sitios

Gut informiert unterwegs mit Rollstuhl, Kinderwagen und schwerem Gepäck - dank Opendata.

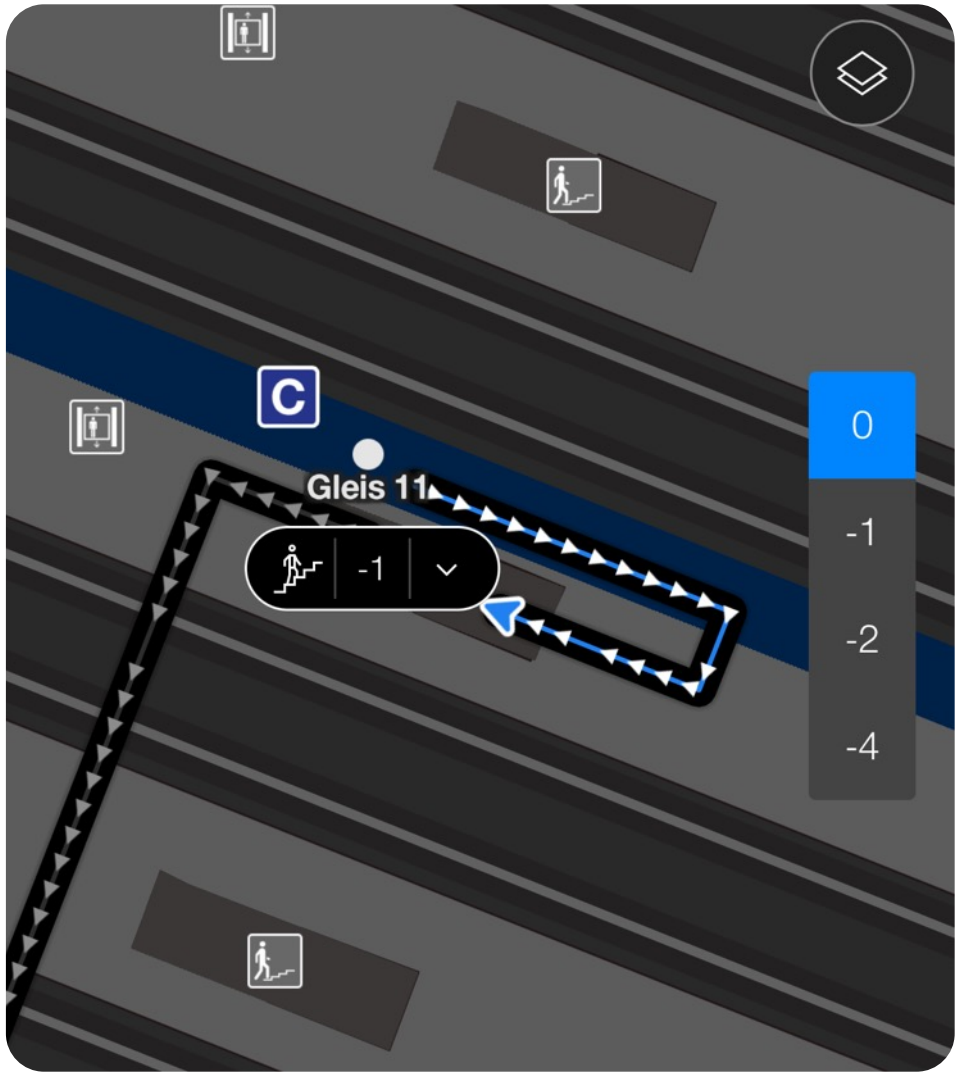
DINAcon 2023 | 23. November

Beispiel

1

sitios


Richtung St. Gallen
FS R
11:28
Zürich HB
Gl. 33
Selbstein-/Ausstieg möglich
Umsteigen
11:35
Zürich HB
Gl. 5
Ein-/ Ausstieg mit Voranmeldung möglich.
IR 75
1.
2.
Richtung Konstanz
FS
12:50
Konstanz
Gl. 2
Keine Informationen vorhanden


C
Gleis 11
-1
0
-1
-2
-4

sitios

sitios

Gare Les Avants

Bahnhof

! Teilweise zugänglich

Selbstdeklarierter Inhalt
Dieser Inhalt wurde vom Betreiber des Angebots geprüft.

Überprüfe die Zugänglichkeit dieser Lokalität

Wie bist du unterwegs? Passe die Auswahl deinen Bedürfnissen an.

◉ Aktivrollstuhl ○ Keine Einschränkung ○ E-Rollstuhl ○ Kinderwagen ○ Scewo BRO

Toiletten

- Zugang von Haupteingang
  Tür, Tür, Ebenerdig, Wegeigenschaften, Bodenbeschaffenheit — Details anzeigen +
- WC
  Damen-Toilette, Herren-Toilette — Details anzeigen +
- Waschbecken
  Unterfahrbar — Details anzeigen +
- Platzverhältnisse
  Sehr eng — Details anzeigen +
- Wickeltisch
  Nicht vorhanden — Details anzeigen +

Quai 1

- Zugang von Haupteingang
  Ebenerdig, Wegeigenschaften, Bodenbeschaffenheit — Details anzeigen +
- Zugang von Wartezimmer
  Tür — Details anzeigen +
- Wartebereich
  Wartebereich — Details anzeigen +
- Automat
  Automat — Details ausblenden −

Automat

- Höchste Höhe der relevanten Knöpfe
  141 cm
- Länge gefällefreie Fläche davor
  500 cm
- Breite gefällefreie Fläche davor
  500 cm
- Vorlesefunktion
  Nicht vorhanden
- Bedienung
  Nur Touchscreen

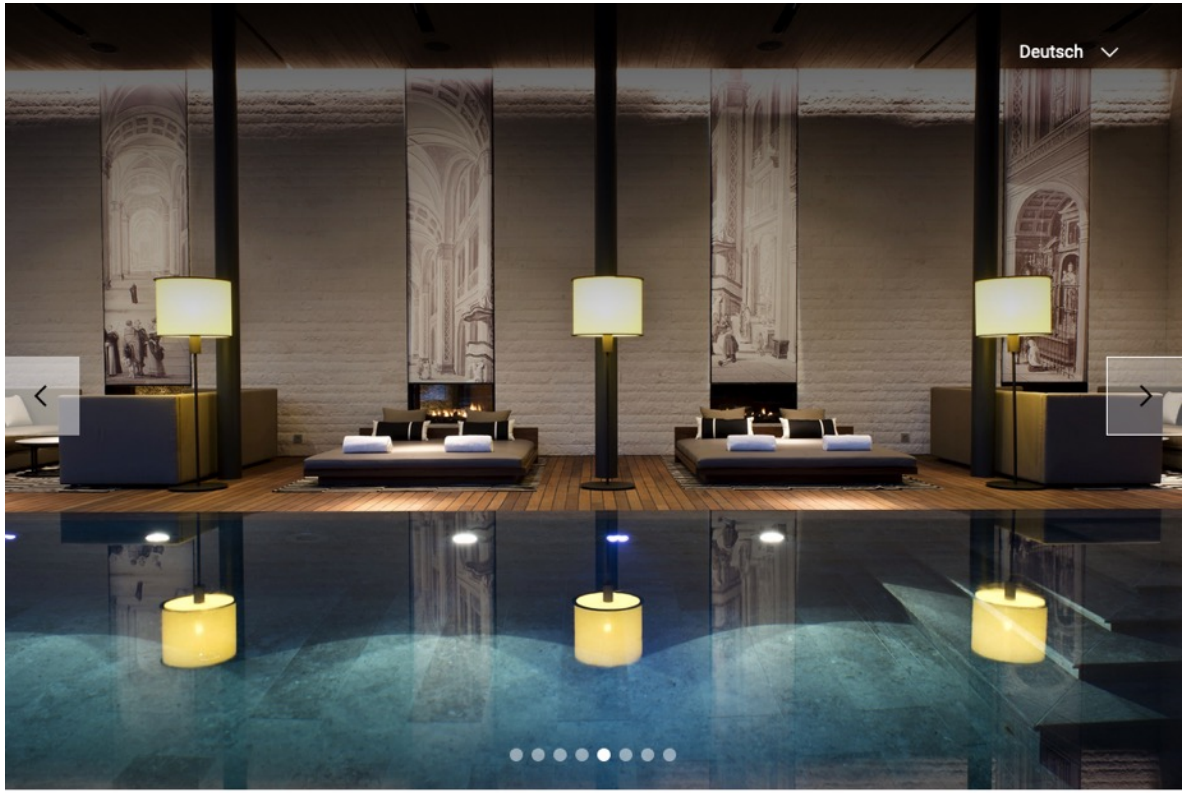
sitios


Beispiel
2
HOTEL WASHINGTON SQUARE
105
101
sitios

sitios


sitios


Format MA Information (1/3)
Neue Mitarbeiter Oktober
sitios



The Chedi Andermatt

Hotel

! Teilweise zugänglich

Selbstdeklarierter Inhalt
Dieser Inhalt wurde vom Betreiber des Angebots geprüft.

