnet	Tractie	InstallationNumber	<	30314?T1	31364?T1	<b>31364?T2</b>	31365?T2	31366?T1	31366?T2	31367?T1	31367?T2	31384?T1	31384?T2	>
388018																

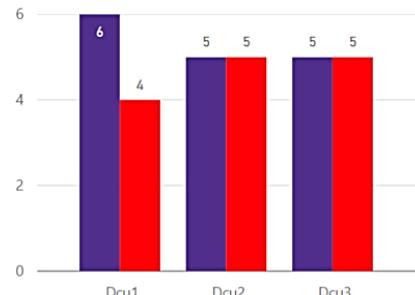
## Triggerfaults



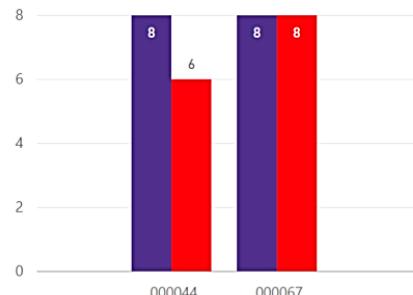
## Faults



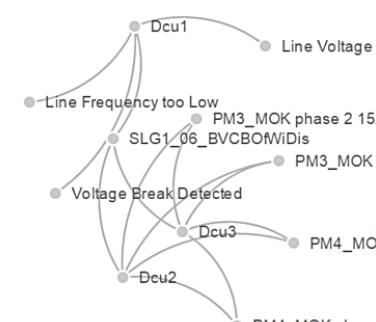
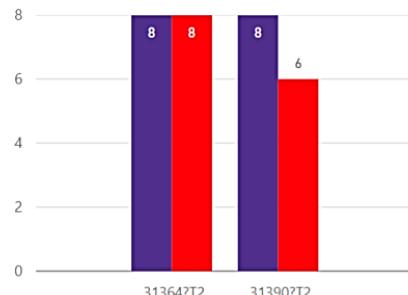
Count of faults (purple) and triggerfaults (red) by board



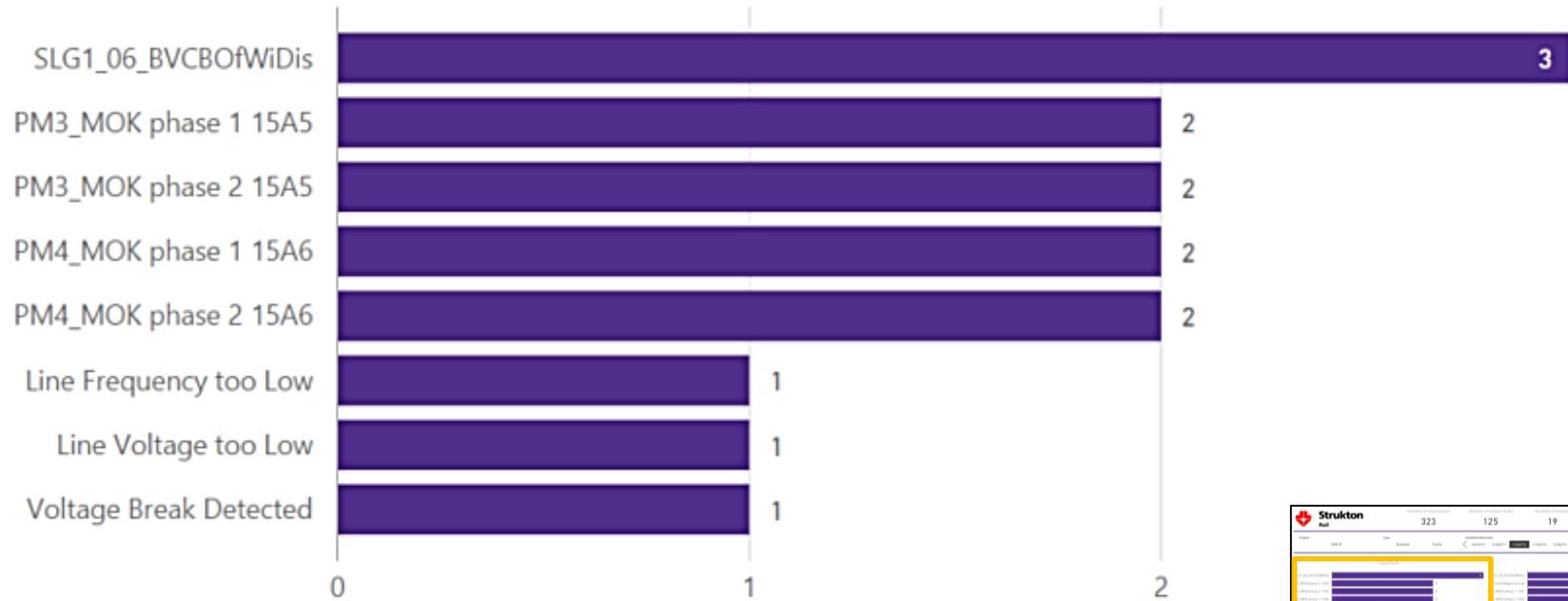
Count of faults (purple) and triggerfaults (red) by board...



