



Austrian Technologies for Hong Kong's Mobility Initiatives

Tuesday, 6th December 2022





JOSEPH CHIN

SOLUTION CONSULTANT ASIA
KAPSCH TRAFFICCOM





Challenging limits.

Company Presentation. Kapsch TrafficCom.

Challenging limits.

It is important that we push beyond conventional limits. We always question existing concepts, and redefine them to forge ahead with innovations.

Because we always harness technology to the benefit of our customers. Because we do not accept boundaries, we do not fall behind. Because we have been a trendsetter, visionary, and pioneer for more than almost 130 years.

Our Executive Board.



Georg Kapsch
CEO



Andreas Hämmerle
CFO



Alfredo Escribá
CTO

We - At a Glance.



Market focus.

Our offering encompasses solutions in tolling and traffic management. Regionally the focus is on Europe, the Americas and Oceania.



Global presence.

Implementation of transport systems in more than 50 countries globally. Leading in research and development in more than 25 offices worldwide.

Competences.

Consultation, development, creation, commercial and technical operation.



Solutions.

Our end-to-end solutions cover the entire value chain of our customers as a one-stop shop, from components and design to the installation and operation of systems.



Our Future - Strategy until 2027.



Our identity.

Kapsch TrafficCom is a globally renowned provider of end-to-end transportation solutions for a healthy world without congestion.



Our goals.

Kapsch TrafficCom is recognized as a thought and innovation leader in the industry.

We have revenues of more than EUR 1 billion and thereby grow stronger than the market.



Our Mission.

Creating innovative transportation solutions for sustainable mobility to enable users to arrive at their destination conveniently, on time, safely, efficiently, and with minimal environmental impact.



Our Vision.

Challenging the limits of mobility for a healthy world without congestion.

Our Portfolio.

- Pioneer and technology leader in electronic toll collection.
- Unique experience in nationwide toll systems.

 **Electronic toll collection.**

Technology

- Microwave (DSRC)
- Satellite (GNSS)
- Video
- Mobile tolling
- eVignette

Applications

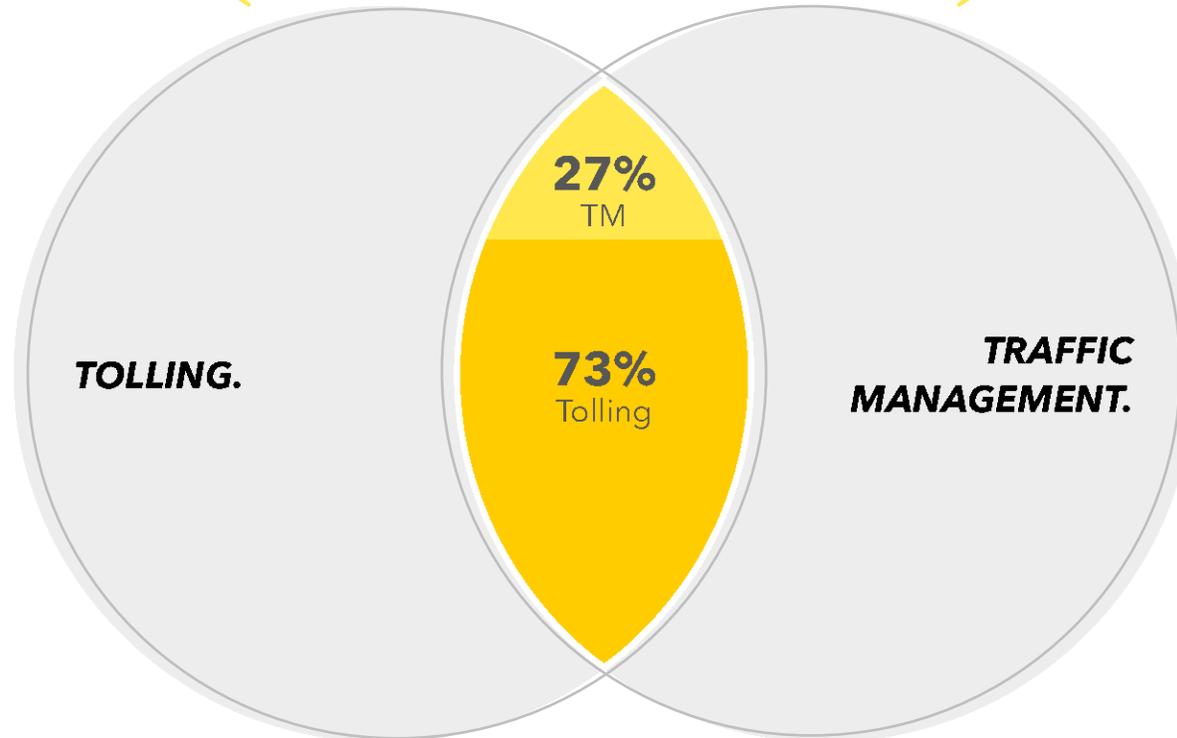
- Multi-lane free-flow (MLFF)
- Demand management
 - Congestion charging
 - Managed lanes (tolled)