Besucherparkplatz

Parkfeld
Behindertenparkplatz
Details anzeigen +

Terrasse

Zugang von Lobby
Rampe (auf Anfrage)
Details ausblenden —

Rampe (auf Anfrage)

Rampenart Auf Anfrage	Gefälle 29 %
Rampenlänge 180 cm	Rampenbreite 73 cm
Absturzsicherung Nicht vorhanden	Handlauf Nicht vorhanden
Überdachung Nicht vorhanden	Mit Richtungsänderung Nein

Tisch
Tief (Lounge- / Couchtisch), Unterfahrbarer Tisch
Details anzeigen +

Platzverhältnisse
Grosszügig
Details anzeigen +

Hallenbad

Zugang von Lobby
Ebenerdig
Details anzeigen +

Pool
Für Rollstuhlfahrer geeignet
Details anzeigen +

sitios

Beispiel

3

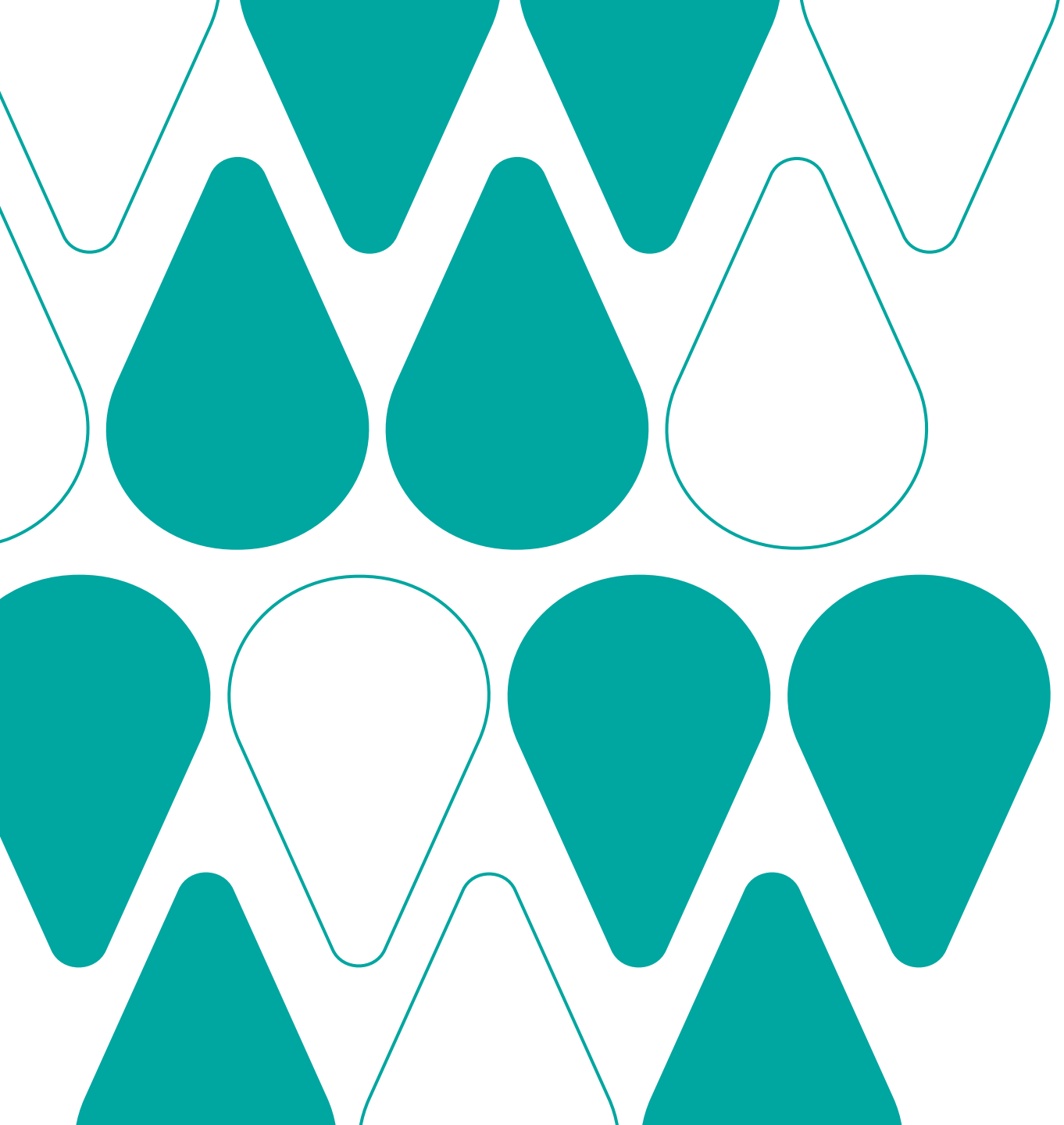
sitios


sitios


10:32
Change
C
-4
Track 5
0
-1
-2
-4


Donnerstag, 16. März
15:51
sitios.info
jetzt
Störungsmeldung
Aufzug zu Gleis 3 am Bhf. St.Gallen ausser Betrieb aufgrund von Wartungsarbeiten
Zum Öffnen nach oben streichen

sitios



Christoph Inhelder
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sitios

ETH zürich

Institute of Cartography and Geoinformation, D-BAUG

Computational Movement Analysis for Sustainable and Intelligent Mobility

Yanan Xin (yanxin@ethz.ch)
Institute of Cartography and Geoinformation,
ETH Zurich
November 23, 2023

V2G4CarSharing: Mobility-Aware V2G Optimization for Car-Sharing

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Federal Office of Energy SFOE

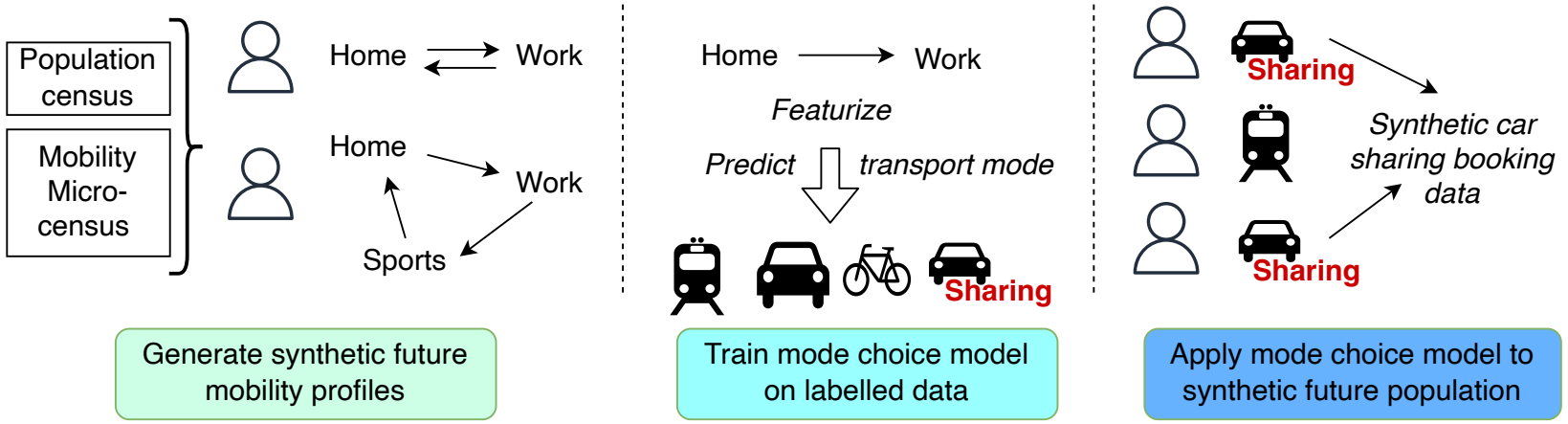
ETH zürich HIVE POWER mobility car sharing

Image credit: https://www.mobility.ch/en/sustainability/e-mobility

- Goal: evaluate and optimize the potential benefits of integrating V2G with car-sharing
  - How to optimize the charging/discharging schedules of shared EVs given the flexibility of bookings?
  - How does the future penetration rate of shared EVs influence the feasibility and benefits of coupling V2G with car-sharing?
  - How can a dynamic pricing strategy help with the integration?

Potential Benefits Given *Future Mobility* Bookings – Simulate Future Scenarios

Generate Future Synthetic Car-Sharing Bookings:



Generate synthetic future mobility profiles

Train mode choice model on labelled data

Apply mode choice model to synthetic future population

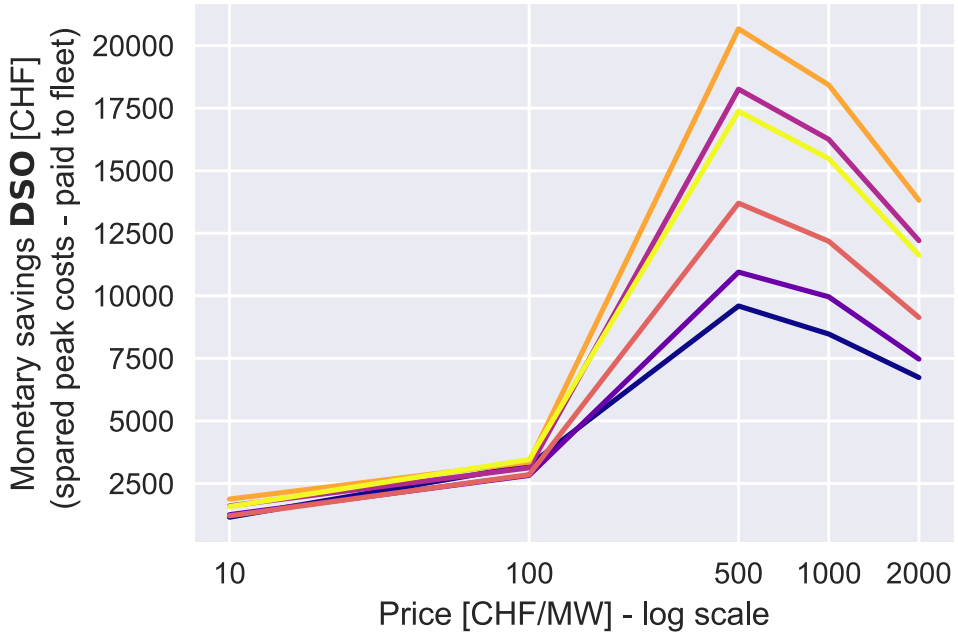
Design Future Car-Sharing Service Scenarios:

- **Scenario 1**: Slow growth - User-centered (×1.15): 115k U, 3500 V, 1750 S
- **Scenario 2**: Intermediate growth - User-centered (×1.5): 150k U, 4500 V, 1750 S
- **Scenario 3**: Fast growth - User-centered (×2.5): 250k U, 7500 V, 1750 S
- **Scenario 4**: Fast growth - Restrictive: 250k U, 5000 V, 1750 S
- **Scenario 5**: Fast growth - V2G-affine: 250k U, 10000 V, 1750 S
- **Scenario 6**: Fast growth - Expand: 250k U, 7500 V, 3000 S

ETH zürich HIVE POWER mobility car sharing

Wiedemann, N., Xin, Y., Medici, V., Nespoli, L., Suel, E. and Raubal, M., 2023. Vehicle-to-grid for car sharing--A simulation study for 2030. *arXiv preprint arXiv:2311.07349*.

Potential Benefits Given *Future Mobility* Bookings – Monetary Savings



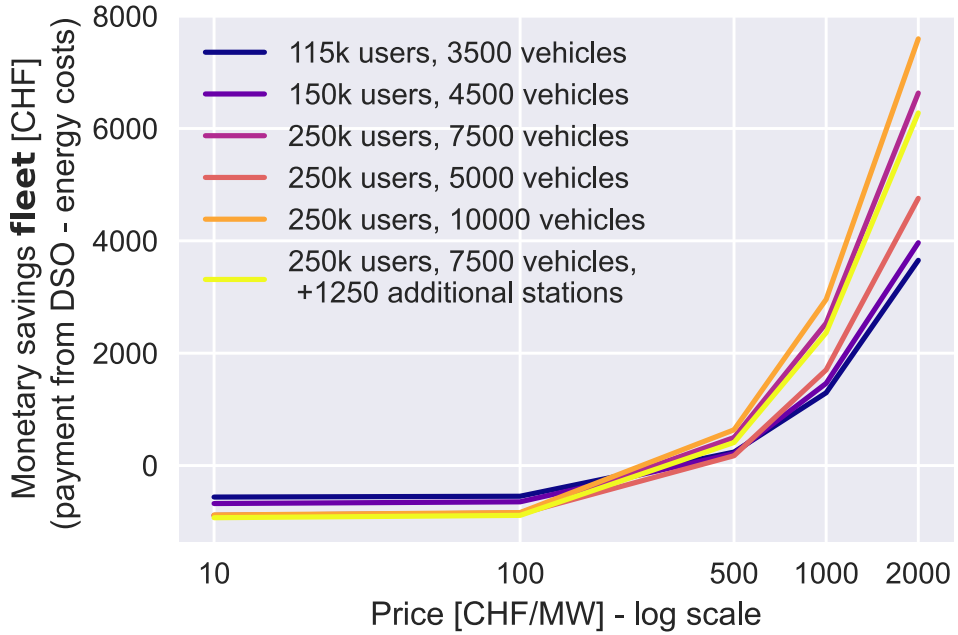


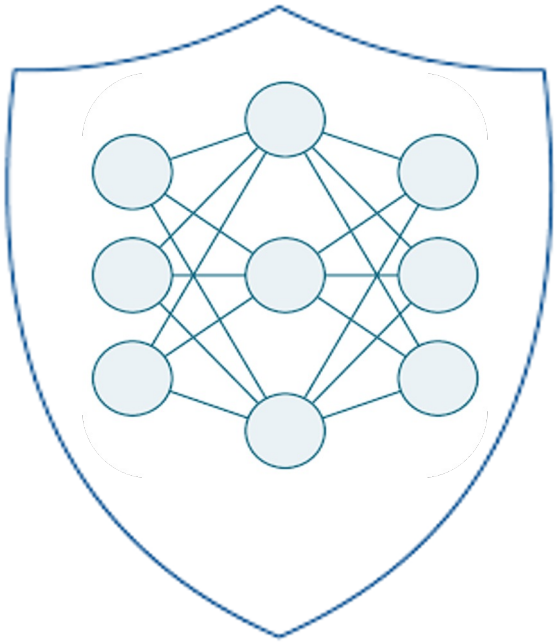
Figure: Monetary savings for DSO and fleet owner involved in V2G.

Nespoli, L., Wiedemann, N., Suel, E., Xin, Y., Raubal, M. and Medici, V., 2023. National-scale bi-directional EV fleet control for ancillary service provision. *Energy Informatics, 6(1):40.*

Interpretable and Robust Machine Learning for Mobility Analysis

ETH zürich SDSC

HASLERSTIFTUNG

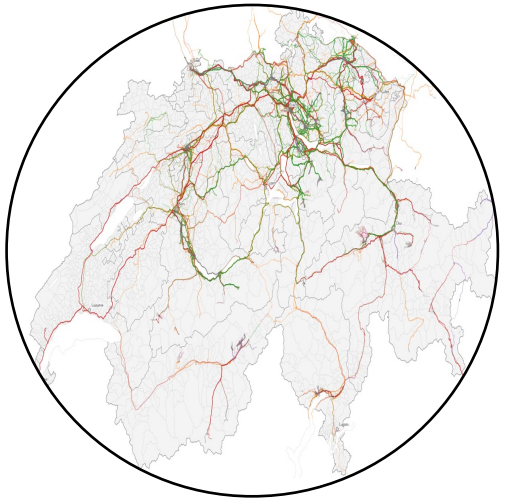


- Goal: Using causal inference to improve the interpretability and robustness of machine learning models for mobility analysis
- *Interpretability*:
  - Interpret the impact of data representation
  - Identify important features
- *Robustness*:
  - Characterize confidence of model prediction
  - Robustness to geometric change
  - Robustness to spatiotemporal domain shifts

Xin, Y., Tagasovska, N., Perez-Cruz, F., & Raubal, M. (2022, November). Vision paper: causal inference for interpretable and robust machine learning in mobility analysis. In *Proceedings of the 30th International Conference on Advances in Geographic Information Systems* (pp. 1-4).

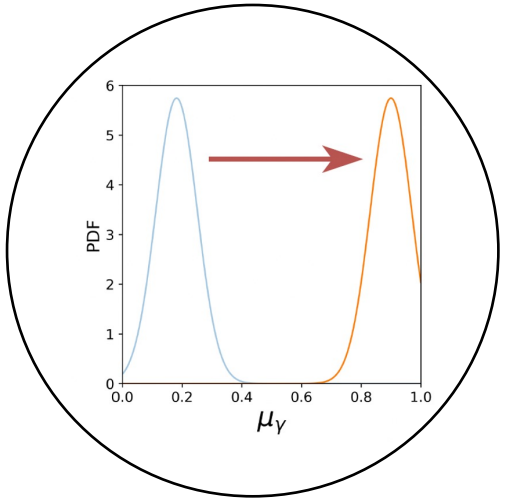
Mobility Prediction Beyond Accuracy – Robustness

Observational Data



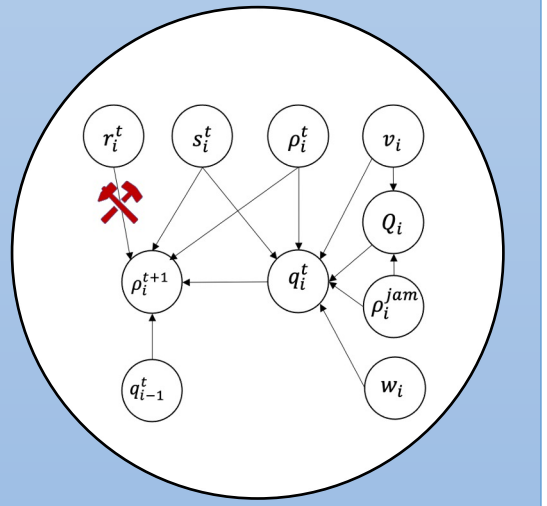
	Accuracy
Model 1	✓
Model 2	✓

Mobility Pattern Change



	Accuracy
Model 1	✓
Model 2	✗

Interventional Data



Mechanistic Mobility Simulator

Causal Intervention

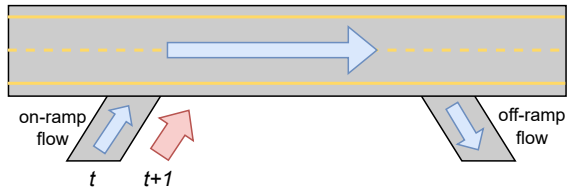
Uncertainty Estimation

ETH zürich MIE lab SDSC

Xin, Y., Hong, Y., Dirmeier, S., Perez-Cruz, F. and Raubal, M., 2023, June. Evaluating the Robustness of Deep Learning Models for Mobility Prediction Through Causal Interventions. In Center for Sustainable Future Mobility: Symposium 2023.