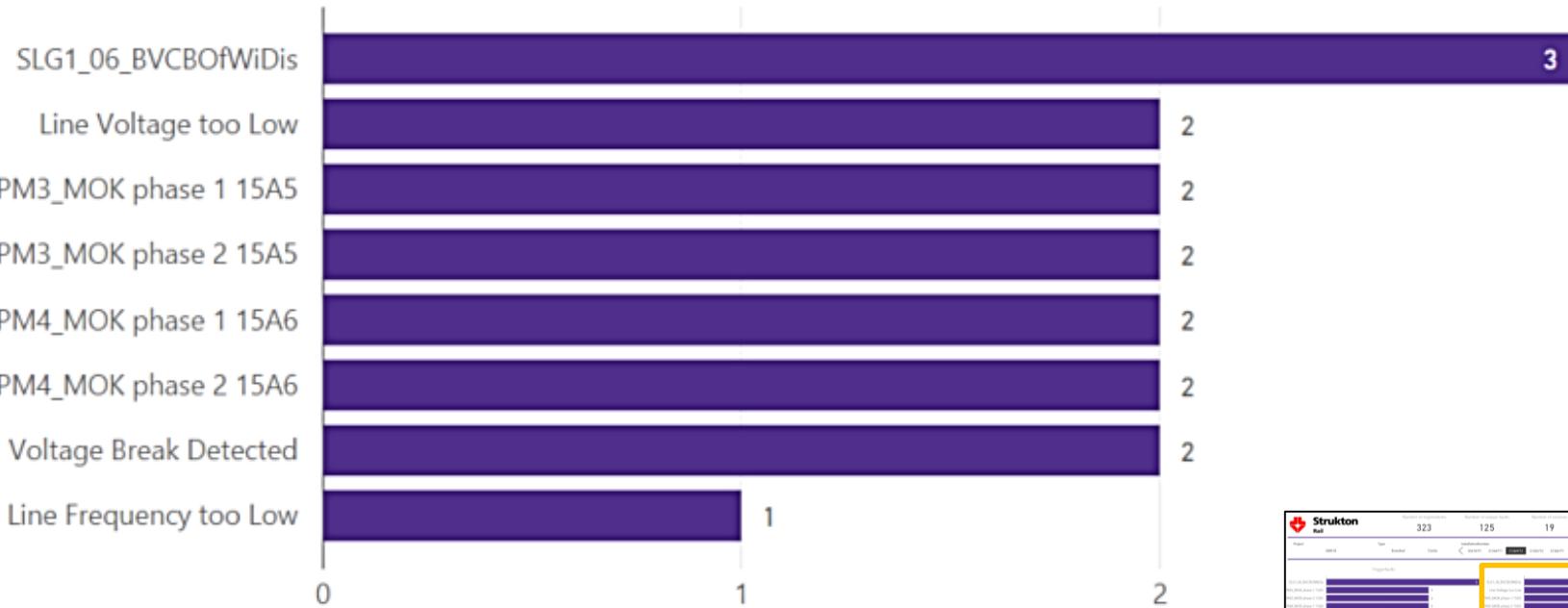
Count of faults (purple) and triggerfaults (red) by install...