Standards

- CEN and WAVE

 **Plaza tolling.**

 **Tolling services.**



Combines conventional traffic management with smart traffic solutions, demand management and data services.

 **Traffic management.**

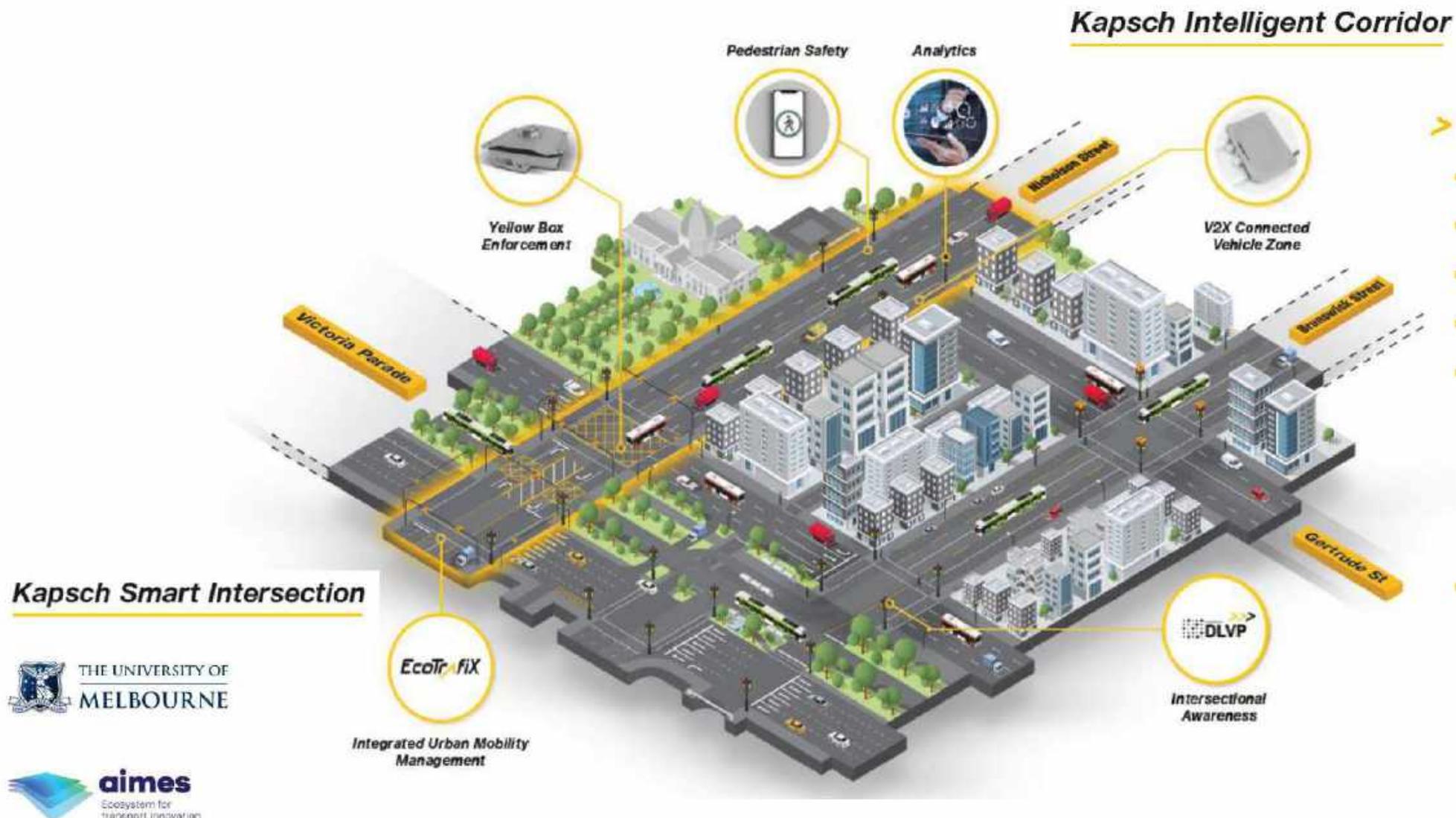
- Highway
- Tunnels/bridges
- Urban
- Corridors
- C-ITS / connected mobility

