

Herzlich willkommen. Bienvenue.

öV-Mobilität der Zukunft.
Vom Datendschungel zu innovativen Mobilitätslösungen.

28. März 2019, Olten

The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are strings of binary code (0s and 1s) in various sizes and orientations, some appearing to float in the foreground while others recede into the distance. The overall effect is one of high-tech, futuristic energy.

Marina Villa

Moderatorin

The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing white and light blue streaks that sweep across the frame, creating a sense of rapid movement and data flow. Interspersed throughout the scene are various patterns of binary code (0s and 1s) in different sizes and orientations, some appearing sharp and others blurred, which enhances the technological and digital theme.

Norbert Schmassmann

Präsident VöV

The background is a dynamic, abstract digital scene. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are binary digits (0s and 1s) in various sizes and orientations, some appearing to float or flow. The overall effect is one of high-tech, futuristic digital connectivity.

**Diskutieren Sie mit:
#oevch und
[slido.com/bk2019](https://www.slido.com/bk2019)**



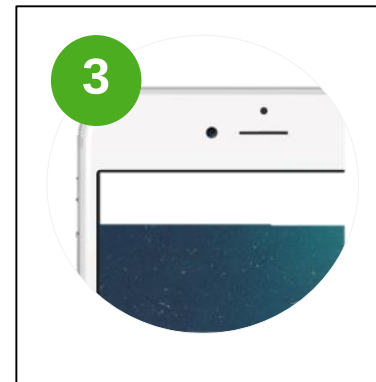
Bitte loggen sie sich auf Ihrem Smartphone ein



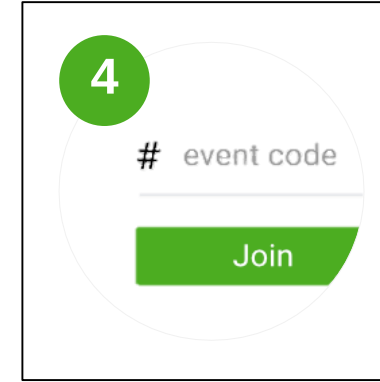
Smartphone
aktivieren



Browser
öffnen

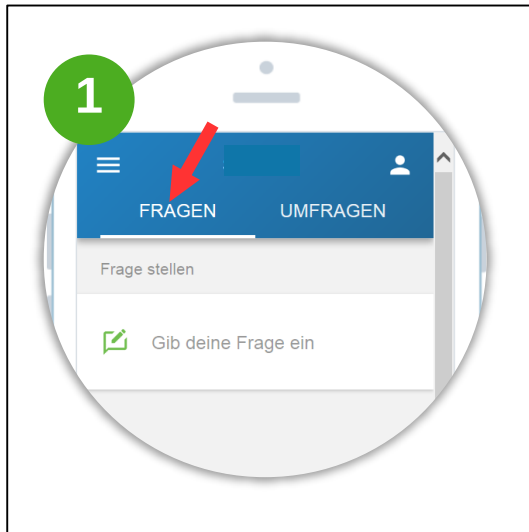


www.slido.com
aufrufen

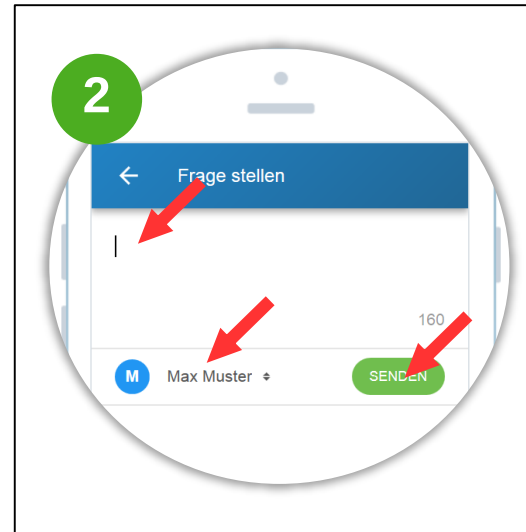


Code eingeben
bk2019

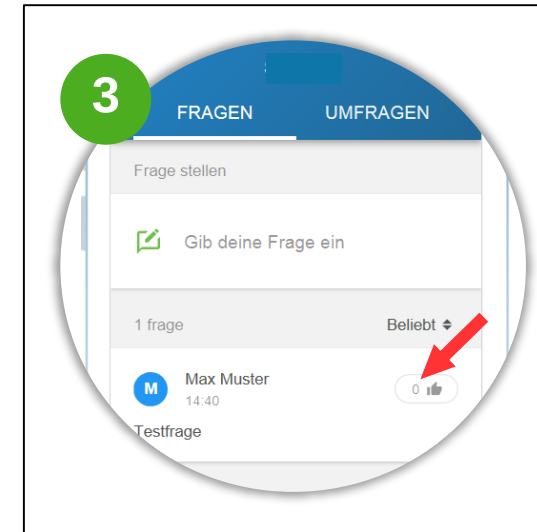
Fragen stellen



«FRAGEN» auswählen



Fragen erfassen,
Eventuell Namen eingebene
Senden



Liken

Challenger

Béatrice Merlach

*Human Centered
Design Expert,
Creaholic*

Daniel Neuhaus

*CEO & Founder
Sqooba, Bern*

Judith Petermann
Büttler

*Beauftragte für
Information und
Datenschutz des
Kantons Solothurn*



The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing white and light blue streaks that sweep across the frame, creating a sense of rapid movement and data flow. Interspersed throughout the scene are various patterns of binary code (0s and 1s) in different sizes and orientations, some appearing to float in the foreground while others recede into the distance. A bright, circular light source is visible in the upper right quadrant, casting a soft glow and illuminating the surrounding digital elements. The overall effect is one of high-tech sophistication and futuristic energy.

Peter Bjørn Larsen

Director/Owner Smart City Insights,
Kopenhagen

Learnings from the worlds first city data marketplace in Copenhagen



Smart City Insights

Background: Insights, innovation and growth

Carbon Neutral City

- Neutral by 2025
- Wind turbines
- Biomass in power plant
- Smart Cities



ENERGY

Green and Comfortable Transportation

- City of bikes
- ITS
- Mobility Management
- Copenhagen Connecting



MOBILITY

Lower Energy Consumption

- Buildings
- Transport
- Procurement
- Street Lighting



CITY ADMIN

CITY DATA EXCHANGE

Example: Copenhagen Metro case – tackling congestion



How many is travelling?

- Metro's own data

Who is travelling to and from what destination?

- Telco data (where do individuals get on and get off – and also possible to get more info age group, gender, origin)
- Geomatic data (extensive profiles of citizens in postcode area)

Why are there peaks in certain days?

- Weather data (explain the difference in passenger numbers)
- Event data near metro
- Social Media

Examples of data relevant for public transport



WAYFINDING
SEEKING **SMART**, LOW COST SOLUTIONS...

CHALLENGE: GETTING ABOUT IN DUBLIN

FOR USE INDOORS AND OUTDOORS
GET FROM A TO B EASILY AND ON TIME
DELIVER AN ENHANCED VISITOR EXPERIENCE
ALIGN WITH THE PRINCIPLES OF UNIVERSAL DESIGN
APPLY HERE: WWW.SMARTDUBLIN.IE

€200,000 IN FUNDING AVAILABLE

Logos: Enterprise Ireland, Smart City Insights, Smart Dublin, and various other partners.

What is the real problem?

Savings of £200,000 in 2014-15, with a further £400,000 forecast in 2015-16 as a result of the package of service changes introduced.

180 new optimised waste collection rounds with just nine out of 63,000 households needing a change to collection days.

A reduction of 30 collection routes and three refuse collection vehicles.

Savings in 56 tonnes of CO2 in a full year through a **reduction in fuel use.**

SCDC can more effectively and **efficiently plan for future service developments** to deal with the high levels of growth projected in the area.

Identifying routes **using algorithms**, including restrictions such as one-way streets, turn and time or weight restriction



“The route optimisation exercise was an evidence-based approach that made use of the huge amounts of data we have to support the wealth of personal expertise and insight gained by waste crews on the ground. We were able to deliver savings with minimum impact on our residents and without affecting our overall recycling performance.”

Mike Hill, Director of Health and Environmental Services



What were the problems with the CDE?

- All data had to be open
- The cake problem
- Market had issues
- Data privacy and data ethics



Is there a case for a data exchange?

YES

Because we all want similar information

Projects/Info	<i>People movement (Origin-destination)</i>	<i>Traffic flow/count</i>	<i>Weather</i>	<i>Events</i>	<i>Consumer patterns</i>	<i>Pollution</i>	<i>People profiles</i>
City projects							
<i>Parking</i>	X	X	X	X	X		
<i>Safety</i>	X	X		X			X
<i>Flooding</i>	(X)	X	X	(X)		X	
<i>Mobility</i>	X	X	X	X	X	X	X
<i>Cultural/tourism</i>	X	X	X	X	X	X	X
Private sector							
<i>Retail</i>	X	X	X	X	X		X
<i>Transport</i>	X	X	X	X	X	(x)	X
<i>Urban architects</i>	X	X	X	X	X	X	X
<i>Tourism</i>	X	X	X	X	X	X	X

What solutions do we see now?



Thank you



Peter Bjørn Larsen

pbl@smartcityinsights.dk

<https://www.linkedin.com/in/peter-bjorn/>



Smart City Insights





The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing white and light blue streaks that sweep across the frame, creating a sense of rapid movement and data flow. Interspersed throughout the scene are various patterns of binary code (0s and 1s) in different sizes and orientations, some appearing sharp and others blurred, which enhances the technological and data-centric theme.

Olof Henricsson

Global Head of Sales, Teralytics, Zürich

Von Daten zur Innovation

Olof Henricsson



Die Art wie die Welt sich bewegt ist im wandel



Unsere Städte und Infrastruktur können nicht mehr mithalten

A photograph of a crowded train car, viewed through a window. The interior is packed with people, mostly men, some holding onto handrails. The image is framed by a dark, metallic window frame. The overall color palette is muted, with a greenish-blue tint.





Teralytics Mobilitätsplattform



Erfassung
**Mobiler
Netzwerk-
Daten** im Telco
Datenzentrum



*GDPR-konform
und ISO-27001
zertifiziert*

**Mobilitäts-
Analytics**
Optimiert auf
Telco Daten



*Analyse von
Petabytes in
Echtzeit*

**Detaillierte Einblicke
in Bewegungsmuster**

Tripvolumen



Transportmittel



Reisedauer



Demografie



Reisezweck



Routen

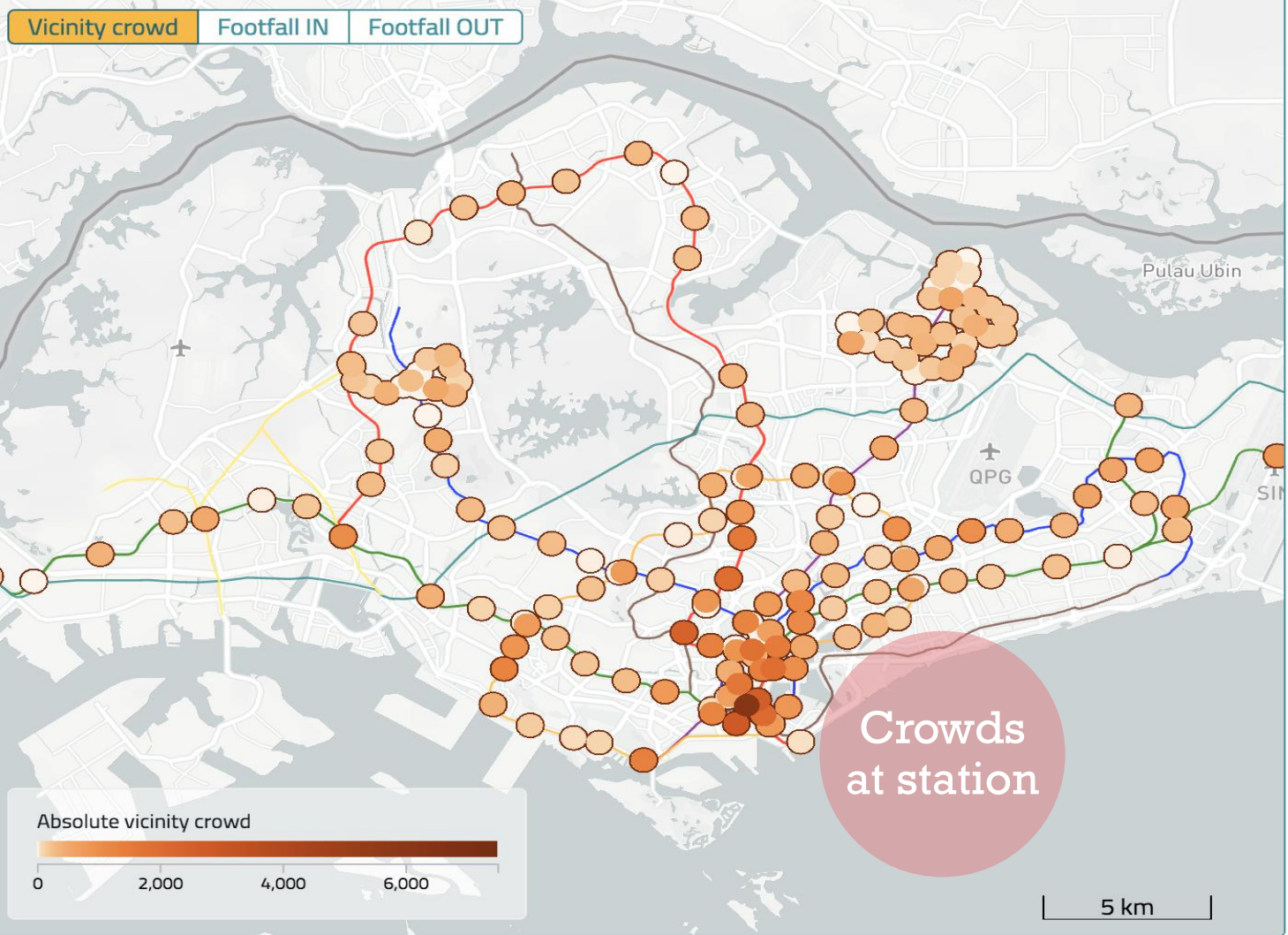


Historisch

Echtzeit

Vorhersage

PTNs at 12 Oct 2017 10:27



Line Overview for Thu, 12 Oct 2017

Line:	PTN					
	CCL	EWL	NEL	DTL	NSL	BPLRT
	12 Oct 2017		Avg Weekday			
CC1	Dhoby Ghaut					
CC2	Bras Basah					
CC3	Esplanade					
CC4	Promenade					
CC5	Nicoll Highway					
CC6	Stadium					
CC7	Mountbatten					
CC8	Dakota					
CC9	Paya Lebar					
CC10	MacPherson					
CC11	Tai Seng					
CC12	Bartley					
CC13	Serangoon					