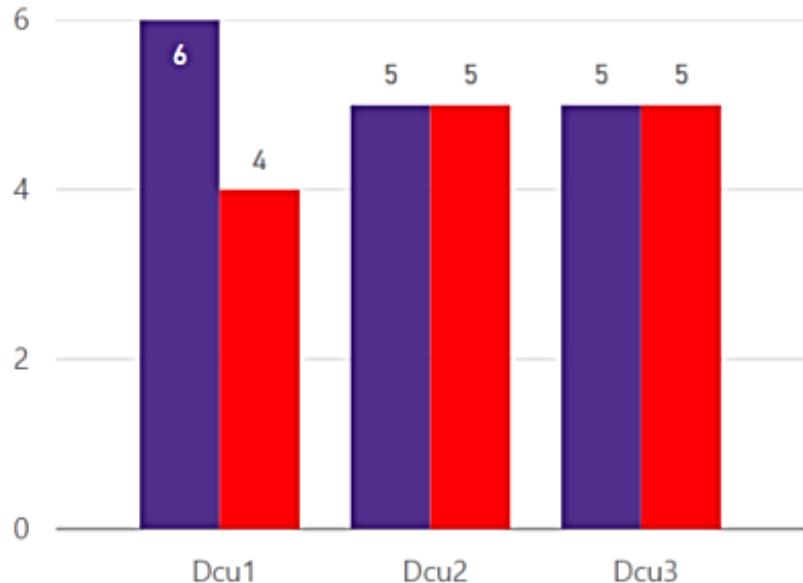
## Triggerfaults



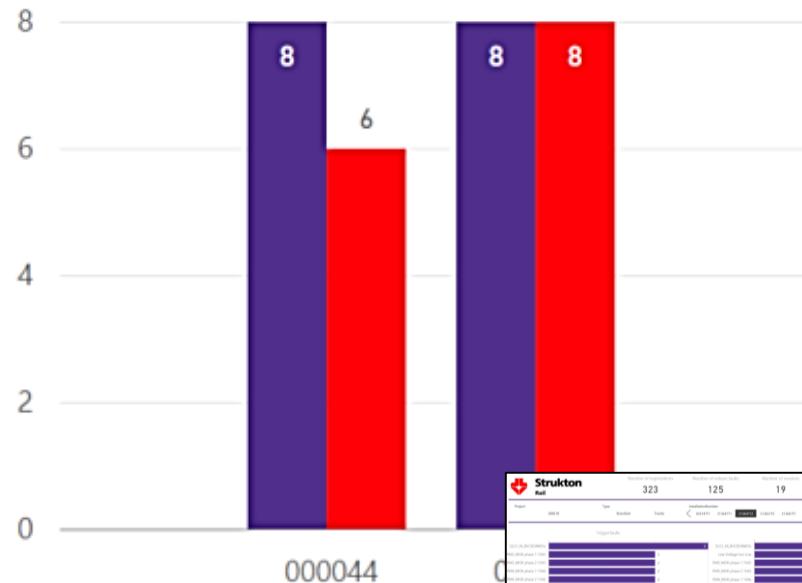
## Faults



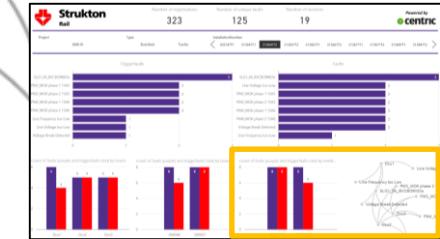
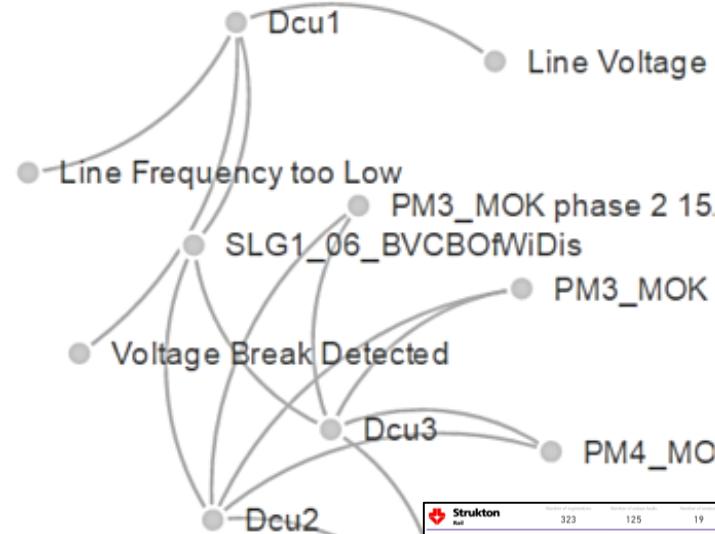
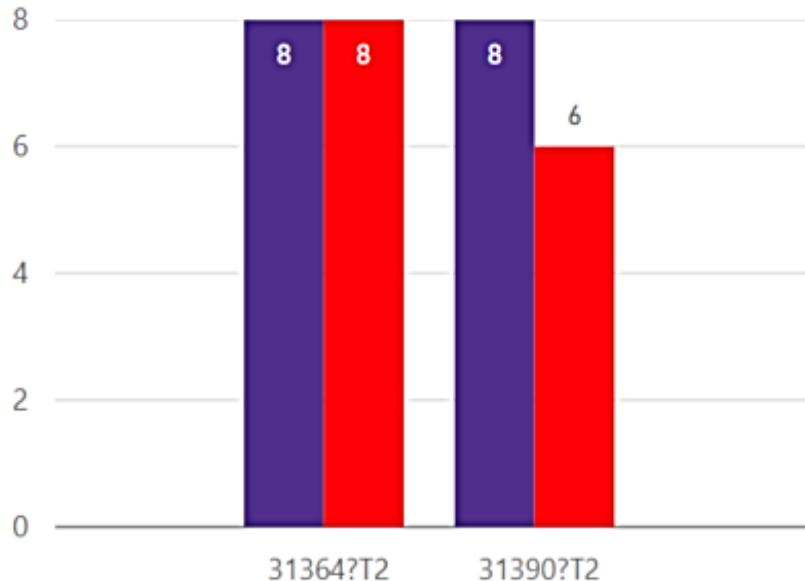
Count of faults (purple) and triggerfaults (red) by board