Case Studies of the Robustness Framework

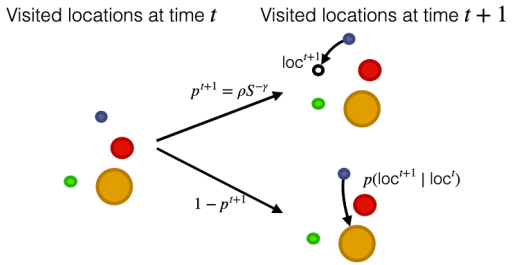
Traffic Forecasting (aggregated mobility):



Synthetic data are generated using the CTM macroscopic traffic simulator.

1) The intervention on speed has minor or no impacts on the prediction accuracy.
2) Prediction accuracy drops when intervening the flow arrival rate and off-flow, and the extent aligns with the strength of the intervention.

Next Location Prediction (individual mobility):



Synthetic data are generated using the density-EPR and individual preferential transition mechanistic simulators.

1) Prediction performance variations align with the strength of the intervention.
2) Interventions on individual location preferences have more significant impacts than the overall population-level location attractiveness.

Hong, Y., Xin, Y., Dirmeier, S., Perez-Cruz, F. and Raubal, M., 2023. Revealing behavioral impact on mobility prediction networks through causal interventions. arXiv preprint arXiv:2311.11749.

MIE Lab Team

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Dr. Yanan Xin

Lab Leader and Postdoc

Henry Martin

Doctoral Student

Ye Hong

Doctoral Student

Nina Wiedemann

Doctoral Student

Ayda Grisiute

Doctoral Student

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ETH zürich MIE lab

Thank you!

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https://gis.ethz.ch/

Mobility data and its role in achieving sustainability

DINAcon 2023 - Konferenz für digitale Nachhaltigkeit, 23.11.2023

Fruzsina Homolka, Lead Data Steward

Enterprise Architecture & Standards IT/OT - Digital Services

Federal Roads Office Switzerland (FEDRO)

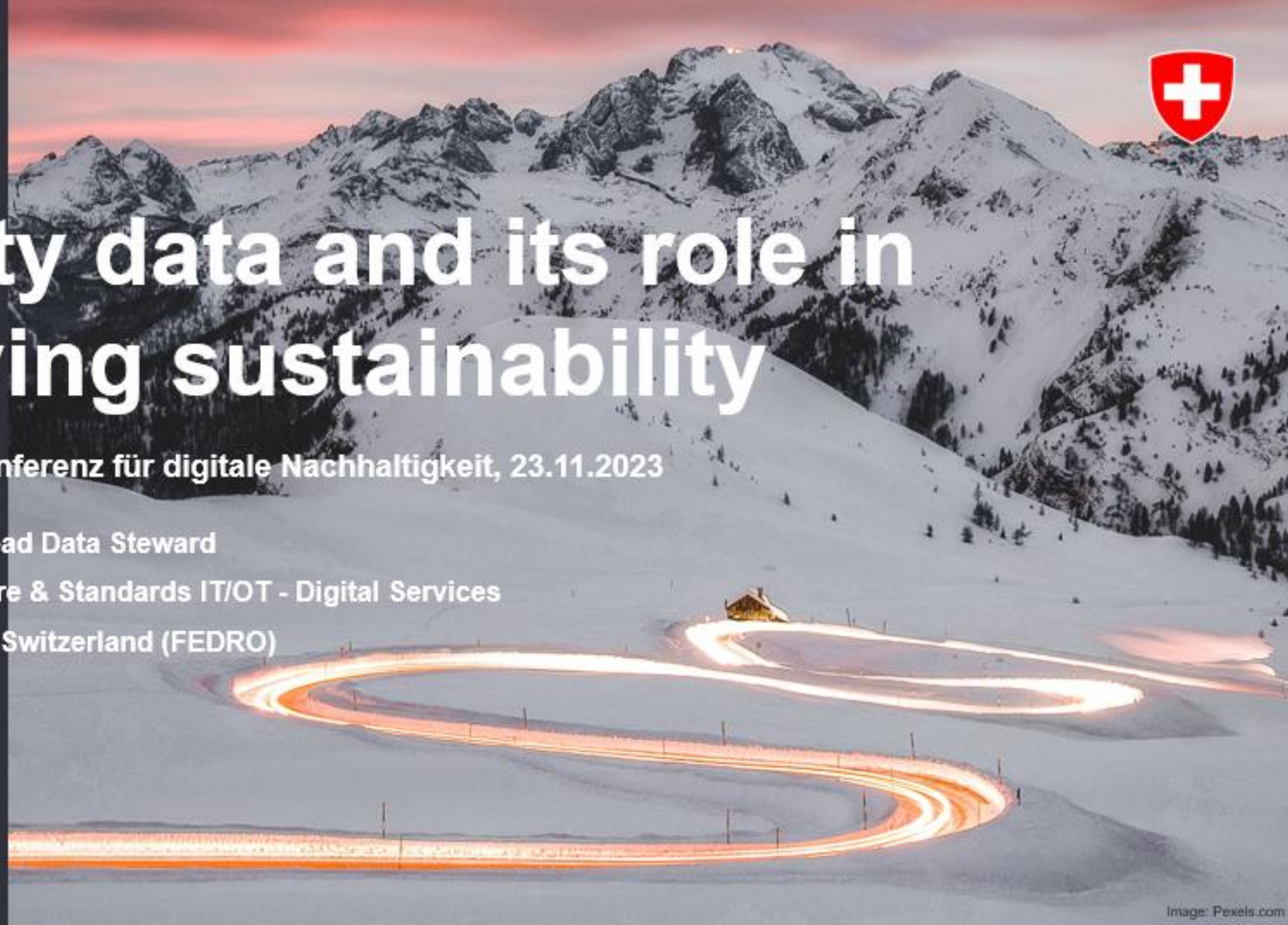


Image: Pexels.com

Lead Data Steward

Who am I?

Skills

Cross-cutting

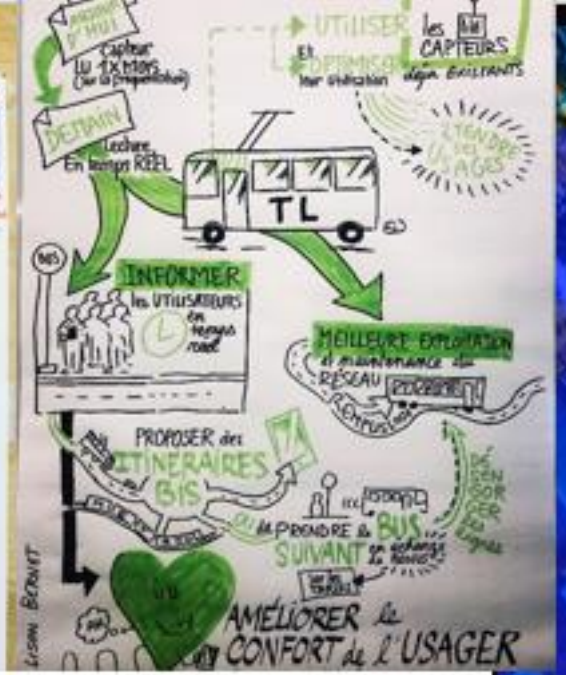
Data Network in CH

People-person

Contact

Fruzsina Homolka

Federal Roads Office (FEDRO)



The creative power of #collectiveintelligence - #collaboration and #cocreation with #SIG, where the individual #innovativeenergies are unite ...see more

30 4 comments • 2,146 views

Mobility interlinks and contributes to all SDGs

Fruzsina Homolka - Lead Data Steward
Enterprise Architecture & Standards IT/OT, Digital Services, Federal Roads Office CH (FEDRO)

Mobility is defined…

"potential for movement"

"ability to get **from A** to **B**"

Data is…

"digital representation of a real-world object"

Fruzsina Homolka - Lead Data Steward
Enterprise Architecture & Standards IT/OT, Digital Services, Federal Roads Office CH (FEDRO)

From A to B…

Mobility is diverse…

Fruzsina Homolka - Lead Data Steward
Enterprise Architecture & Standards IT/OT, Digital Services, Federal Roads Office CH (FEDRO)











