

Fourth Stream Reasoning Workshop 17 April 2019 Linköping, Sweden



TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION



Daniel Jakobsson

WORLD TRAVEL & TOURISM COUNCIL



Source: World Travel & Tourism
Council
<https://www.hotelbusiness.com/deloitte-hoteliars-should-plan-ahead/>

We help to develop society



Source: Trafikverkets Bildarkiv

Our vision, Everybody arrives smoothly, the green and safe way



smoothly



green



safe

Source: Trafikverkets Bildarkiv

Brief data on the Swedish Transport Administration

The icon shows four red silhouettes of people representing employees.

7 500 employees, **150** occupations

Business volume in 2017

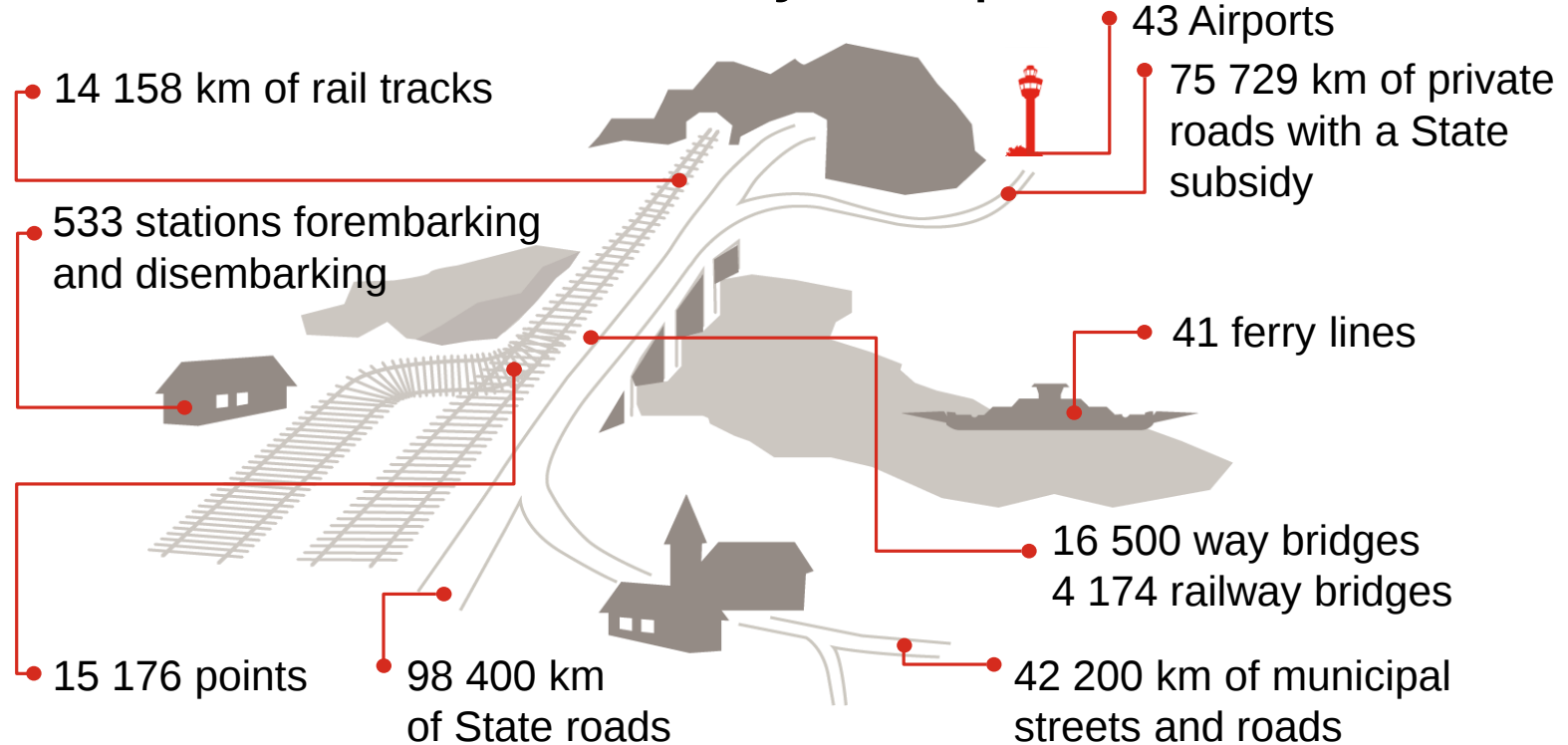
55 400 000 000

Of which

Investments	SEK 23.5 billion
O&M and traffic control	SEK 19.5 billion
Miscellaneous	SEK 11.0 billion



Sweden's roads and railways, airports



The infrastructure and vehicles generates vast amount of data

- Sensor
- Radar
- Camera



Market adapted planning and capacity

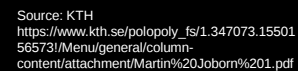


Infrastructure Digital twin



National train guidance





Source: World Economic Forum
<http://www.forum-ekonomiczne.pl/tania-sil-robotyczna-juz-nie-wystarczy-nowe-technologie-motorem-rozwoju-gospodarczego/?lang=en>