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

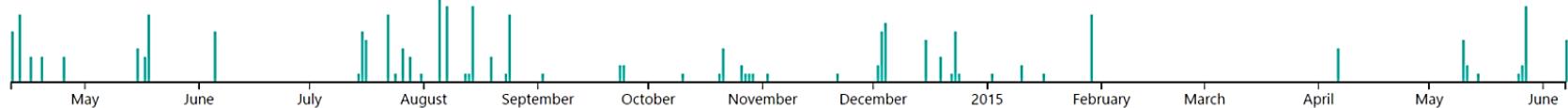


Count of faults (purple) and triggerfaults (red) by install...

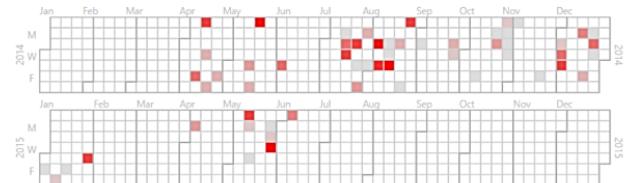
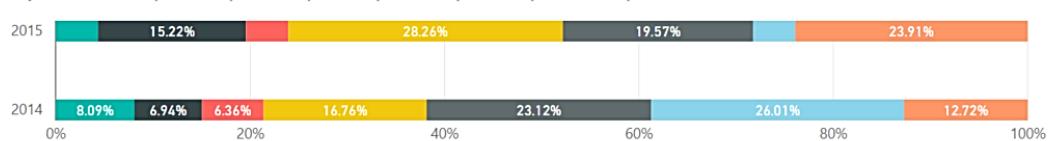


Project	Type	InstallationNumber	31415?T1	31415?T2	31426?T1	31467?T1	31467?T2	31478?T2	31491?T1	31496?T1	31496?T2	31497?T1
388018	Boardnet	<										

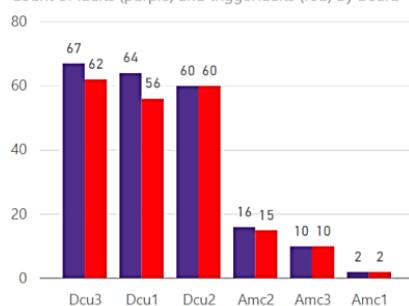
Number of faults over time



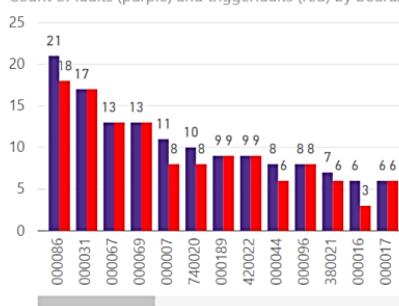
Day of week



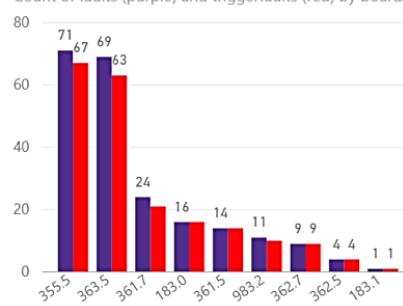
Count of faults (purple) and triggerfaults (red) by board



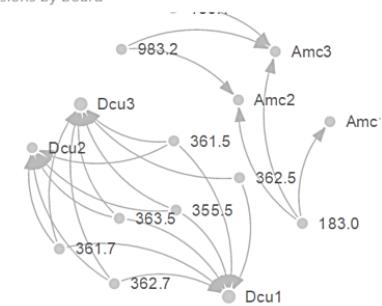
Count of faults (purple) and triggerfaults (red) by board...



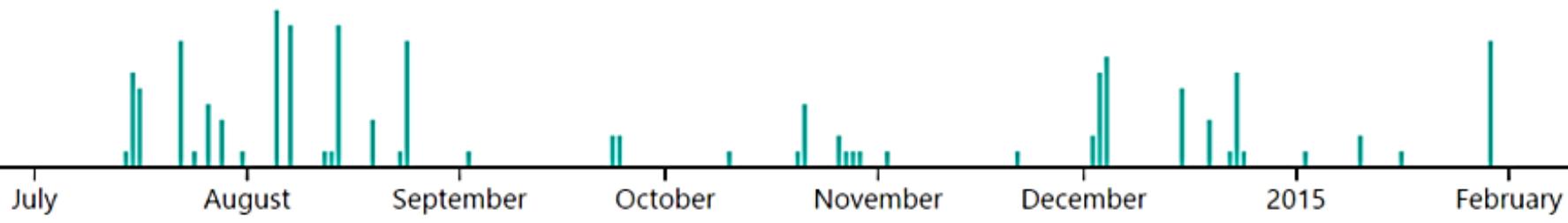
Count of faults (purple) and triggerfaults (red) by board...