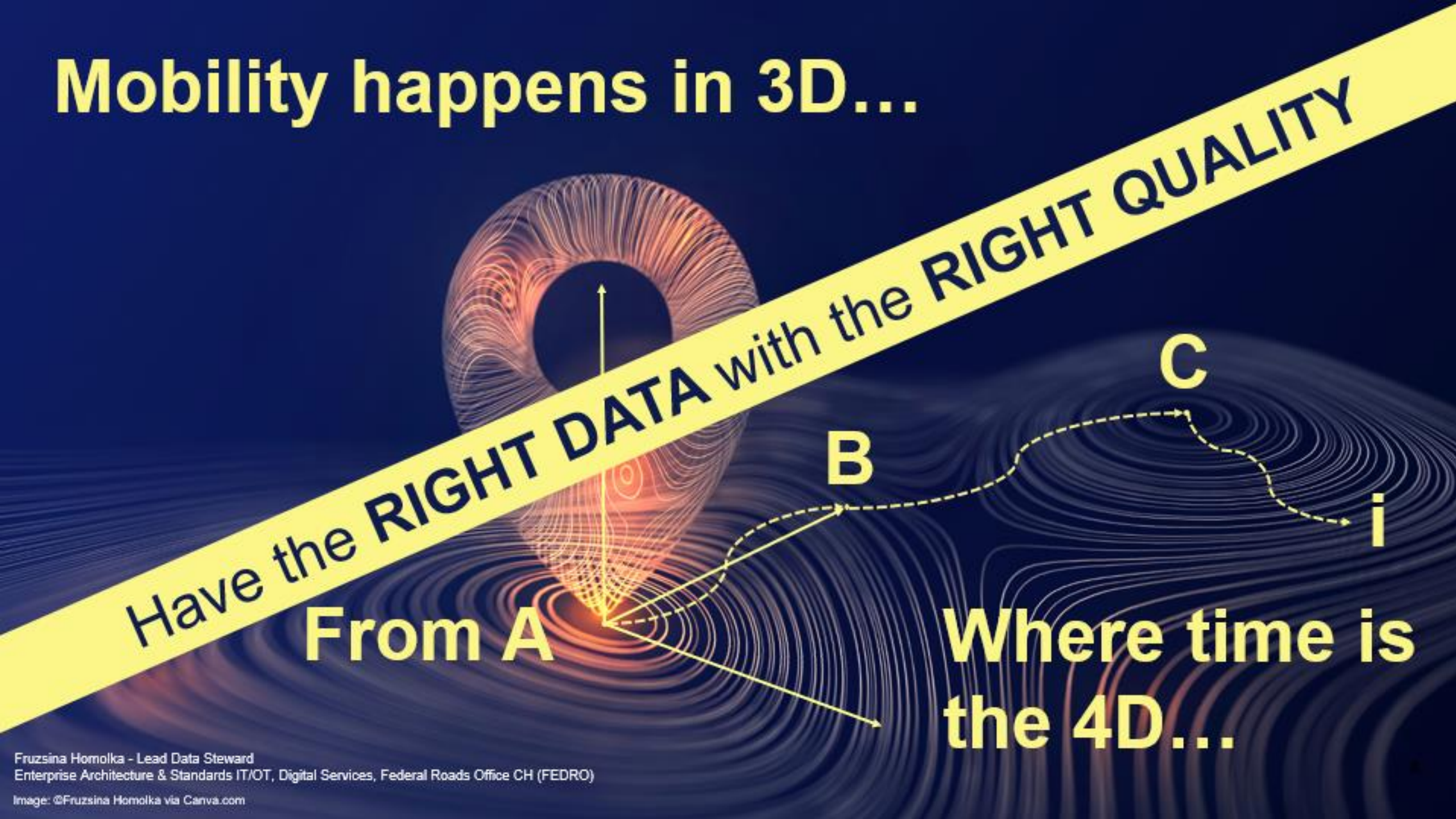





Fruzsina Homolka - Lead Data Steward
Enterprise Architecture & Standards IT/OT, Digital Services, Federal Roads Office CH (FEDRO)

Mobility happens in 3D…

Have the **RIGHT DATA** with the **RIGHT QUALITY**



Fruzsina Homolka - Lead Data Steward
Enterprise Architecture & Standards IT/OT, Digital Services, Federal Roads Office CH (FEDRO)

Environmental

Social

Economic

Fruzsina Homolka - Lead Data Steward
Enterprise Architecture & Standards IT/OT, Digital Services, Federal Roads Office CH (FEDRO)

Fruzsina Homolka

Lead Data Steward

Enterprise Architecture & Standards
IT/OT - Digital Services,
Federal Roads Office CH (FEDRO)
058 483 62 28
077 474 84 42
fruzsina.homolka@astra.admin.ch

Vielen Dank für Eure Aufmerksamkeit!

Thank you for your kind attention!

Merci de votre attention !

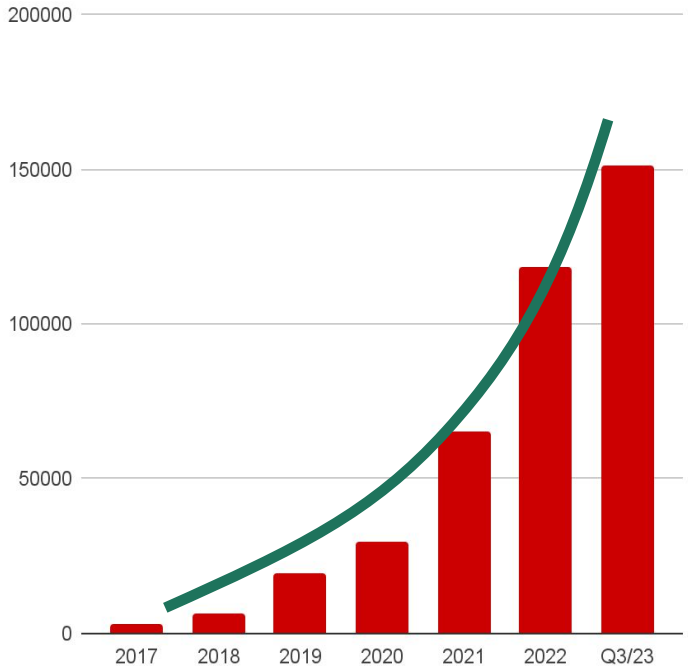
FAIRTIQ

Neue Technologie = neue Möglichkeiten = neue Bedürfnisse

“Bestmögliche ÖV-App im Moment. Ein Gibbon-Affe mit drei Gin-Tonic intus könnte sie bedienen…”

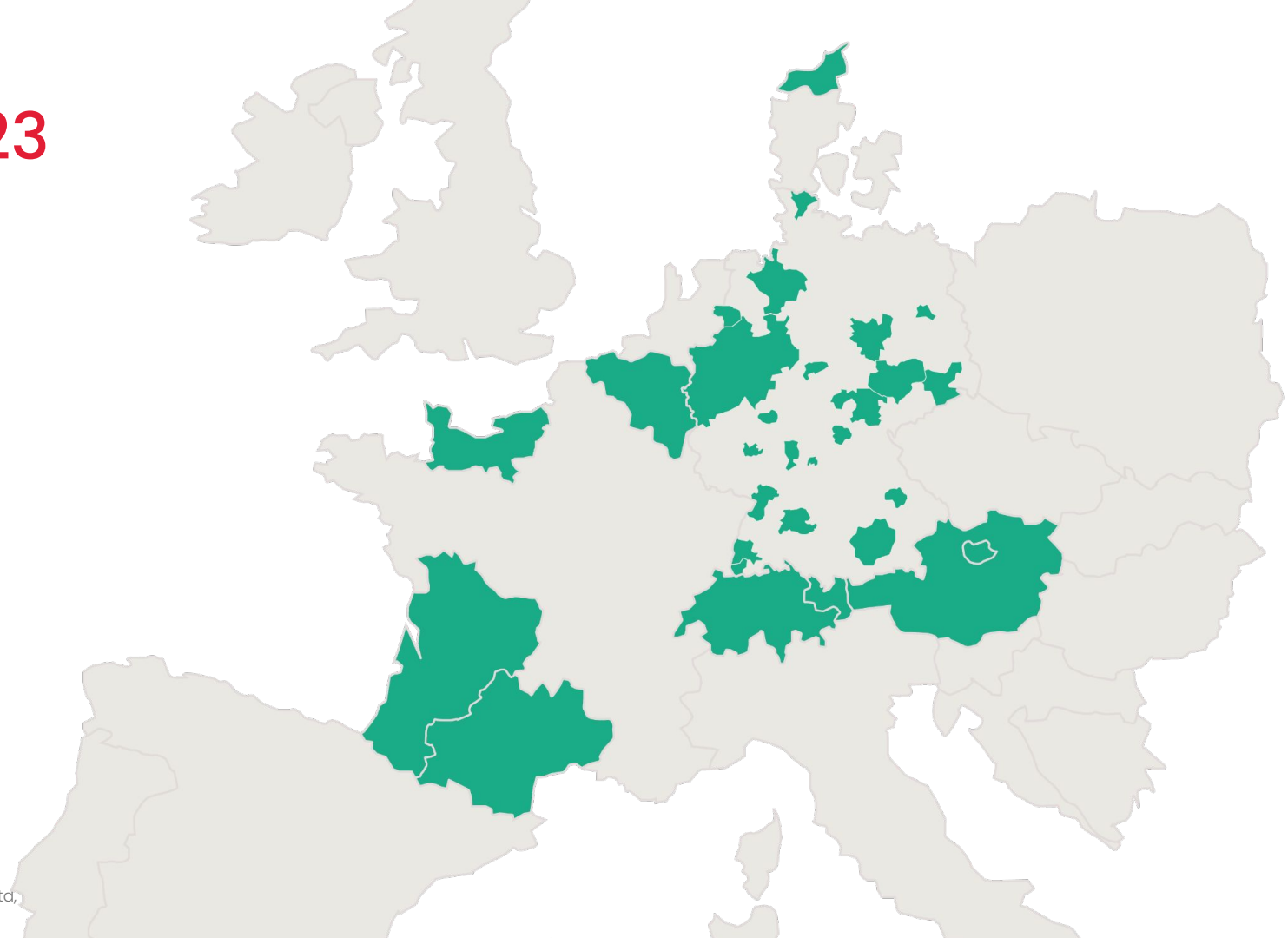
Exponentielles Wachstum

Anzahl Fahrten mit FAIRTIQ (Ø/Tag)