Time

Latest Historical

Latest data from 12 Oct 2017 10:27 to 12 Oct 2017 10:42

Berlin

Alerting for 52 zones



Last updated at: 2018-07-29 00:09 (local time)

Live News

@BVG_Ubahn:

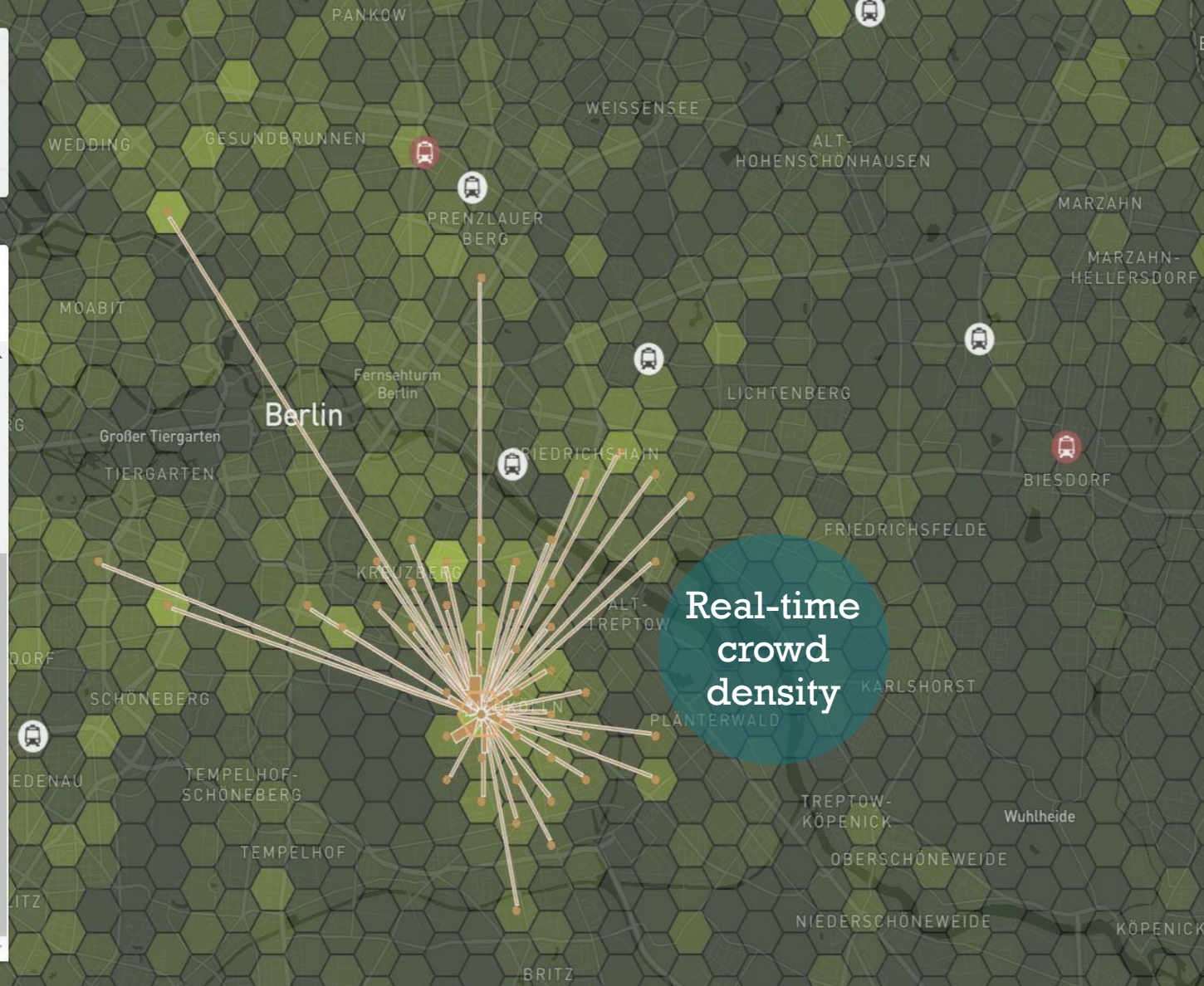
U3: Der Feuerwehreinsatz ist beendet und die Züge fahren wieder auf der gesamten Strecke. Es kommt noch zu Unregelmäßigkeiten. #BVG

@SBahnBerlin:

#S45, #S46, #S47, #S8, #S85, #S9: Die Signalstörung in #Adlershof ist beendet.

@SBahnBerlin:

#S45, #S46, #S47, #S8, #S85, #S9: Aufgrund eines Notarzteinsatzes im Zug in #Baumschulenweg und einer Signalstörung in #Adlershof bitte mit Verspätungen und Zugausfällen rechnen.



52.480° N, 13.428° E

2018-07-28 23:59

Crowd size is approximately 15800. It differs 6% from the 4-week baseline of 16851.

Historical Density



Past 24 hours 4-week baseline

Trip Origins

None Home -1 hour

Source Count

52.486° N, 13.428° E 1099

52.478° N, 13.420° E 828

52.478° N, 13.435° E 487

2018-07-28



ND 00:00 03:00

06:00

09:00

12:00

15:00

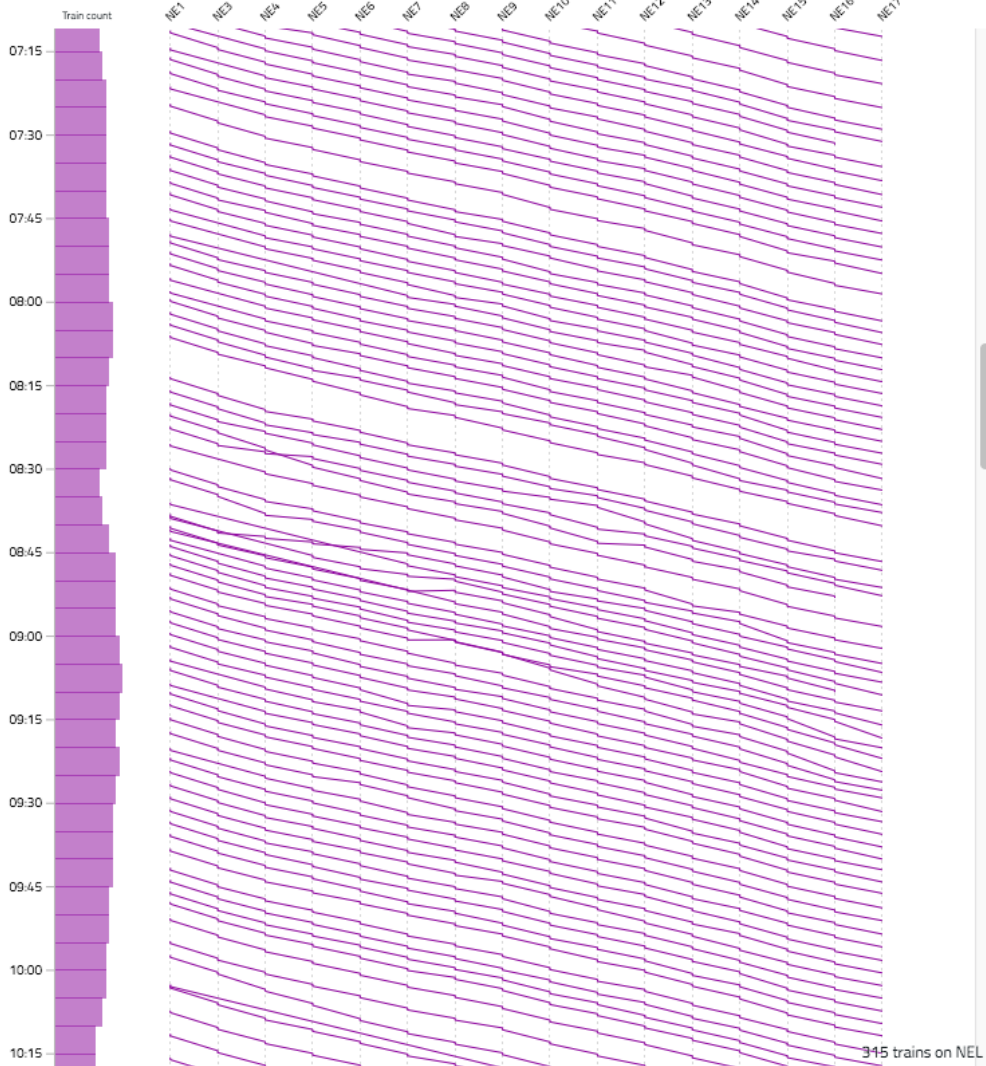
18:00

21:00

23:50

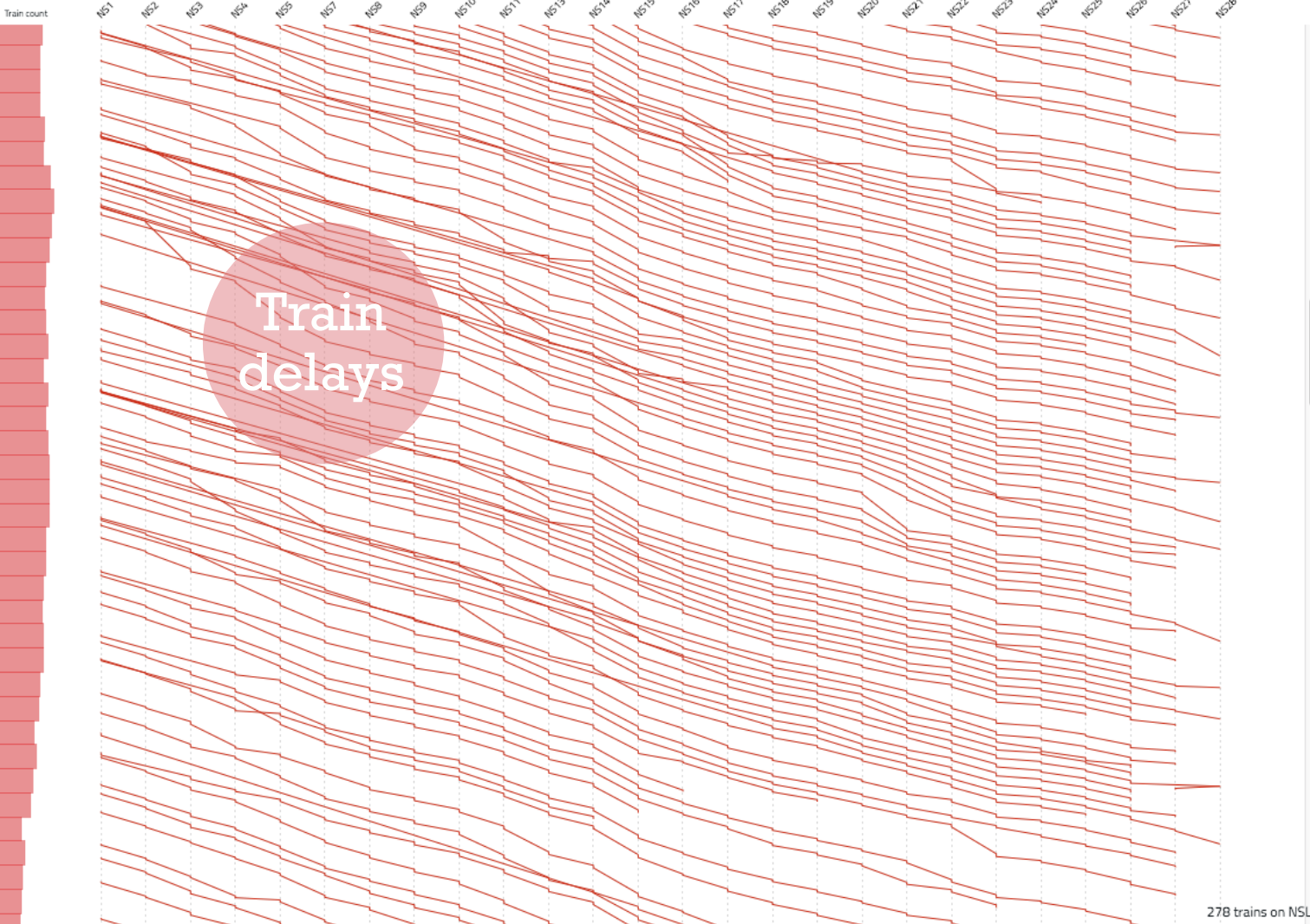
CCL NEL NSL DTL EWL SKLRT PGLRT BPLRT ☐ Show train load