“not only work
with data but
let data work
for us”

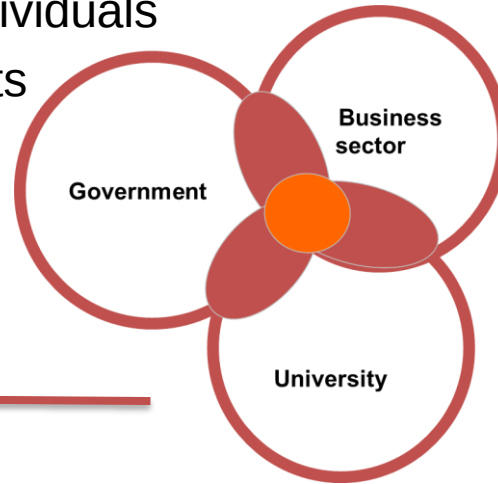


Source: SwissCognitive



Project AI

- Research project questions:
 - The duration of individual traffic-disturbing events
 - Arrival of individual train individuals
 - Train time, signal, events
 - Weather data
 - 5 year of history



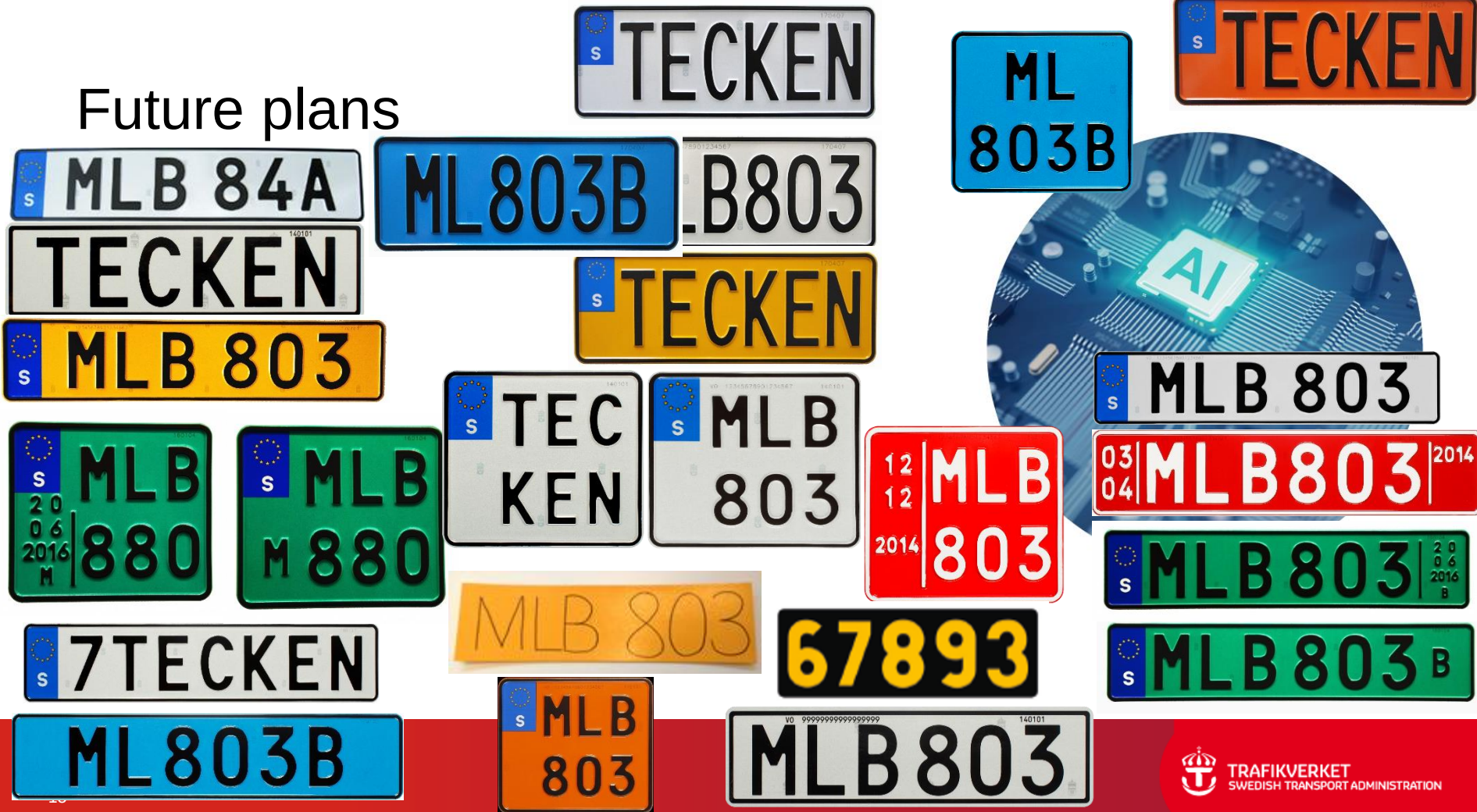
Road maintenance asphalt pavement predictions