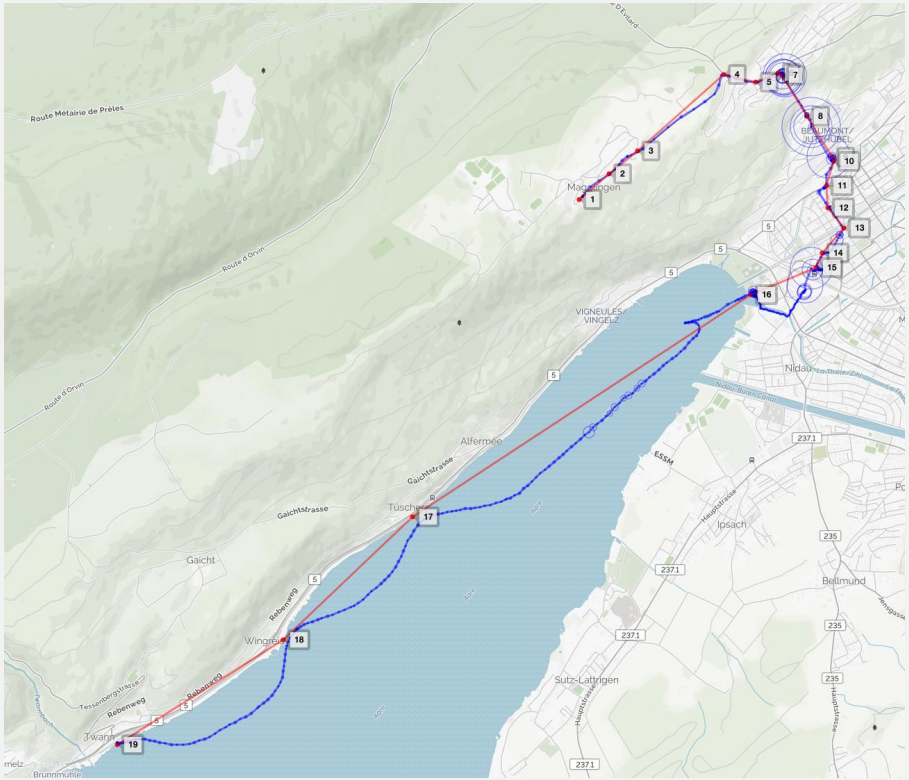


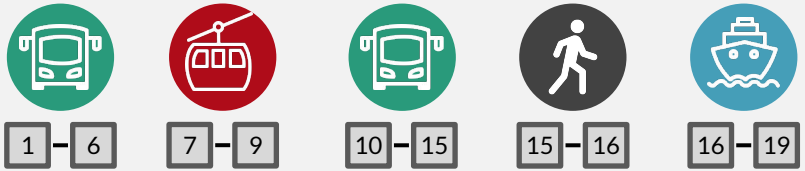
Total: > 120m Fahrten

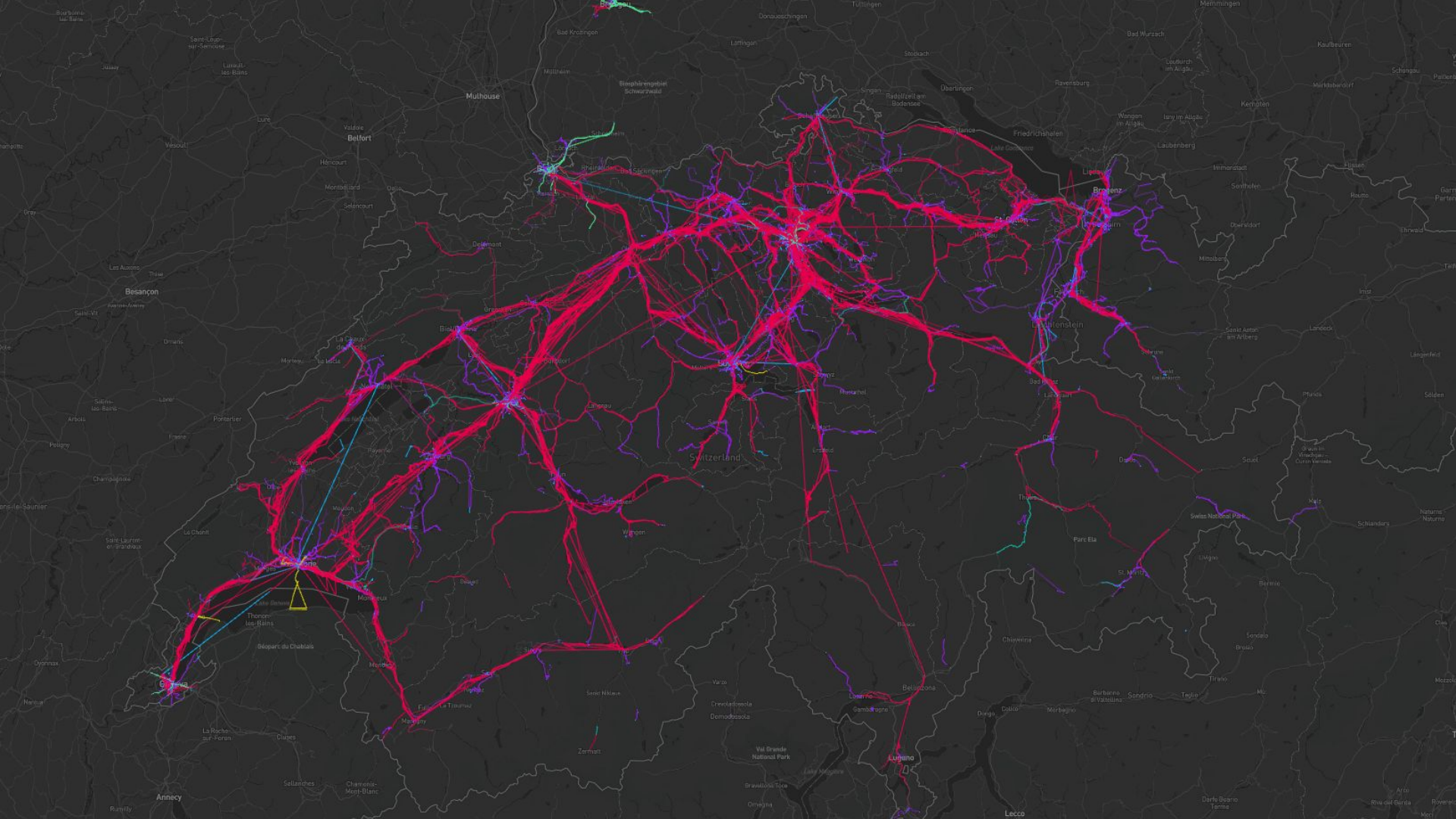
2023



Von Lokalisierungsdaten zu Reisedaten

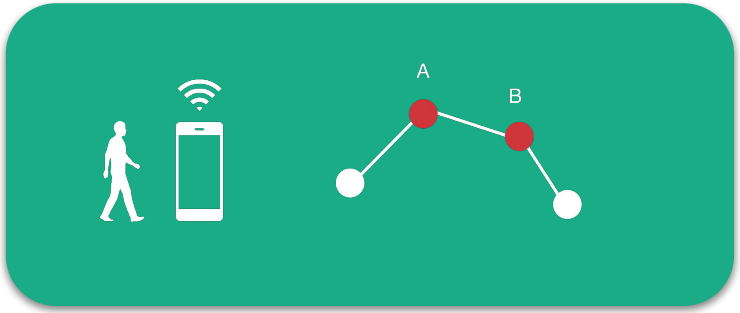


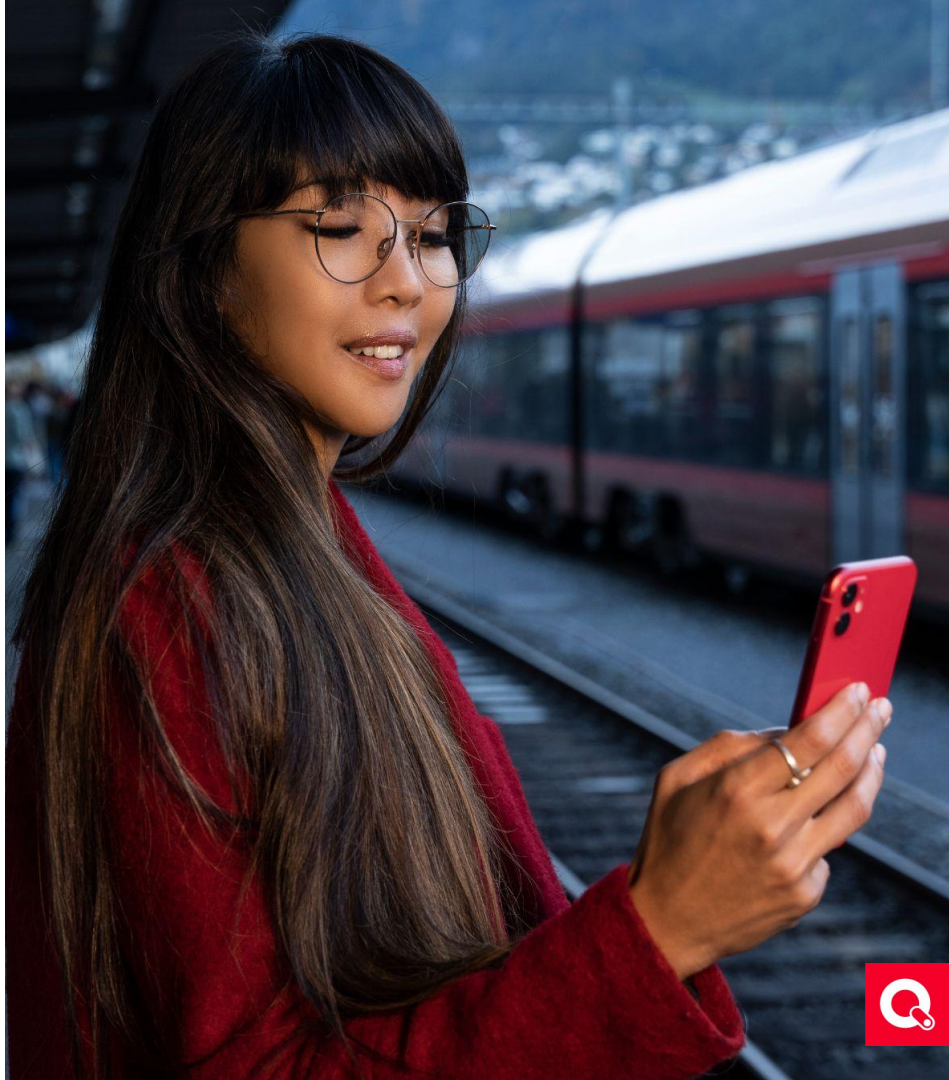



Basel