NEL



315 trains on NEL

NSL



278 trains on NSL

Time

Latest

Historical

Date

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

Month

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

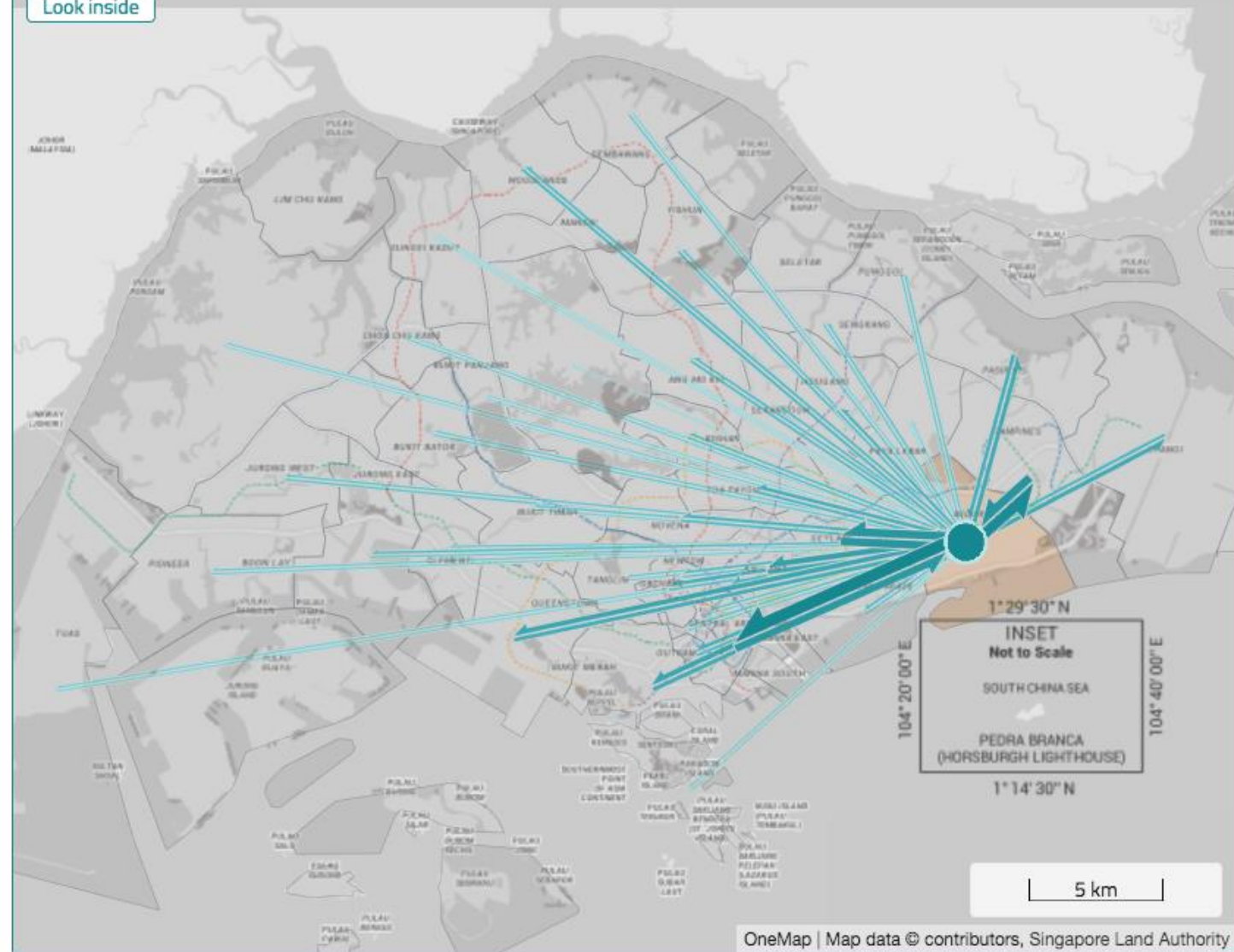
Year

2017

2018

Bedok

Look inside



End-to-End Train Journeys

Filters

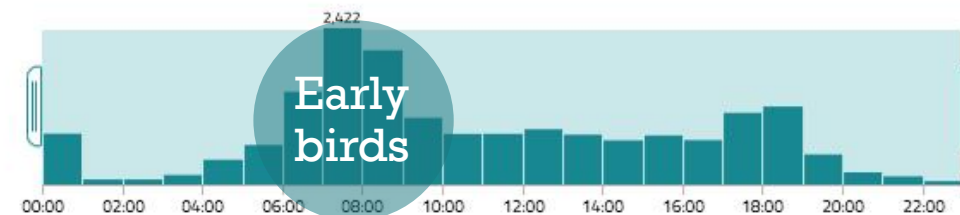
Flows table

OD-Map

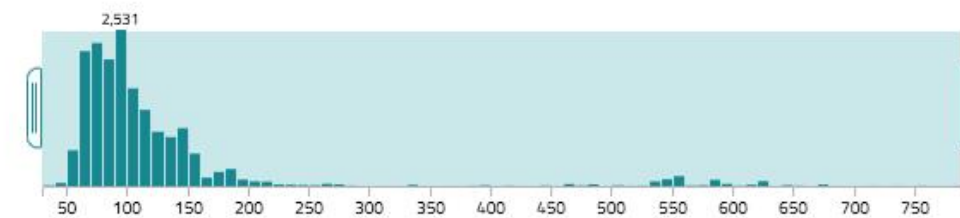
17,519 journeys in total

No filters set

Time of day



Duration (min, 50th percentile)

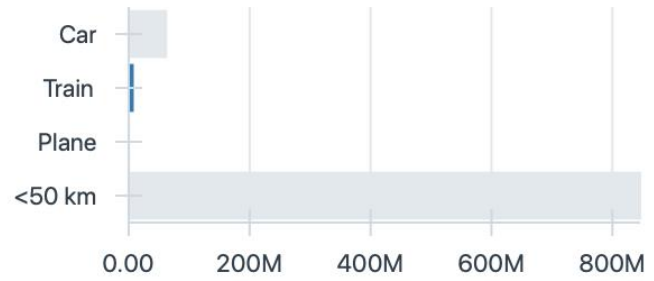


Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Month	Jan		Feb			Mar			Apr			May			Jun		Jul		Aug		Sep		Oct		Nov		Dec				
Year	2017															2018															