Versions by board



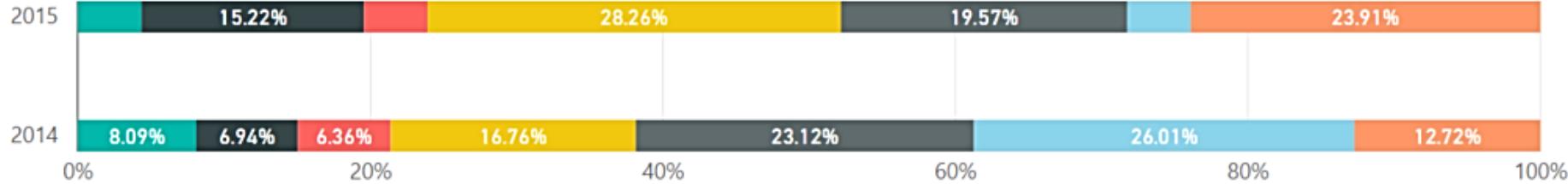
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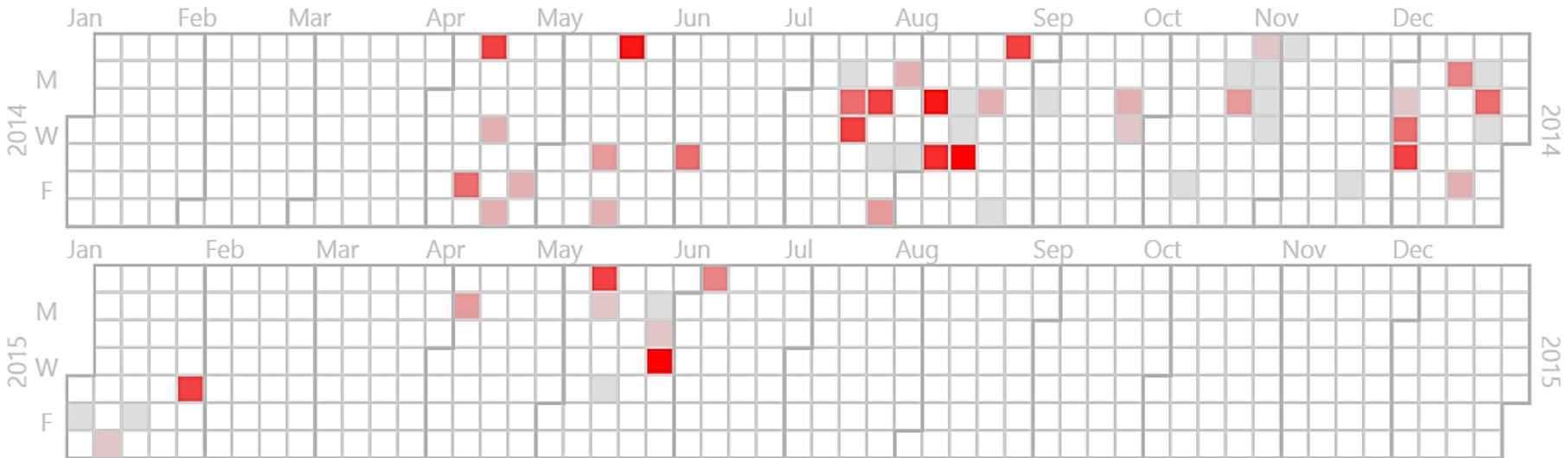


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Day of week ● Friday ● Monday ● Saturday ● Sunday ● Thursday ● Tuesday ● Wednesday