 **Demand management.**

- Urban access management (non-charging)
- Managed lanes (non-charging)
- Cross-domain policy setter (CDPS) - new, to be developed

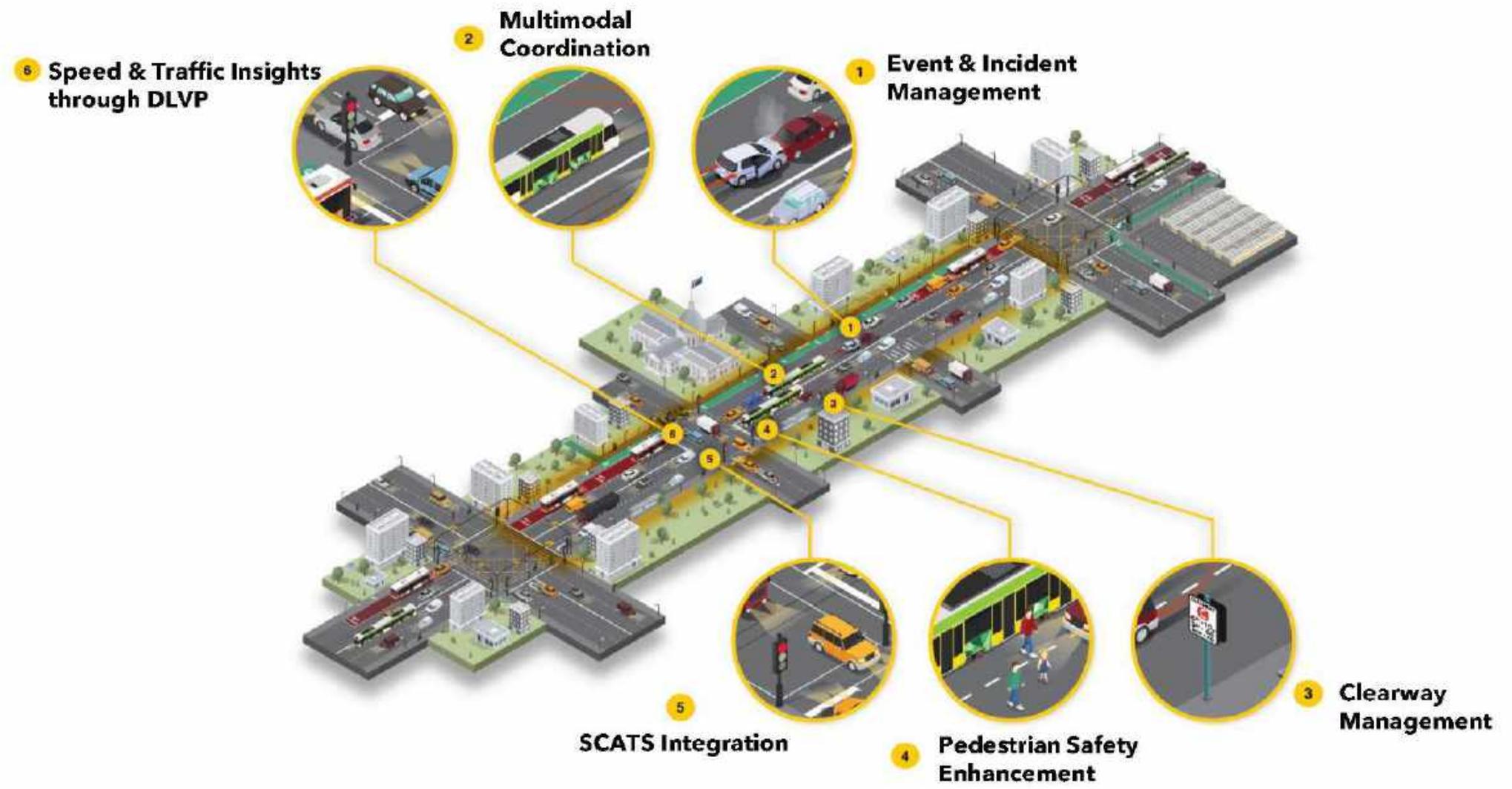
The Kapsch 'Mobility Hub' within AIMES.