6,520,036 of 2,145,318,542 trips ✕ Clear filters

Filters

▼ Mode of Transport ✕ Train

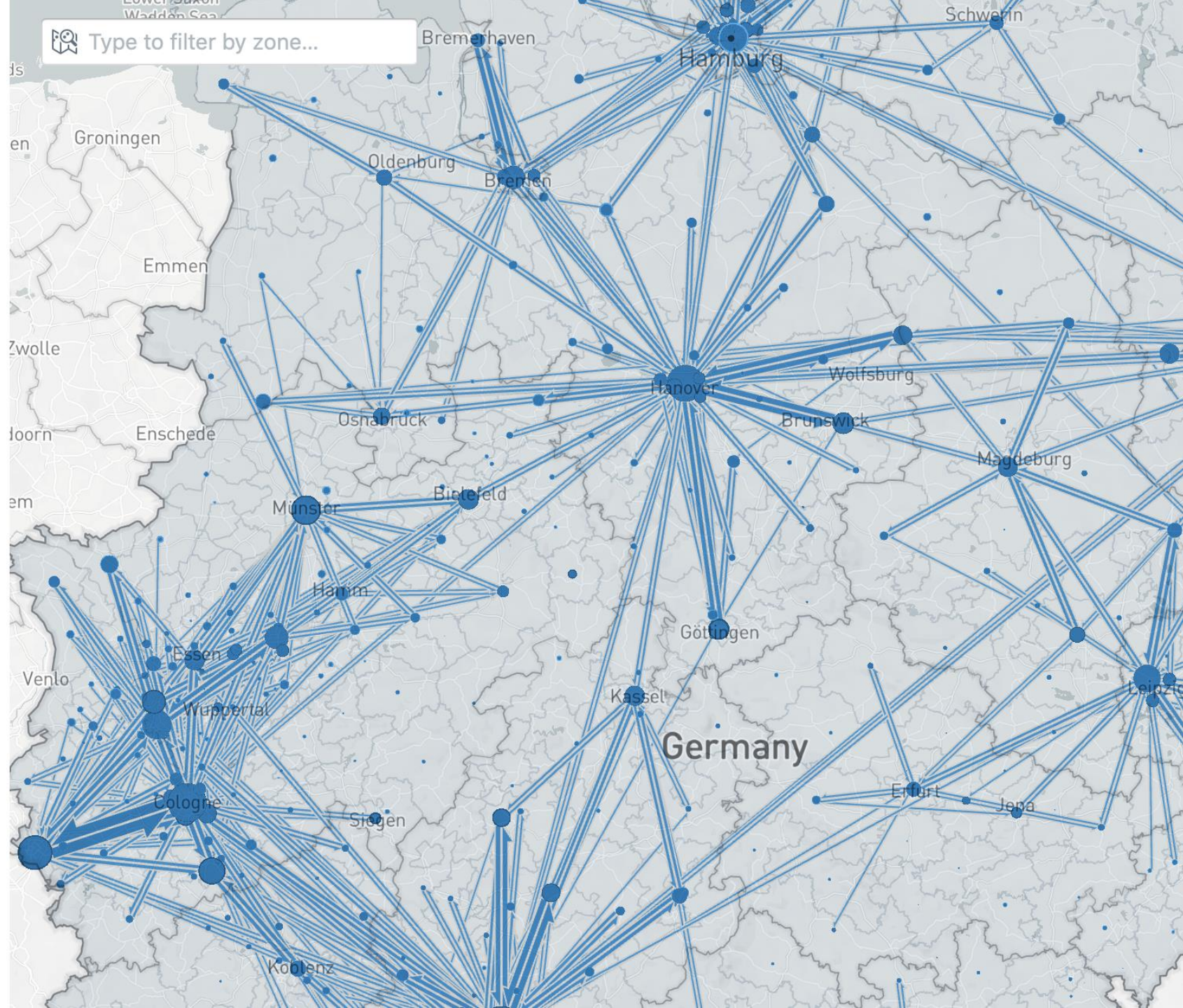


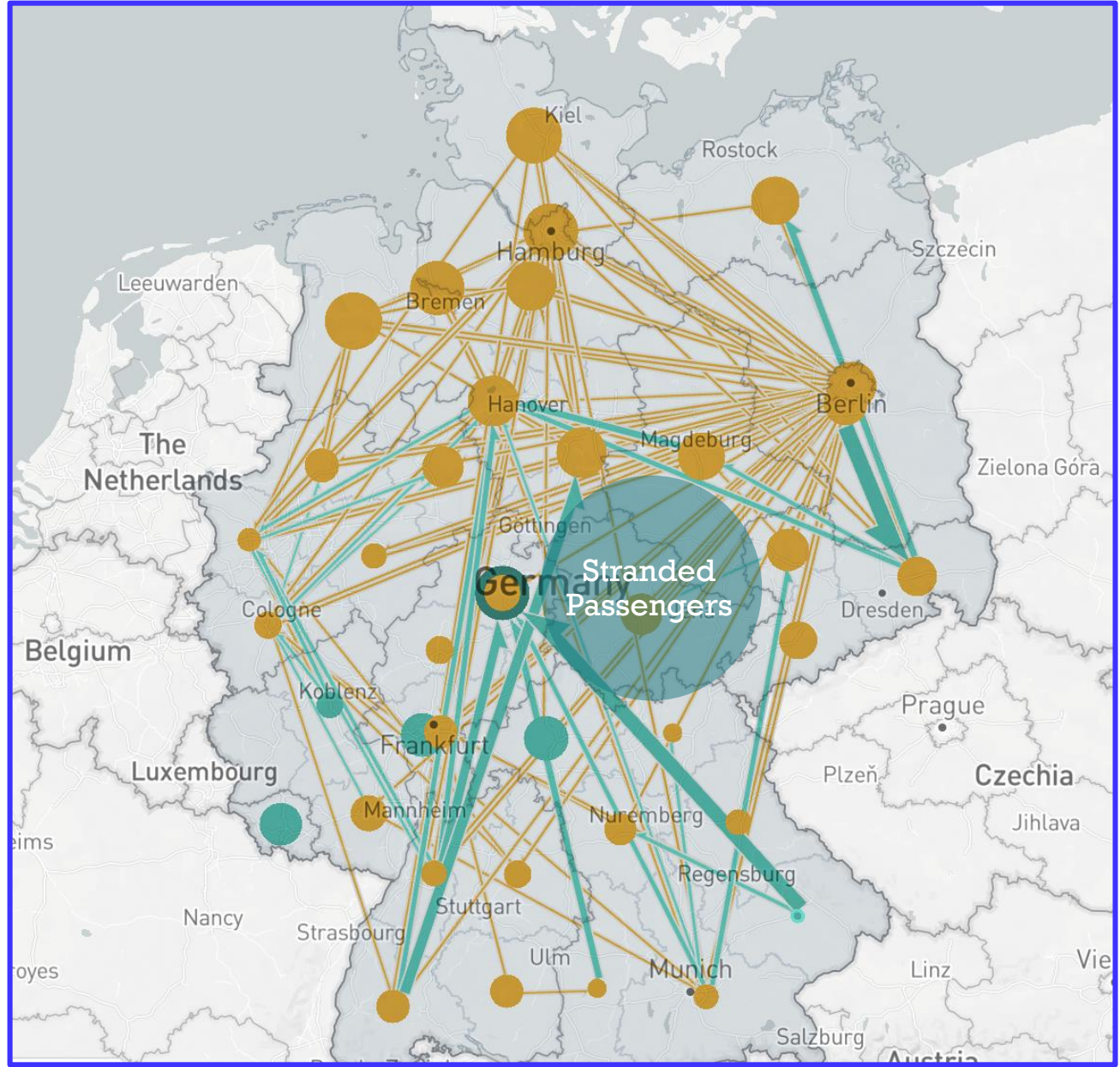
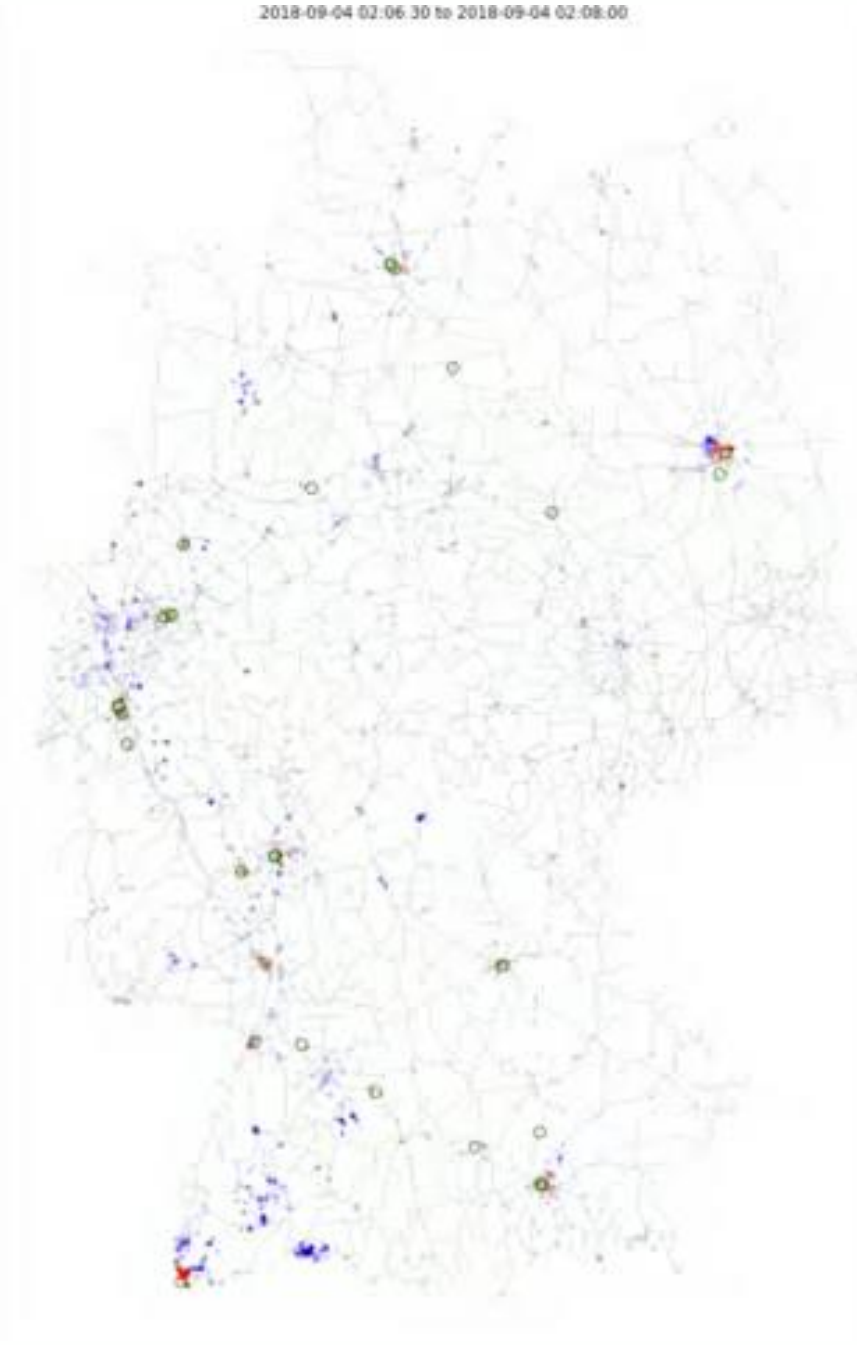
► Trip Volume ?

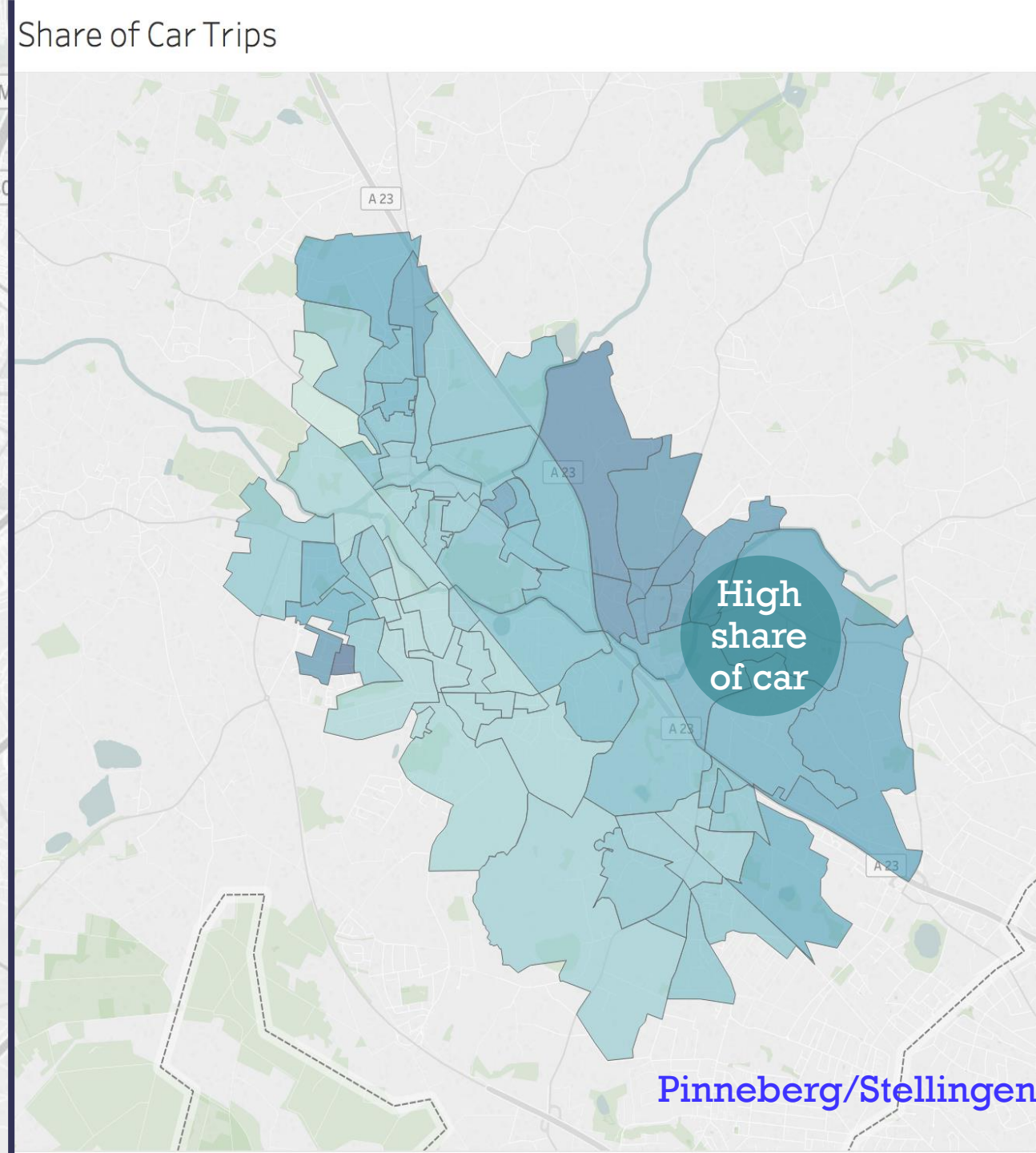
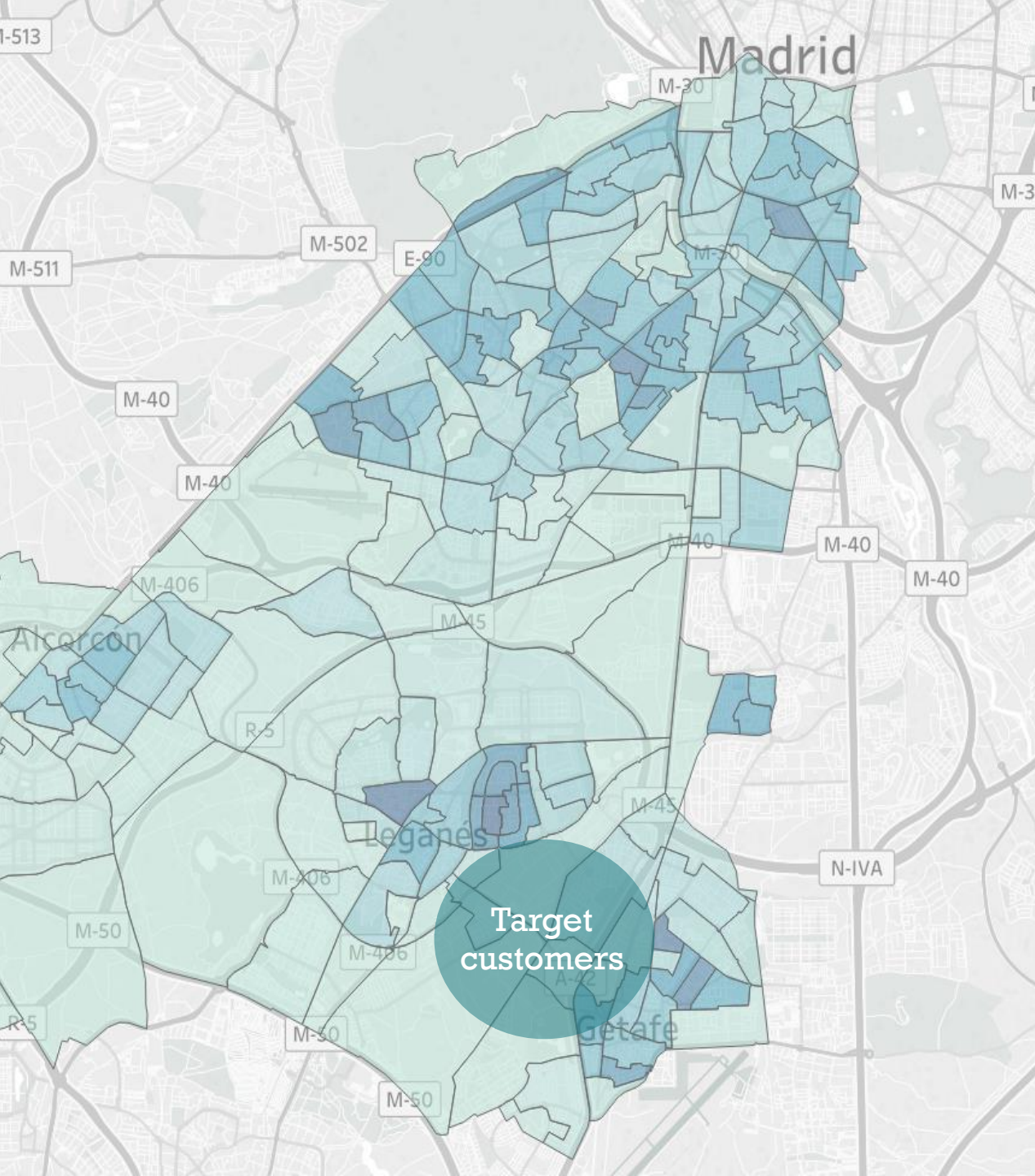
► Trip Flow ✕ Inflow/outflow