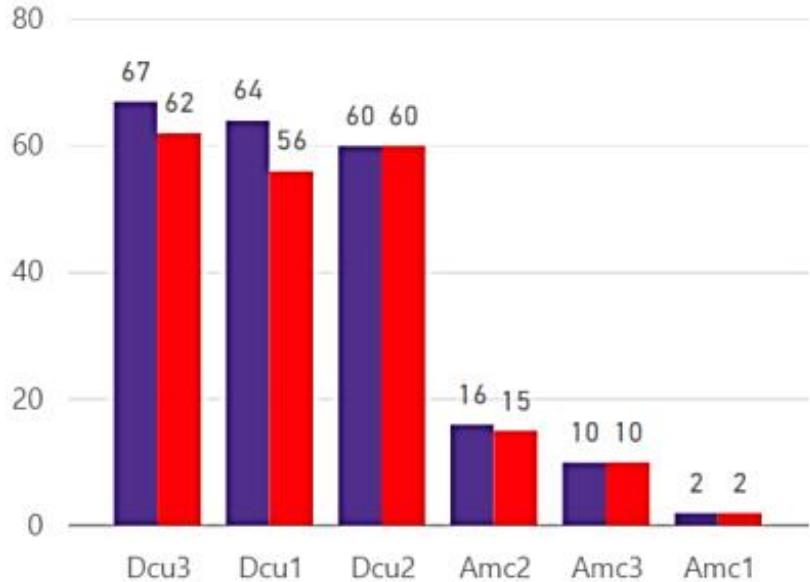




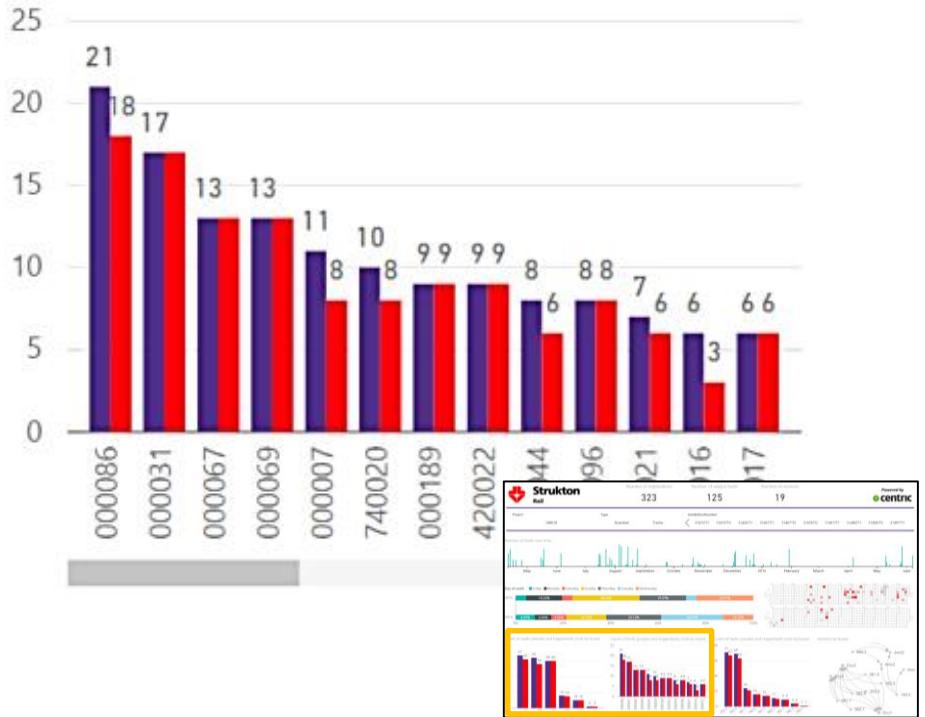
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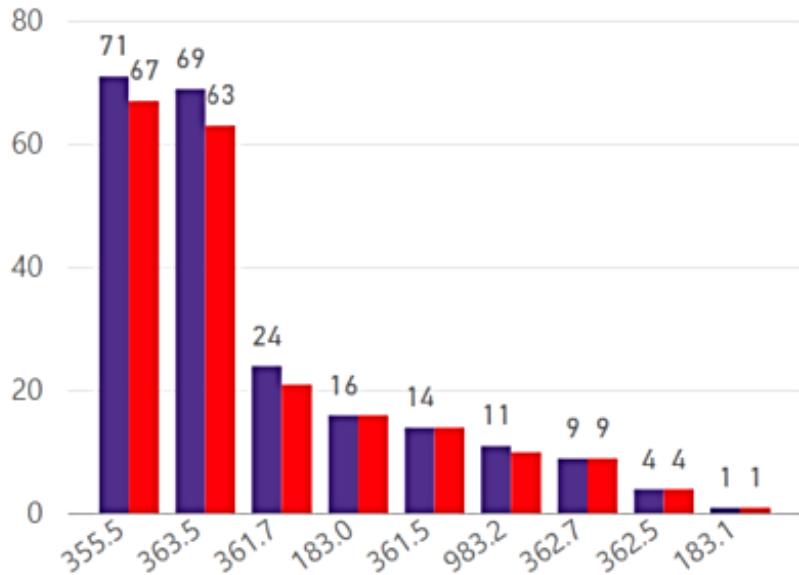
Count of faults (purple) and triggerfaults (red) by board