Multimodal Ecosystem to test ideas and innovation of shared road users



Kapsch Intelligent Corridor within AIMES

- Use new and existing technology provide effective 'change levers' to operators to improve the transport network and the environment.



6 Speed & Traffic Insights through DLVP

2 Multimodal Coordination

1 Event & Incident Management

5 SCATS Integration

4 Pedestrian Safety Enhancement

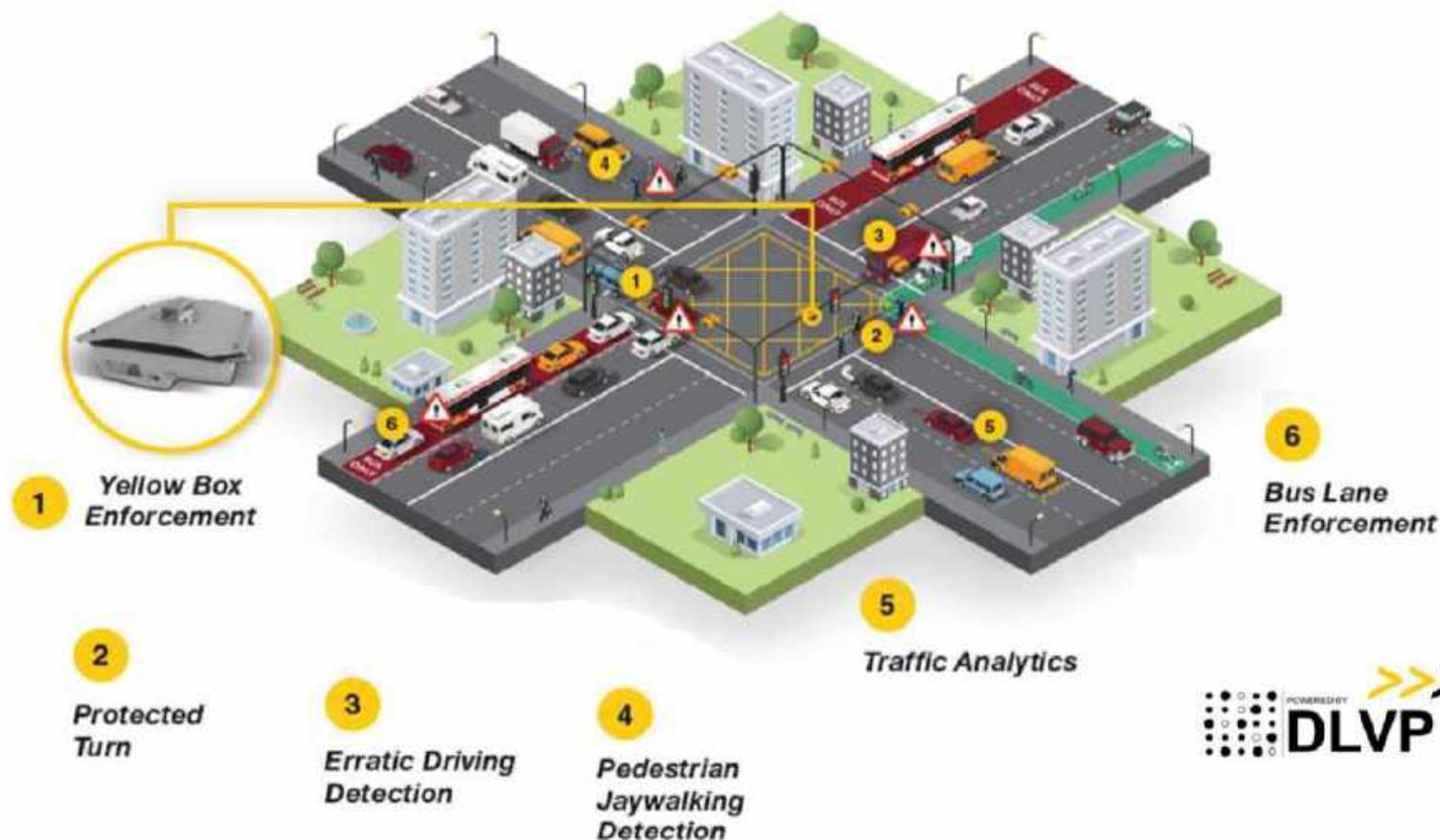
3 Clearway Management

Kapsch/AIMES - Kapsch Smart Intersection

Overview

> Key Aspects of the project

- Successful deployment of the Kapsch '**Traffic Insights**' module with a Sony camera
- Use Cases achieved:
 - Queue Length Detection
 - Vehicle Classification
 - Vehicle Speed
 - Traffic Counter
 - Pedestrian Counter
 - Left Turn Counter
 - Yellowbox zone monitoring & detection
 - Near-miss detection & SCATS integration for SPaT (*in progress*)



Kapsch Smart Intersection



Thank you
for your
attention.



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DANIEL NAVARRO

BUSINESS DEVELOPMENT MANAGER APAC
SWARCO





The Better Way. Every Day. **swarco** 

THE FUTURE OF MOBILITY LET IT FLOW!

Austrian Technology Days Hong Kong 2022
SWARCO E2E Solutions

THE WORLD OF SWARCO

A PORTFOLIO FOR HOLISTIC MOBILITY MANAGEMENT



PASSENGER INFORMATION



TRAFFIC MANAGEMENT



TRAFFIC LIGHT ASSIST



CYCLING SOLUTIONS



PUBLIC TRANSPORT SOLUTIONS



CLOUD-BASED PRIORITY



TUNNEL & HIGHWAY SOLUTIONS



WEIGH-IN-MOTION



PARKING SOLUTIONS





Our customers' needs are drastically changing, and **SWARCO** is there to provide solutions.

PROBLEM STATEMENT

- Urban traffic congestion
- Poor air quality
- Budget constraints
- Staying on top of innovation
- Scarcity of parking spaces
- Increasing safety for VRUs
- Lack of skilled resources
- Lacking interoperability of systems
- Interurban traffic congestion
- Road user safety on highway & in tunnels





SWARCO MYCITY

Urban mobility management...