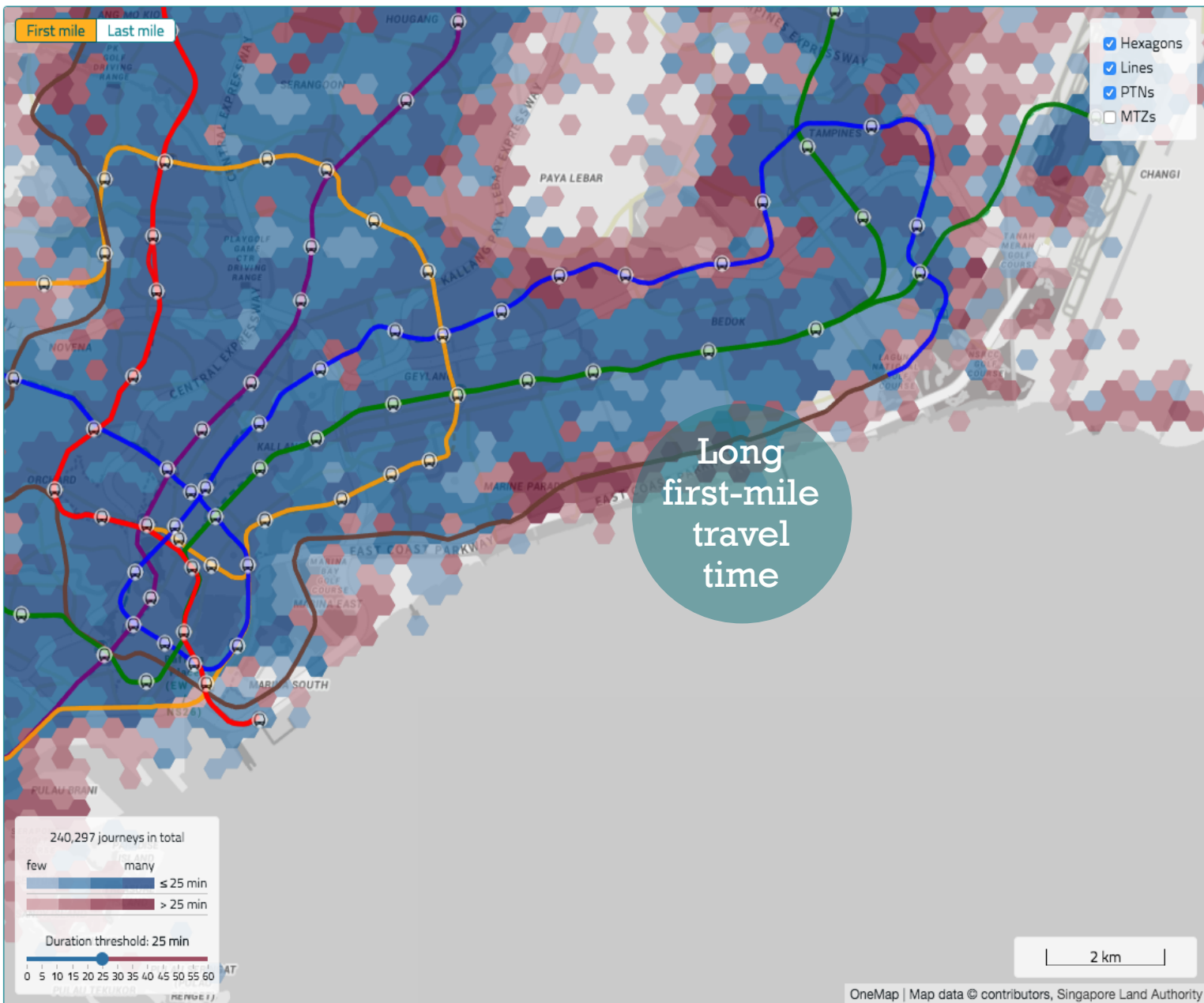
Most Common Trips

▼ Top Flows

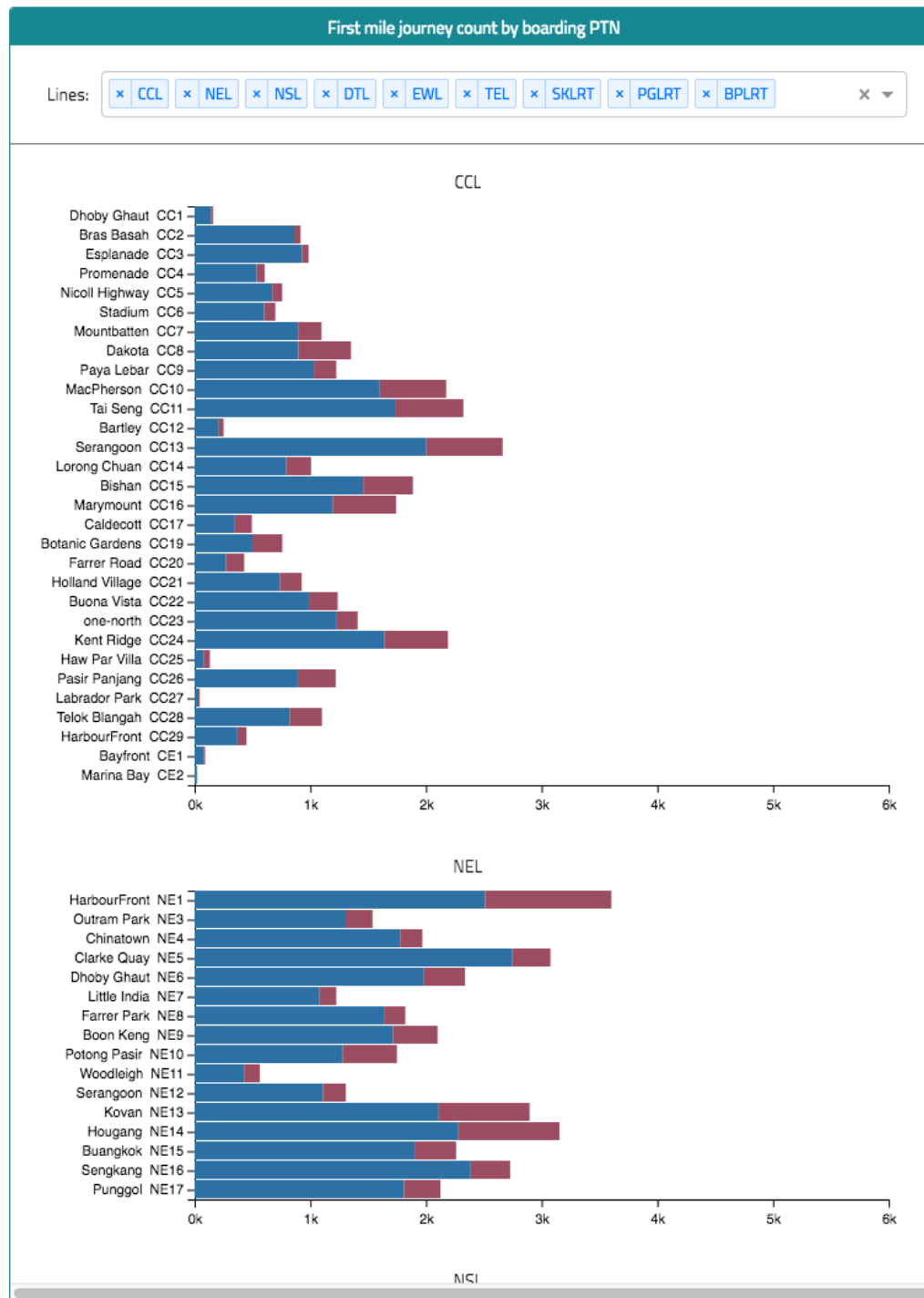








Hour	0-3			3-6				6-9				9-12				12-15				15-18				18-21				21-24								
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
Month	Jan			Feb				Mar			Apr			May			Jun			Jul			Aug			Sep			Oct			Nov			Dec	
Year	2017																2018																			





**Mobilfunkdaten
sind die Grundlage
um zu verstehen
wie Menschen sich
bewegen.**



Danke!

Olof Henricsson
www.teralytics.net

The background is a dynamic, abstract digital scene. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are binary digits (0s and 1s) in various sizes and orientations, some appearing to float or flow. The overall effect is one of high-tech, futuristic digital connectivity.

**Diskutieren Sie mit:
#oevch und
[slido.com/bk2019](https://www.slido.com/bk2019)**

Workshops

Workshop 1:

*So gewinnt die Schweiz mit
Open Data im öV*

Christian Trachsel, SBB

Workshop 2:

*Daten im öV – Mehrwert für die
Kunden*

Sven Kohoutek, Postauto

Workshops

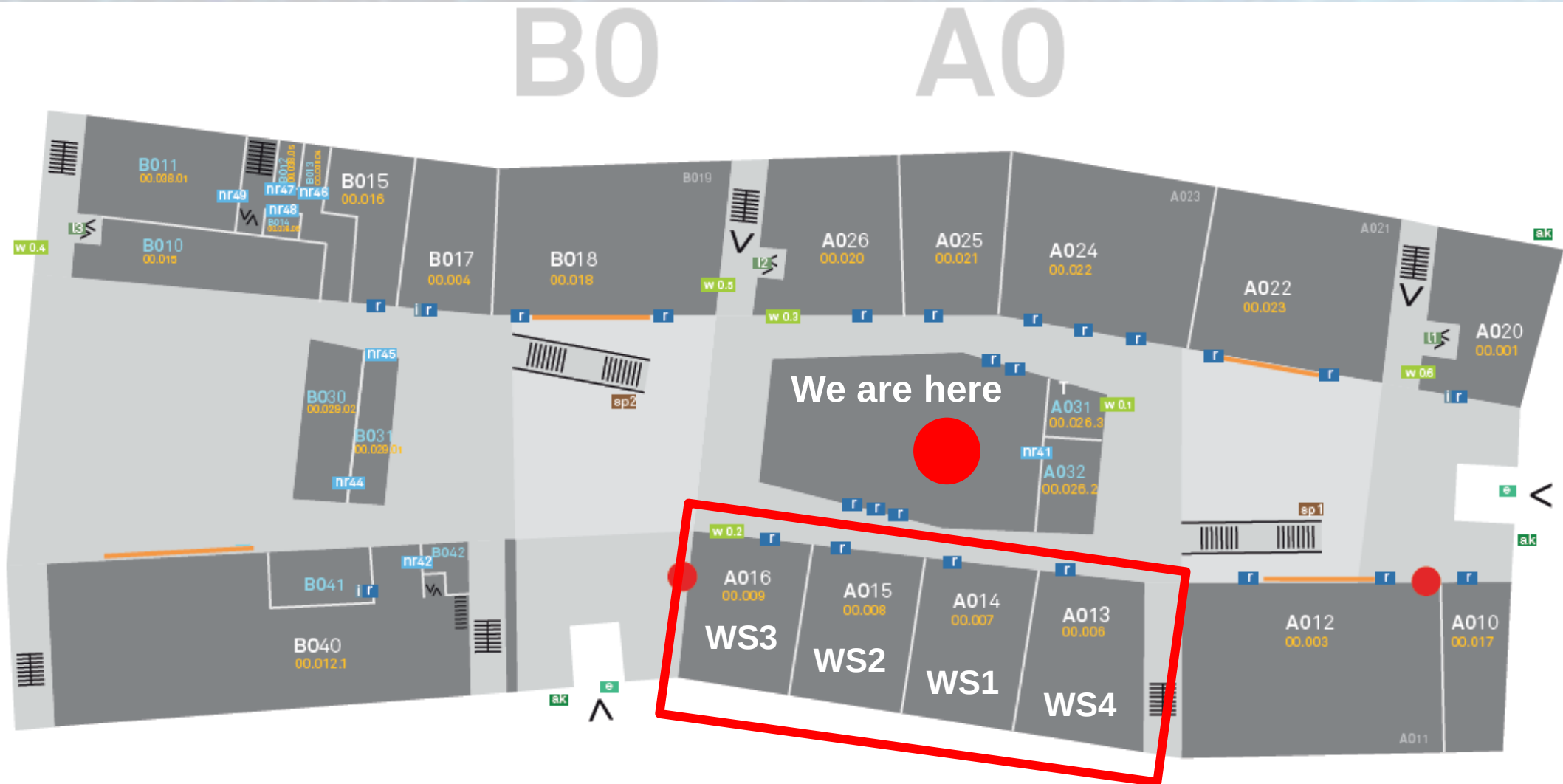
Workshop 3:
*Data Analytics in der
Bahninfrastruktur*

Adrian Mäder, BLS

Workshop 4:
*Nova-Plattform – Die Basis für
Open Data Vertrieb*

Jeannine Pilloud, ch-direct

Verteilung der Workshops



The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing white and light blue streaks that sweep across the frame, creating a sense of high-speed motion and data flow. Interspersed throughout the scene are various patterns of binary code (0s and 1s) in different sizes and orientations, some appearing sharp and others blurred, which enhances the technological and digital theme.

Taavi Kotka

Former CIO of Estonia and founder of Proud Engineers

The background of the slide is a blue-tinted photograph of a forest. In the foreground, there is a body of water that perfectly reflects the trees and foliage above it. The trees are mostly bare, suggesting a late autumn or winter setting. The overall mood is serene and somewhat somber due to the monochromatic blue color scheme.

The Future of usage and protection of DATA

Taavi Kotka



Taavi Kotka

Former Estonian Government CIO

Head of Jio Research Center in Estonia

Top 12 Europe's digital Champions in 2018 (Financial Times)

World's 100 Most Influential People in Digital Government in 2018 (apolitico.co)

Best CIO in Europe 2014 (www.ictspring.com)

The Brightest Business Minds in North-Europe 2016 (Nordic Business Forum)

Among 100 Most Important Technology Leaders of The World 2016 (www.computerworld.com)



You need **GREAT PAIN**

to make **CHANGE** happen



ESTONIA

Population: 1.3 Million

Size: 45 227 km²

Capital: Tallinn

Language: Estonian

Member of EU

Currency: Euro



"On the Internet, nobody knows you're a dog."