GDPR protection of people and licenseplates



Future plans



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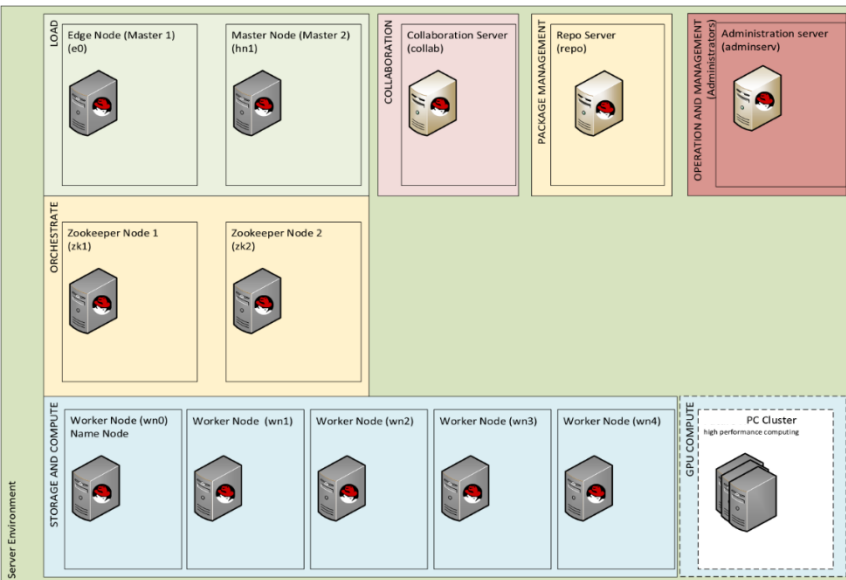
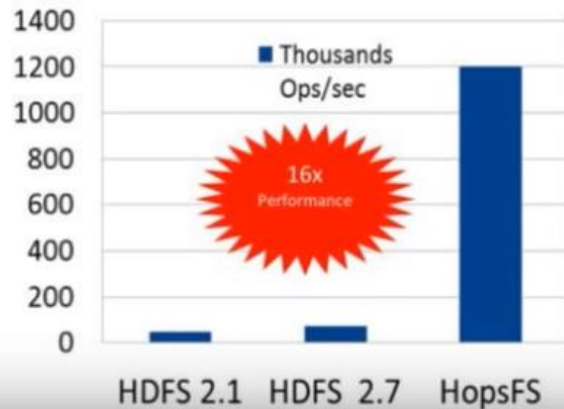
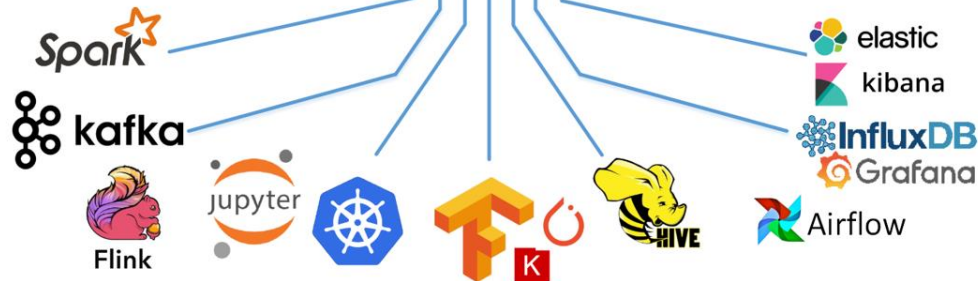
This is Train 258
destination Stockholm
11.35. I identified dead
Moose on parallel
track!

TC is here, thanks
for reporting the
animal on the track.
We will forward that
to be dealt with



Source: SVT Updrag granskning
cellcode.us

PoC Big data Environment





Challenges

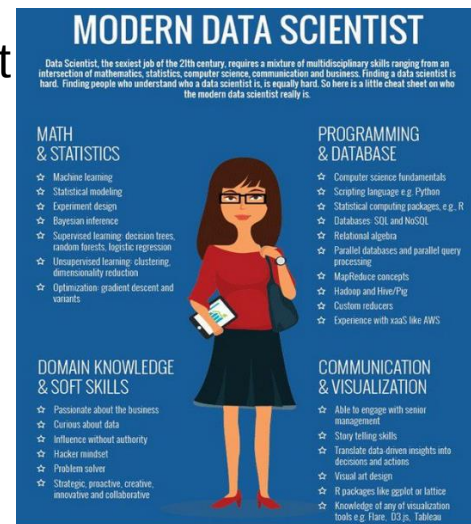
- Organization has great challenge to become data driven and CHANGE



Source:
<https://www.jianshu.com/p/4b38238ad54c> ,
<https://www.jianshu.com/p/4b38238ad54c>,
<https://lh3.googleusercontent.com/OQ81k20QRUuKEUNgrQu9jtQRxDQleUEUQJbB8TmLLpl3u88kF09X9bTbXZ4giZjRaE5oA=s170>

Challenges

- People and culture
 - We have a underground movement up to management
 - We need to embrace the organization with knowledge and change
- Competence development
 - All roles but specific Data Scientist
- Data and quality
 - Manual input is harder to analyze
 - Data handling



Source
<http://datadriven.tv/blog/modern-data-scientist-infographic/>

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