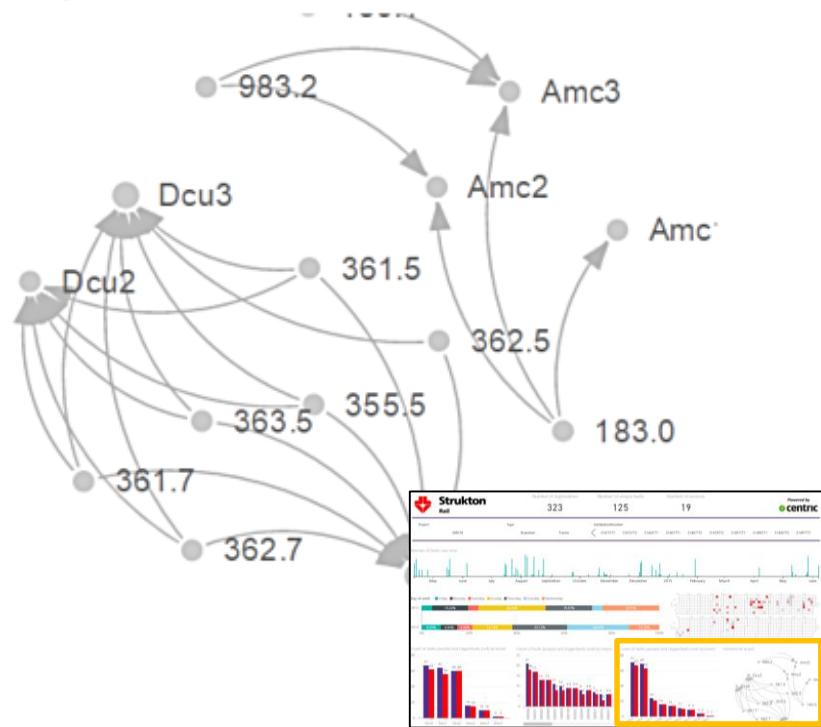
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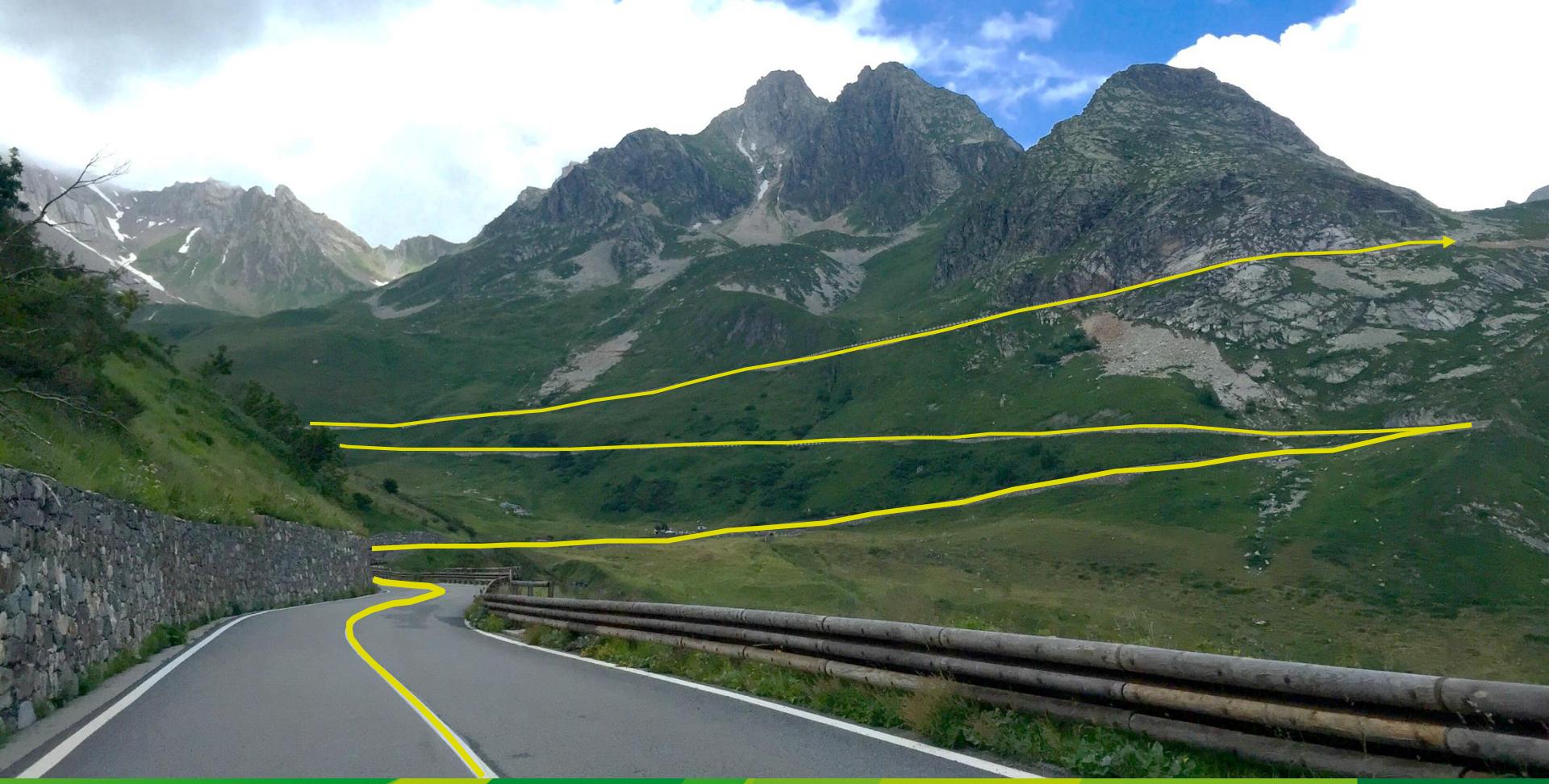


Count of faults (purple) and triggerfaults (red) by board...