EESTI VABARIIK ISIKUTUNNISTUS
REPUBLIC OF ESTONIA IDENTITY CARD



PEREKONNANIMI / SURNAME

KOTKA

EESNIMED / GIVEN NAMES

TAAVI

SUGU /
SEX

M/M

KODAKONDSUS /
CITIZENSHIP

EST

SUNNIAEG /
DATE OF BIRTH

21.01.1979

ISIKUKOOD /
PERSONAL CODE

37901214916

DOKUMENDI NUMBER /
DOCUMENT NUMBER

AA0723956

KEHTIV KUNI / DATE OF EXPIRY

16.05.2019

KASUTAJA ALLKIRI / HOLDER'S SIGNATURE



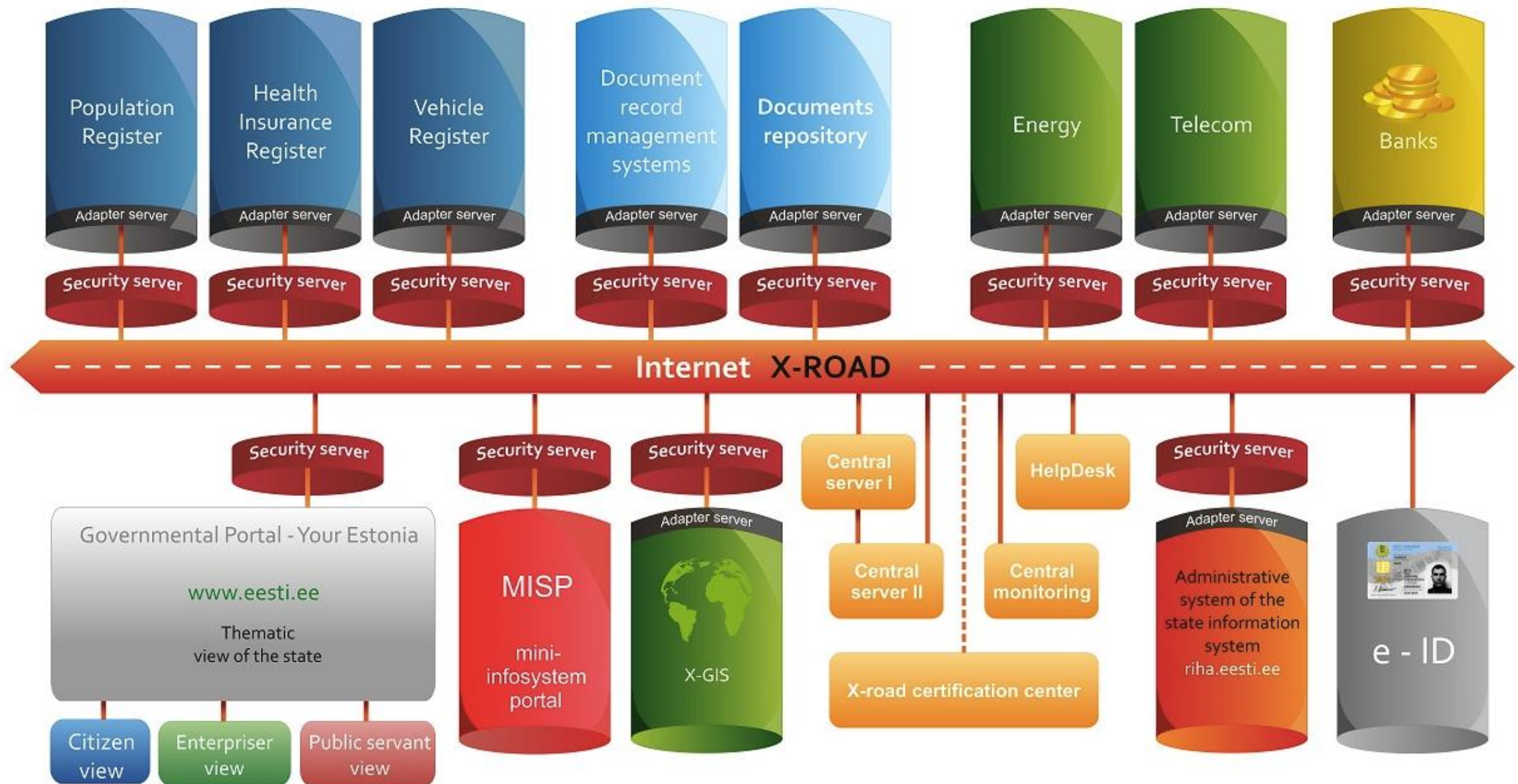
AA0723956

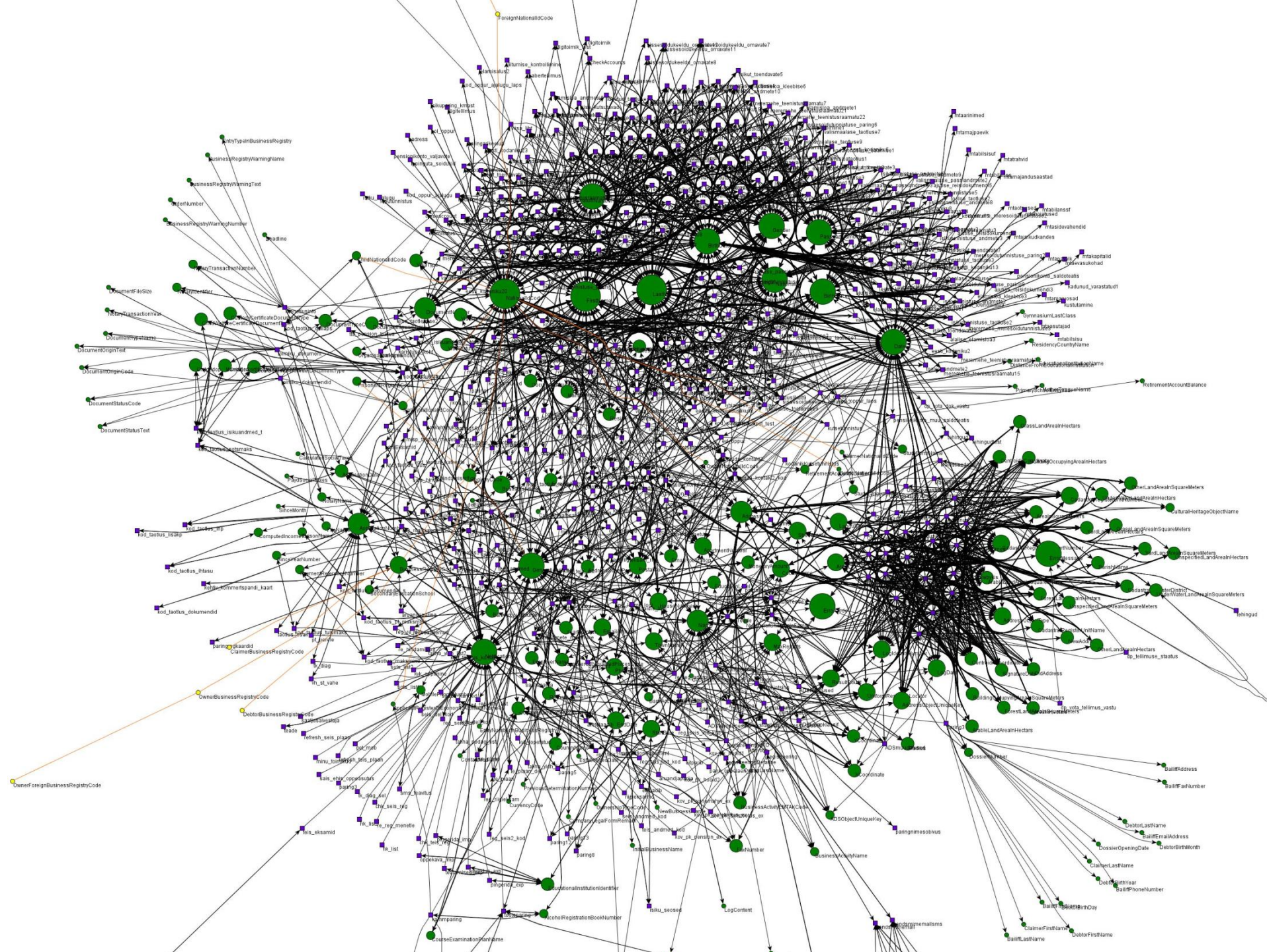


X-road

Public sector

Private sector







HERE'S
MY
PHONE
NUMBER

ALREADY
HAVE
IT

NSA

Logbook

Additional
information



[Main page](#)

Specify log search:

Logs about health data
inquiries from the health
information system



Logs about my own
inquiries from the health
information system



Logs from Eesti Töötukassa
information system about
expertises' inquiries



Log entry type



5
may
2016



2
may
2017



Search

Search all

Visible logs: 46

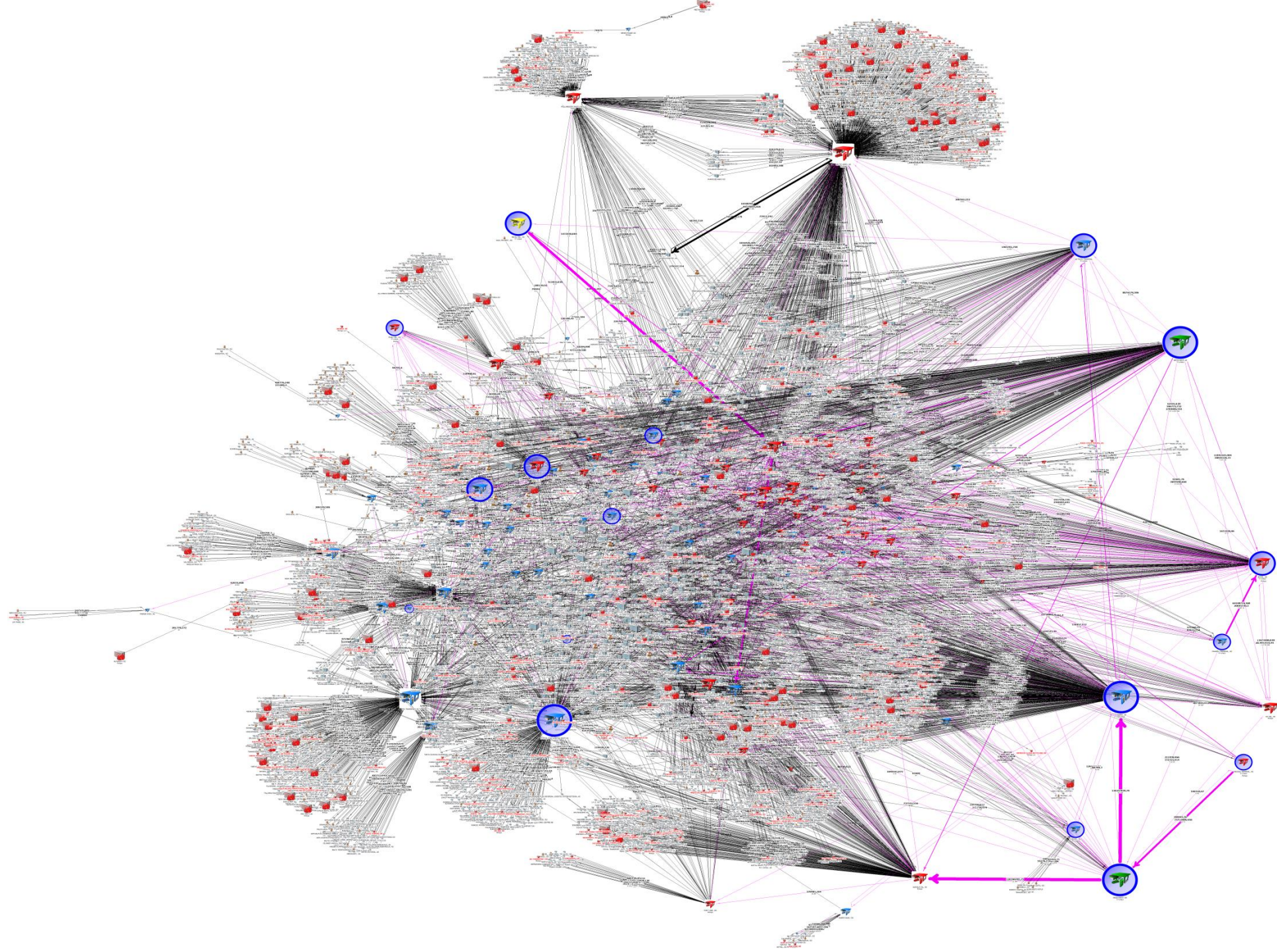
Date	Data	Person's name	Organisation/registry code	Justification
27 April 2017 20:17	PERH.ambepikriis.37729 5923 (Dokumendi registreerimine)	MARI MEREN pulmonoloogia D00842	SA Põhja-Eesti Regionaalhaigla	
24 March 2017 20:26	PERH.ambepikriis.37297 1529 (Dokumendi registreerimine)	KAIRIT PALM kardioloogia D01552	SA Põhja-Eesti Regionaalhaigla	
8 March	6028 (Dokumendi registreerimine)	KATI PAAL peremeditsiin D04207	OÜ Randvere Perearst	