Mulhouse
Belfort
Besançon
Switzerland
Bregenz
Lugano
Annecy
Lecco

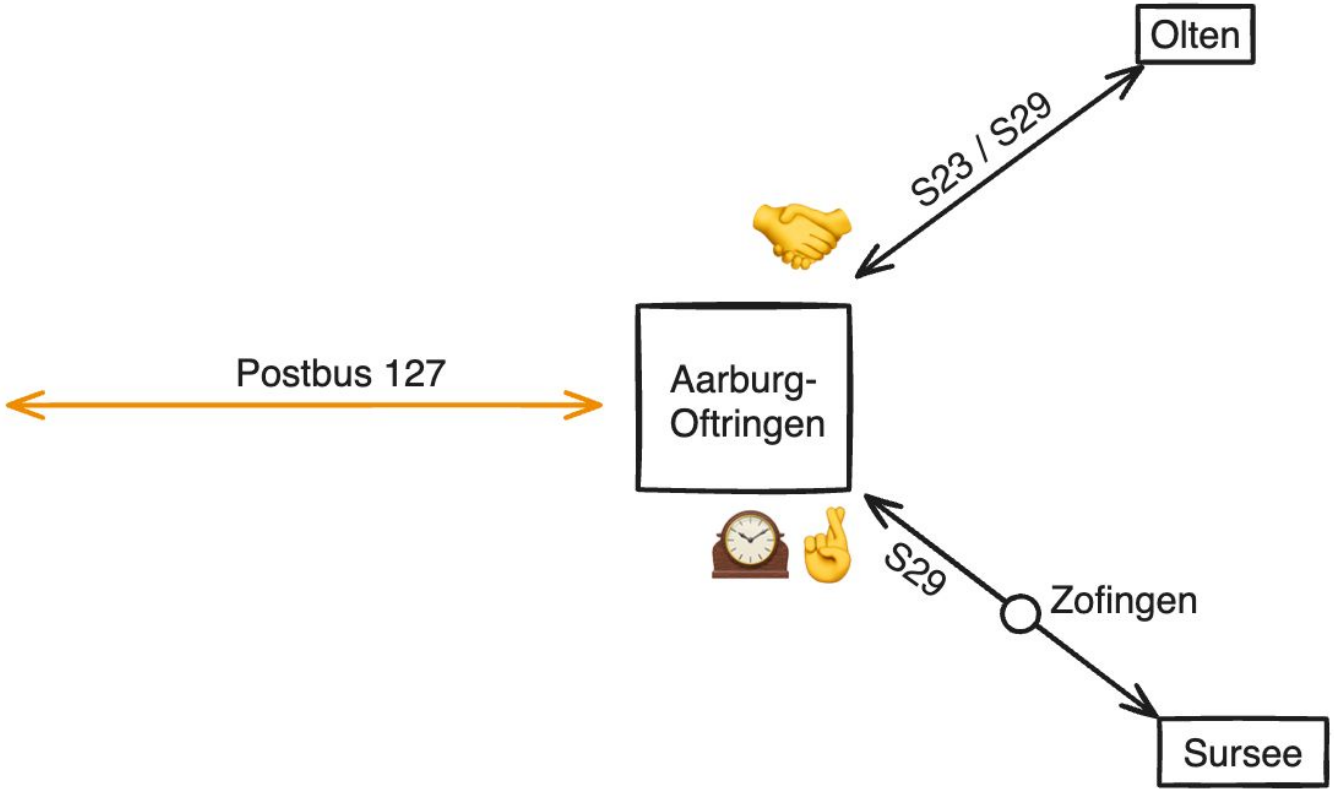
Daten

- Detaillierte Infos über Route, Umstiege, Quelle-Ziel, usw.
- **Tagesaktuell**

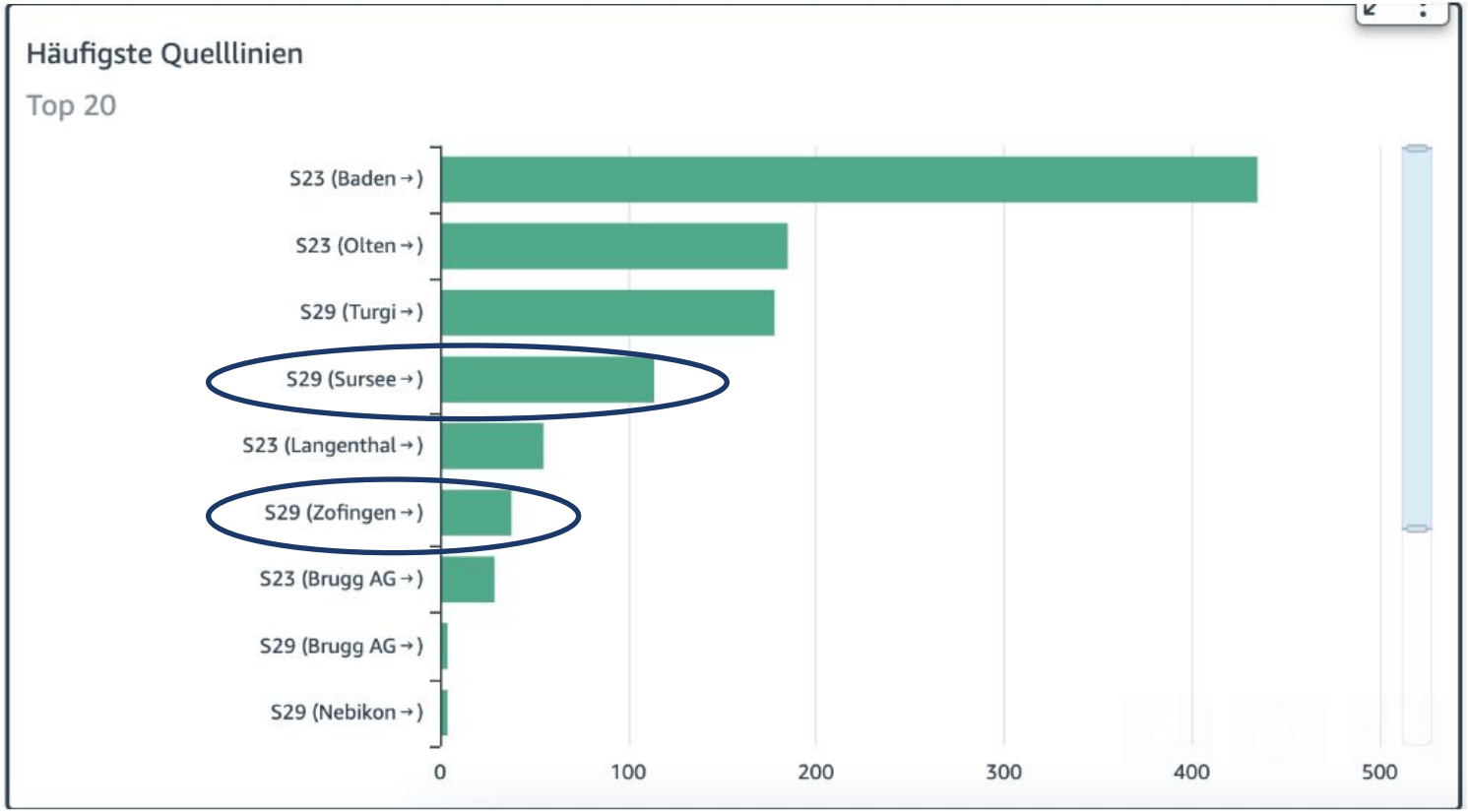




Anschlussoptimierung - lohnt sich eine Warteregel?