SINGLE SIGN-ON

MICRO-SERVICE BASED

SHARE & PROCESS DATA FROM DIFFERENT SYSTEMS

➤ SWARCO can act as contractual aggregator

MODULARITY & FLEXIBLY

EVOLVES WITH EMERGING NEEDS

 SECURE CLOUD SYSTEM



...from a holistic point of view

DEVICE MONITORING
AIR QUALITY MONITORING
TRAFFIC MANAGEMENT SYSTEM
ADAPTIVE NETWORK CONTROL
TRAFFIC LIGHT EXCHANGE
SIGN MANAGER
PARKING GUIDANCE SYSTEM

Accessible from all kind of devices!





SWARCO MOBILITY MANAGEMENT BENEFITS AT A GLANCE



Environmentally sustainable



-20% waiting time
flow can be optimised by 10% to 20 %



Energy and fuel consumption
can be reduced by 10%



Well informed road users



CCAM enabled
Contributing to Vision Zero through cutting-edge technologies



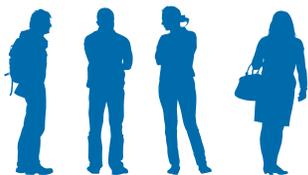
Early warnings
of dangerous traffic situations



Prioritising emergency vehicles
over regular traffic



Prioritised public transport



CONNECTED, COOPERATIVE AND AUTOMATED MOBILITY ENABLED PORTFOLIO



Public Authorities

- + "Vision Zero" support, less collisions & fatalities
- + Improved road capacity
- + Less pollution
- + Seamless systems integration
- + Reduced costs & maintenance



Traffic flow can be **optimised** by 10% to 20%.



by prioritising emergency vehicles over regular traffic.



CCAM ENABLED PORTFOLIO



Road User

- + Reduced noise & air pollution
- + Improved quality of life
- + Predictable journey
- + Sustainable transport system
- + Safe travel



Fuel consumption can be **reduced** by 10%.



Early warnings of dangerous traffic situations avoid accidents and improve traffic safety.



Fleet Owner

- + Operational cost savings
- + Improved service reliability
- + Reduced vehicle stress
- + Reliable traffic information

URBAN TRAFFIC CONGESTION THE SOLUTION

AUTOMATED,
SCHEDULED
& MANUAL
COMMAN

DATA COLLECTION

Sensors:
TRAFFIC DATA



Eco-system of mobility e.g.
APPS, FLOATING CAR DATA



PARKING DATA



PROCESSING & STORAGE

DATA VISUALIZATION



**ALERTS &
NOTIFICATIONS**
in case of any
equipment
failure

**REPORTING
TO ANALYZE
IMPROVEMENTS**

ACTIONS



ADAPTIVE NETWORK CONTROL

Automatically predicts and adjusts traffic signal controls to maximize throughput and reduce traffic jams.



REROUTE & INFORM

Steer traffic away from congested areas and motivate a modal shift to reduce the overall traffic volume.



SPEED ADJUSTMENT

Adjust the speed limit to ensure an optimized traffic flow along critical corridors.



TRAFFIC ENGINEERING

Evaluate controls based on current guidelines, plan, test and simulate traffic-actuated controls, upload data to controllers directly or remotely and evaluate real-time data.