WE CANNOT SOLVE OUR PROBLEMS
WITH THE SAME THINKING
WE USED WHEN WE
CREATED THEM

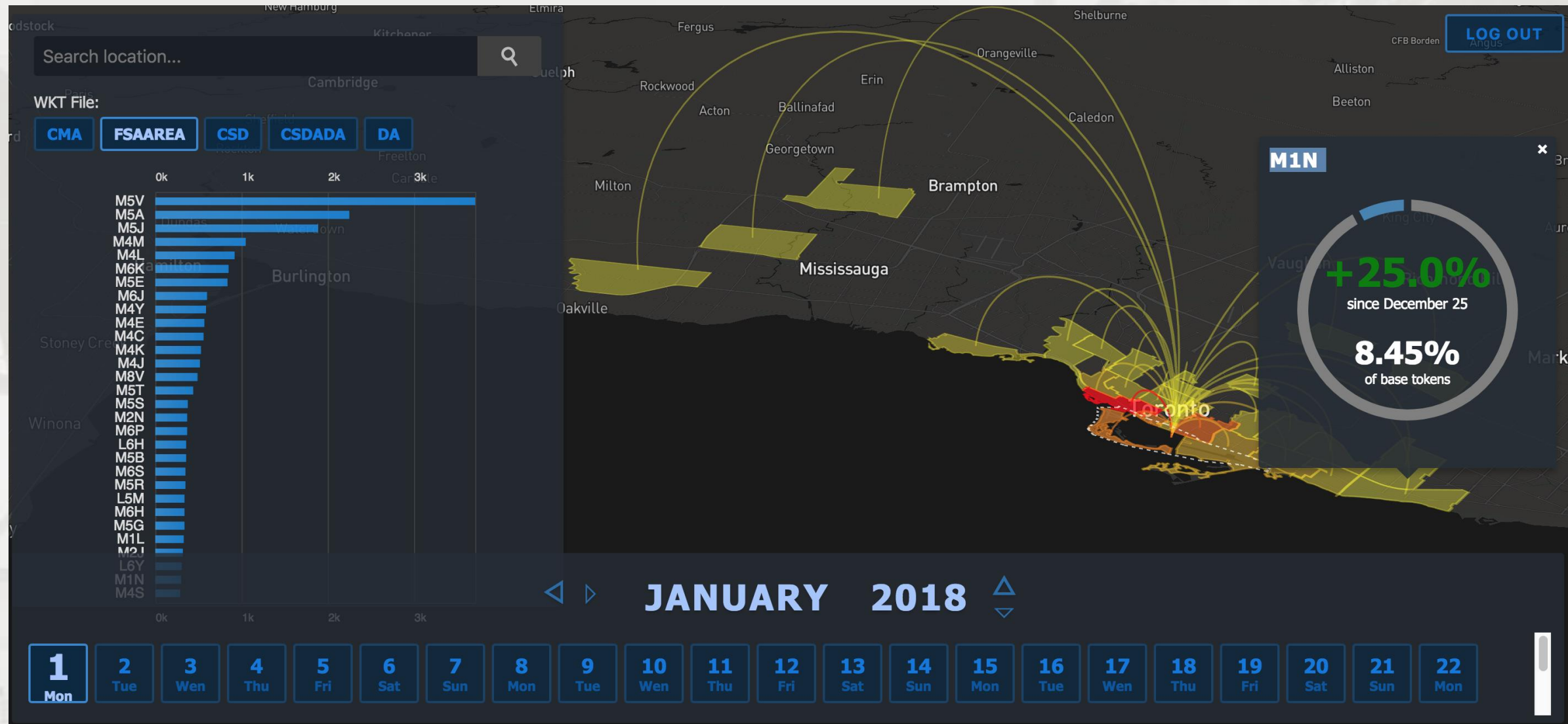
-Albert Einstein



AI is the key economic driver for next 20
years of economic growth!



Origin-Destination Analysis

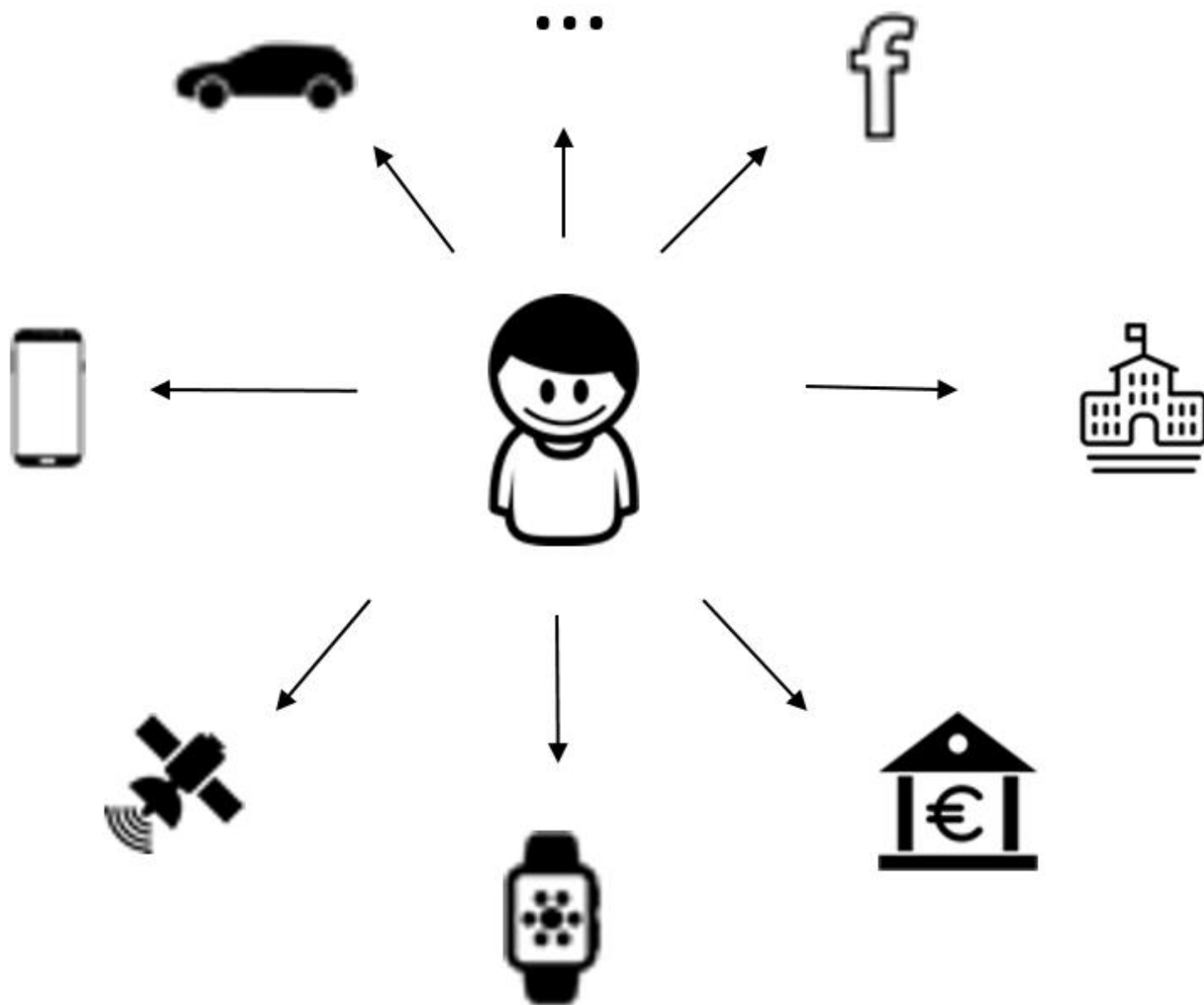


37901214916 & GDPR



Personal perspective

We all passively generate enormous amounts of data, it is valuable, but You don't control it.



Personal perspective

We all passively generate enormous amounts of data, it is valuable, but You don't control it.

A new start-up would like to use my health-care data as input to their research. I decide to grant them access...



The start-up contacts different data brokers with my approval to gain access.



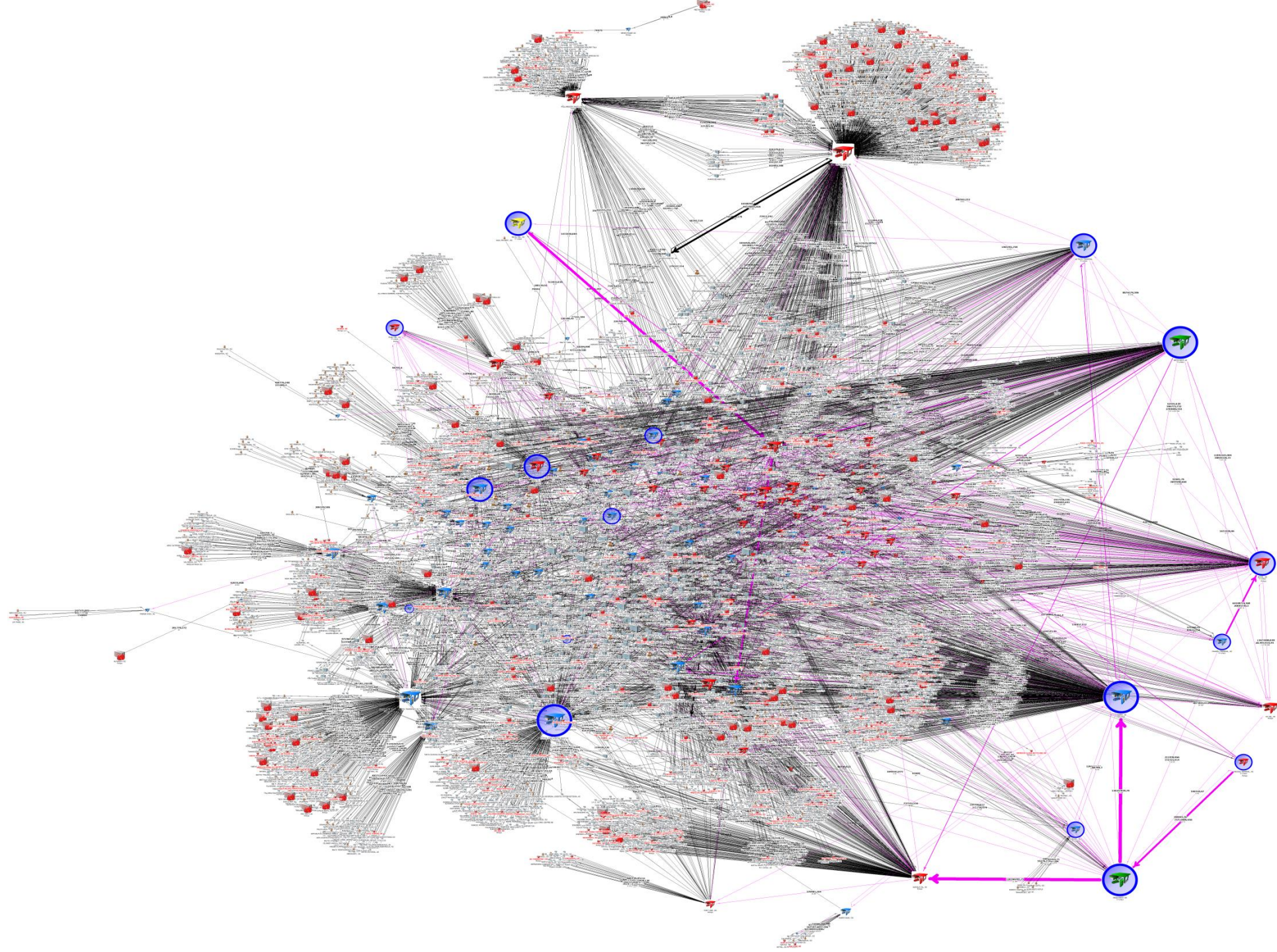
Broker contacts service providers that I use and collects relevant data



service provider

Broker compiles the data set, forwards it to the startup, collects the payment and makes a pay-out to me

WINTER
IS COMING



WE CANNOT SOLVE OUR PROBLEMS
WITH THE SAME THINKING
WE USED WHEN WE
CREATED THEM

-Albert Einstein





The background is a dynamic, abstract digital scene. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are binary digits (0s and 1s) in various sizes and orientations, some appearing to float or flow. The overall effect is one of high-tech, futuristic digital connectivity.

**Diskutieren Sie mit:
#oevch und
[slido.com/bk2019](https://www.slido.com/bk2019)**

The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing white and light blue streaks that sweep across the frame, creating a sense of rapid movement and data flow. Interspersed throughout the scene are various patterns of binary code (0s and 1s) in different sizes and orientations, some appearing sharp and others blurred, which enhances the technological and digital theme.

Tobias Tomczak

Wiss. Mitarbeiter, Smart Government Lab,
Universität St-Gallen



Universität St.Gallen|Smart Government Lab

SMART GOVERNMENT LAB

Universität St.Gallen

Wem vertraue ich meine Daten an?