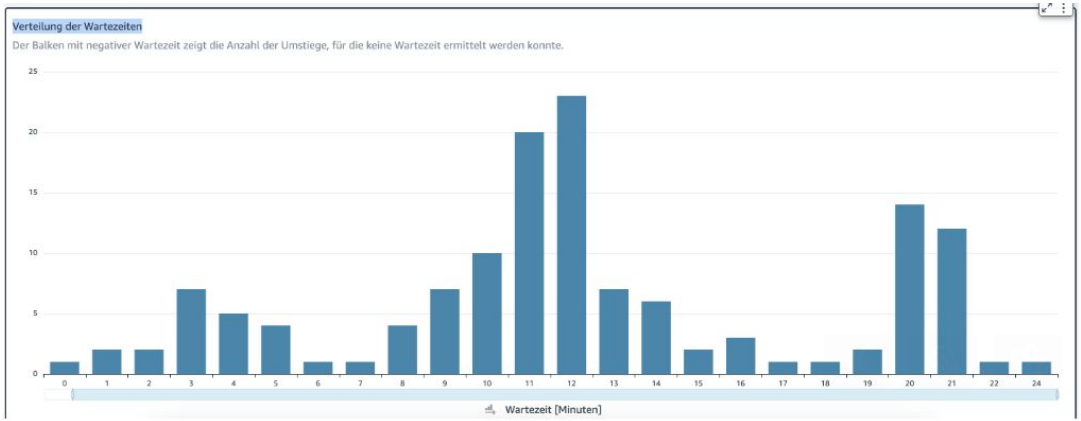


Häufigste Umstiege - von Linien an Hst. Aarburg-Oftringen mit Ziellinie Bus 127

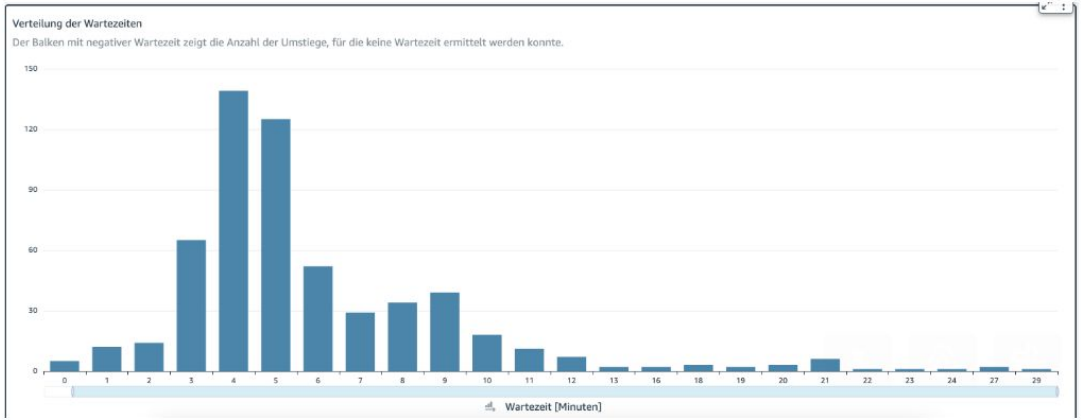


Insgesamte AT-Reisende (letzte 12 Monate)

Verteilung der Wartezeiten von S29 (Aus Sursee/Zofingen) Richtung Bus 127

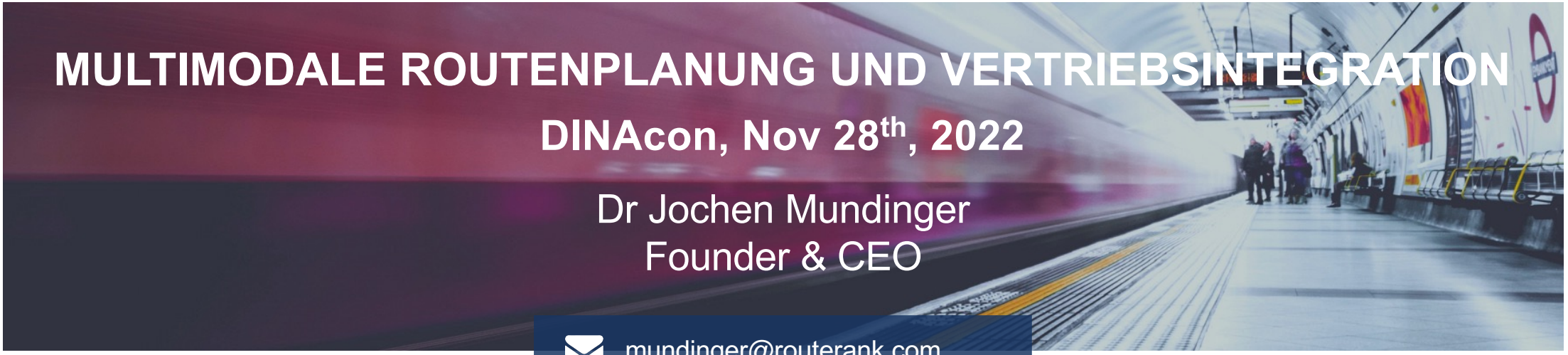


Verteilung der Wartezeiten aus Olten Richtung Bus 127



Neue Technologie = neue Möglichkeiten = neue Bedürfnisse

routeRANK FOR BUSINESS



MULTIMODALE ROUTENPLANUNG UND VERTRIEBSINTEGRATION

DINAcon, Nov 28th, 2022

Dr Jochen Mundinger
Founder & CEO

mundinger@routerank.com
https://business.routerank.com

routeRANK Ltd, EPFL Innovation Park, CH-1015 Lausanne

routeRANK FOR BUSINESS

About routeRANK

- Mobility platform
  - Door-to-door, multimodal (intermodal), multicriteria
- Different SaaS products based on common technology platform
  - B2B2C, in particular white label mobility portals (e.g. MSPs)
  - B2BCorporate, in particular corporate mobility portals
- Distribution in two ways
  - Products based on open data (business)
  - Tickets within them (bookings)

routeRANK FOR BUSINESS

What we use

- Open data
  - Key
- Open source
  - Important
- Open service
  - Standard vs. with personalization?

routeRANK FOR BUSINESS

What is next in Switzerland

- Good open data platforms (public transport, shared mobility, road)

- Mostly solved
  - Integration in product distribution (business)
  - Integration in ticket distribution within them (bookings)

- Our wish list
  - Improve reliability of existing data (e.g. internal quality checks)
  - Extend formats (e.g. HRDF/GTFS-RT vs. VDV > Siri/NeTEx)
  - Extend scope (e.g. polylines)

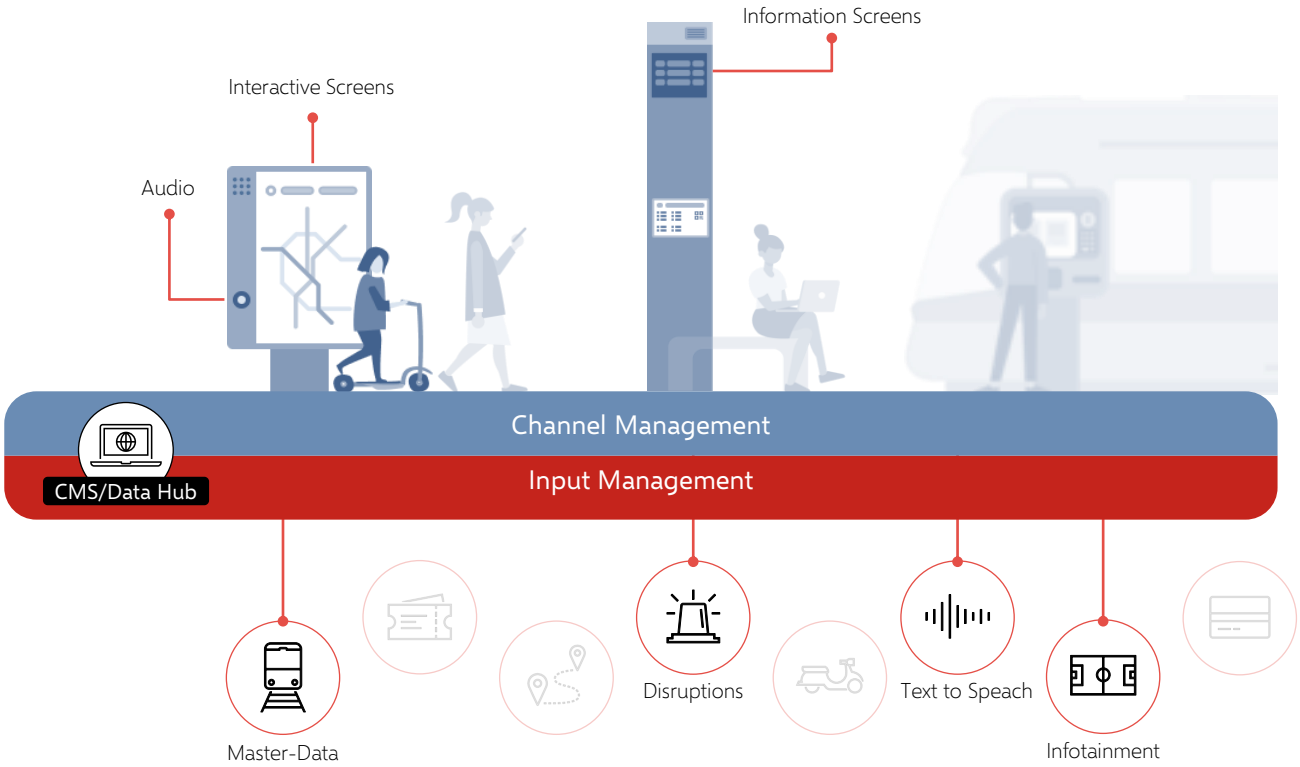
Wie kann nachhaltige Digitalisierung in der Kundeninformation erfolgen?

Solutions for
Transport Companies

DINAcon

netcetera

Digitale Nachhaltigkeit in der Fahrgastinfo



Customer Examples


Abfahrt Départ Partenza Departure
Herisau
SOB SÜDOSTBAHN
Gossau Urnäsch Appenzell
Gleis 11 – 12
Gleis 2
Gleis 3
12:05 S2
Nesslau-Neu St. Johann
Schachen
Degersheim
Mogelsberg
Brunnadern-N.
Lichtensteig
WC

Smarte Nachhaltigkeit

Dimm-/Schlummermodus Viertelstunde nach erster/letzter Fahrt

Simplify Mobility. Simplify Everything.