CHRISTIAN ECKER

BUSINESS MANAGER
AUSTRIAN INSTITUTE OF TECHNOLOGY





INTEGRATED PLANNING FOR SMART & SUSTAINABLE MOBILITY AUSTRIAN TECH FOR HONG KONG'S MOBILITY INITIATIVES

CHRISTIAN ECKER, 2022-12-06

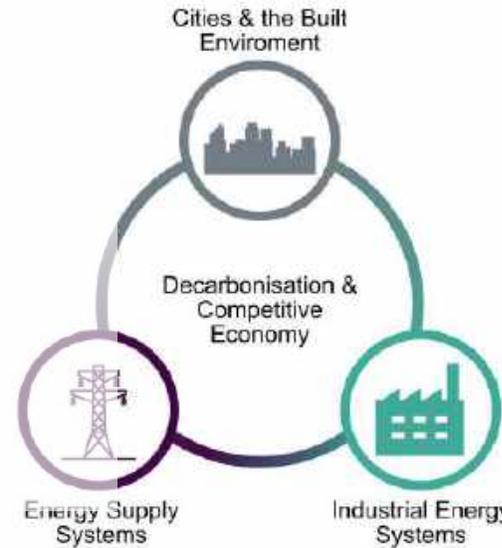


AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

Research & Technology
for the Industry & Public Authorities

Our mission is to drive innovation together with our clients for enabling and accelerating the Energy Transition!

Mobility is a key driver!