Versions by board

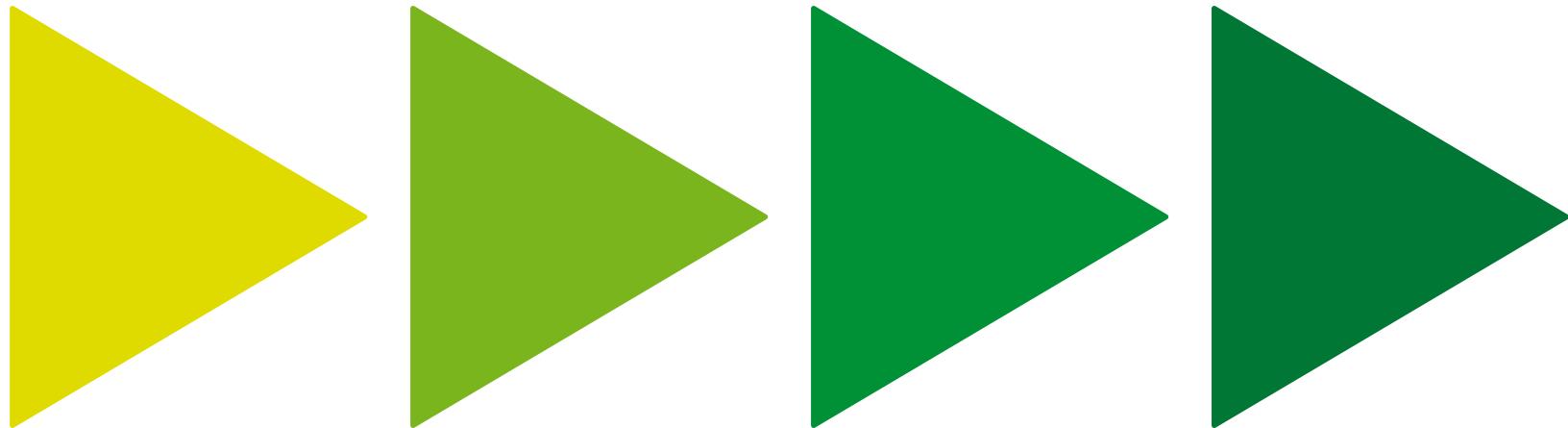




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# Conclusie

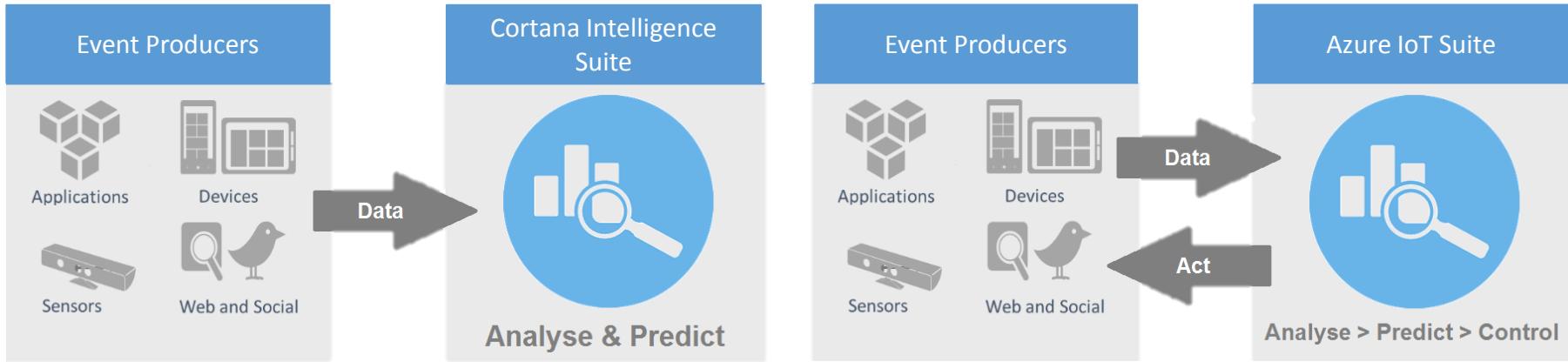


Februari 2016

Juni 2016

???

# Lessons Learned



# QUESTIONS?

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