Tobias Tomczak, wissenschaftlicher Mitarbeiter

- 1 Privacy Paradox
- 2 Drei Perspektiven
- 3 Recap & Implikationen

Privacy Paradox

Einstellung

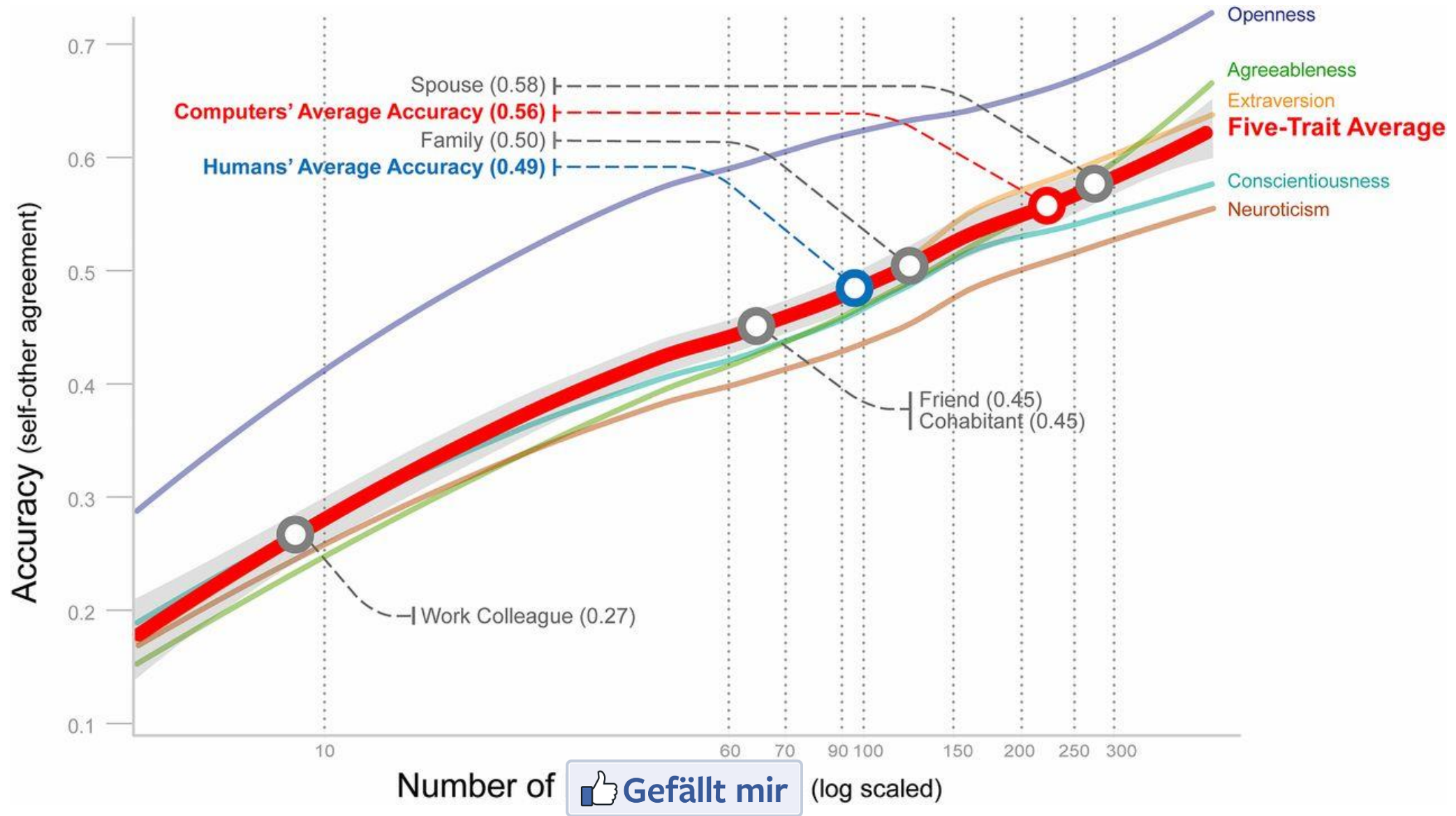


Verhalten



Was sind Daten? → Informationen

Die Magie der Facebook Likes



Quelle: Youyou, Kosinski & Stillwell, 2015

UNKNOWN SUSPECT

East Area Rapist/Golden State Killer
California
1976 to 1986



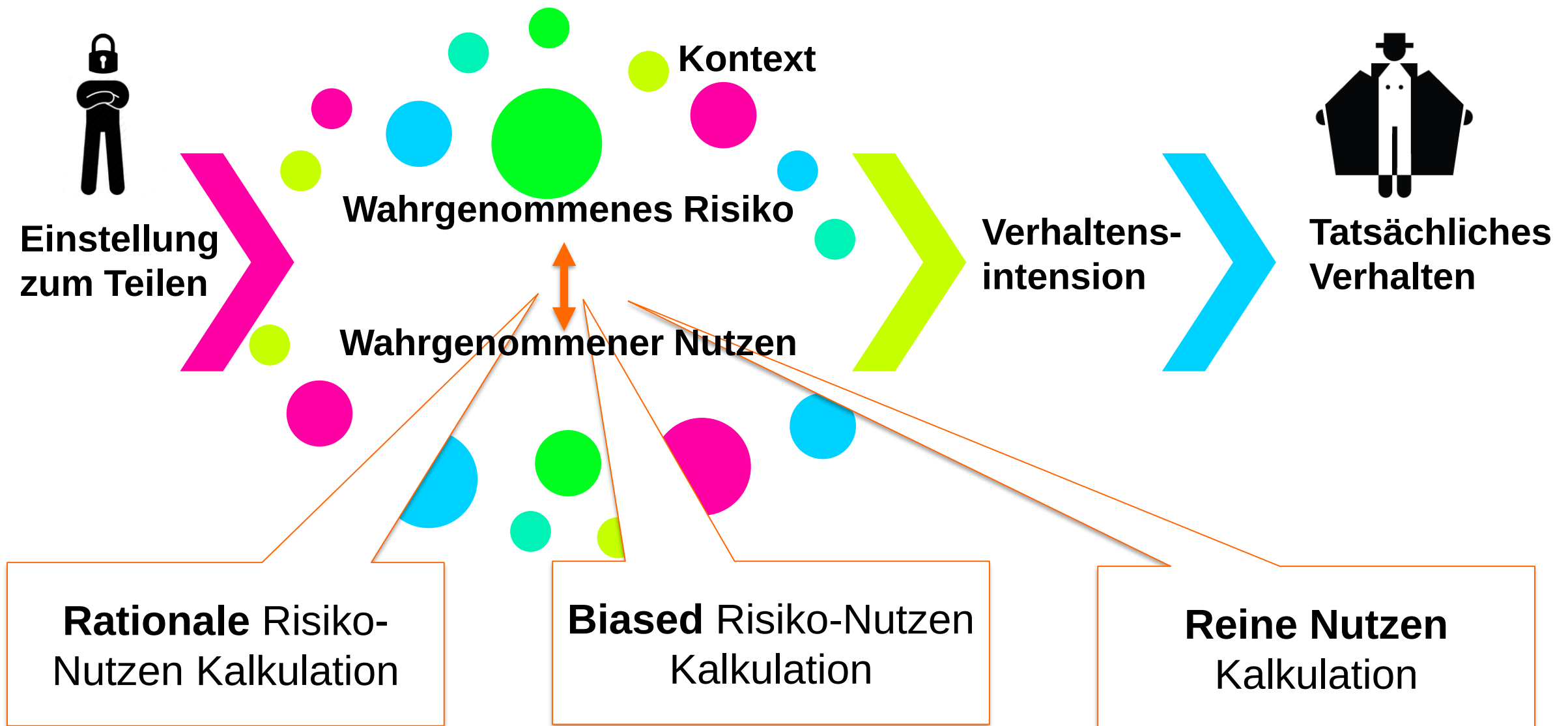
REWARD

The FBI is offering a reward of up to \$50,000 for information leading to the arrest and conviction of the individual known as the East Area Rapist/Golden State Killer.

REMARKS

The East Area Rapist/Golden State Killer (EAR/GSK) is described as a White male, currently thought to be between the ages of 60 and 75 years old, and approximately 5'10" tall. He may have/had blond or light brown hair and an athletic build. He may have had an interest in the military, or had some military training, leaving him familiar and proficient with firearms.

Quelle: NZZ, 2019; Bild: <https://www.marinij.com/2018/04/25/former-police-officer-is-suspected-golden-state-killer-east-area-rapist/>





WhatsApp

1. Wie viele von Ihnen würden mir Ihr Passwort verraten?

2. Wie viele von Ihnen würden mir Ihr Passwort für ein Stück Schokolade verraten?



1. 29.8%

2. 47.9%



Autorität

Gegenseitigkeit

...



iPhone X^s Max

6,5" Display**

Ab CHF 1298.45

Software License Agreements



1 / 451

ENGLISH

IMPORTANT: BY USING YOUR iPhone, iPad OR iPod touch ("iOS DEVICE"), YOU ARE AGREEING TO BE BOUND BY THE FOLLOWING TERMS:

- A. **APPLE iOS SOFTWARE LICENSE AGREEMENT**
- B. **APPLE PAY SUPPLEMENTAL TERMS**
- C. **NOTICES FROM APPLE**

**APPLE INC.
iOS SOFTWARE LICENSE AGREEMENT
Single Use License**

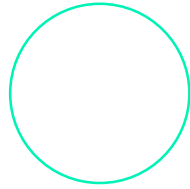
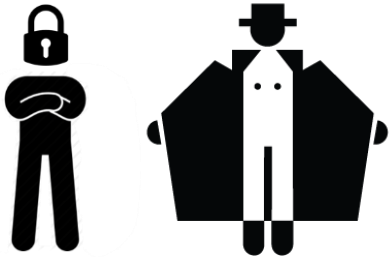
PLEASE READ THIS SOFTWARE LICENSE AGREEMENT ("LICENSE") CAREFULLY BEFORE USING YOUR iOS DEVICE OR DOWNLOADING THE SOFTWARE UPDATE ACCOMPANYING THIS LICENSE. BY USING YOUR iOS DEVICE OR DOWNLOADING A SOFTWARE UPDATE, AS APPLICABLE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, DO NOT USE THE iOS DEVICE OR DOWNLOAD THE SOFTWARE UPDATE.

IF YOU HAVE RECENTLY PURCHASED AN iOS DEVICE AND YOU DO NOT AGREE TO THE TERMS OF THE LICENSE, YOU MAY RETURN THE iOS DEVICE WITHIN THE RETURN PERIOD TO THE APPLE STORE OR AUTHORIZED DISTRIBUTOR WHERE YOU OBTAINED IT FOR A REFUND, SUBJECT TO APPLE'S RETURN POLICY FOUND AT <https://www.apple.com/legal/sales-support/>.

1. General.

(a) The software (including Boot ROM code, embedded software and third party software), documentation, interfaces, content, fonts and any data that came with your iOS Device ("Original iOS

**Beide
adressieren**



Drei Perspektiven beachten

1. Rationale

Kosten-Nutzen Kalkulation



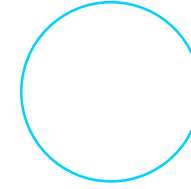
2. Biased

Kosten-Nutzen Kalkulation

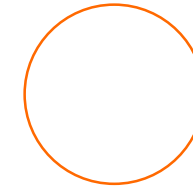
3. Reine Nutzen Kalkulation



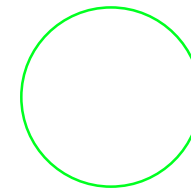
**Customer
Journey
beachten**

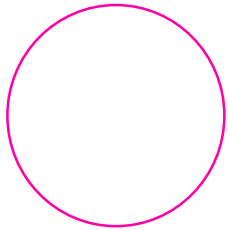


**Nicht nicht-
kommunizieren
ist nicht
möglich**

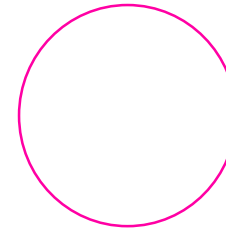


**Ethisch
handeln und
aufklären**





Tobias Tomczak
tobias.tomczak@unisg.ch
LinkedIn



Follow us on
LinkedIn



Q & A

The background is a dynamic, abstract digital scene. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are binary digits (0s and 1s) in various sizes and orientations, some appearing to float or flow. The overall effect is one of high-tech, futuristic digital connectivity.

**Diskutieren Sie mit:
#oevch und
[slido.com/bk2019](https://www.slido.com/bk2019)**

Intermezzo

ELT-Improvisationstheater

Tim-Owe GEORGI
Bruno DREYFÜRST



öV-Branche der Zukunft

Wie kann die Branche Daten sinnvoll einsetzen?

Béatrice Merlach

*Human Centered
Design Expert,
Creaholic*

Daniel Neuhaus

*CEO & Founder
Sqooba, Bern*

Judith Petermann
Büttler

*Beauftragte für
Information und
Datenschutz des
Kantons Solothurn*

The background is a dynamic, abstract digital scene. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are binary digits (0s and 1s) in various sizes and orientations, some appearing to float or flow. The overall effect is one of high-tech, futuristic digital connectivity.

**Diskutieren Sie mit:
#oevch und
[slido.com/bk2019](https://www.slido.com/bk2019)**

The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous glowing light streaks and rays that create a sense of motion and depth. Scattered throughout the scene are strings of binary code (0s and 1s) in various sizes and orientations, some appearing to float in the foreground while others recede into the distance. The overall effect is one of high-tech, futuristic digital connectivity.

Fazit und Ausblick

Ueli Stückelberger, Direktor VÖV

The background is a dynamic, abstract digital composition. It features a deep blue color palette with numerous white and light blue binary digits (0s and 1s) scattered throughout. Streaks of light and motion blur create a sense of rapid movement and data flow, particularly in the lower half of the image. A semi-transparent white rectangular box is positioned in the upper center, serving as a container for the text.

Nächste Branchentagung:

Donnerstag, 26. März 2020