AIT Center for Energy

Energy system of the future

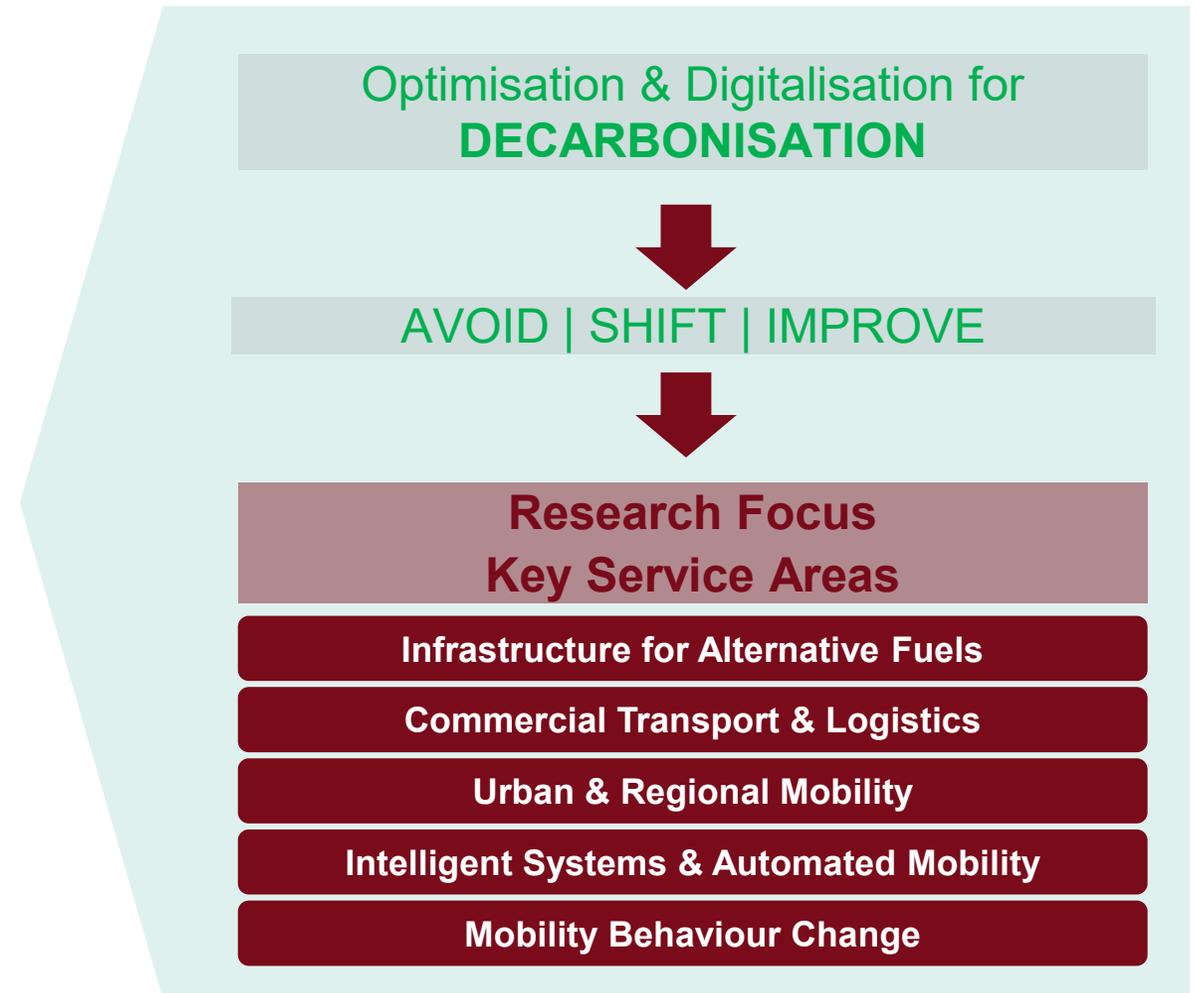
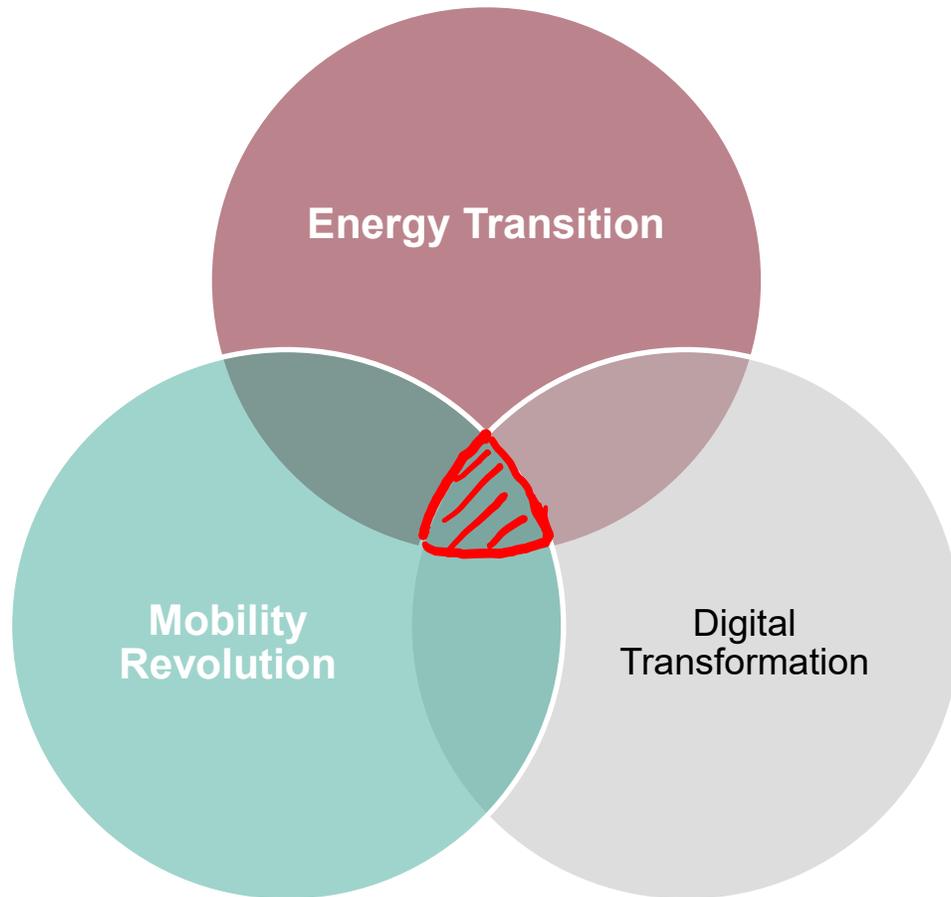
→ The Service portfolio is based on three central systems:

~1,400
overall AIT Employees

7 Center
With different Research Focus

Energy	Health & Bioresources	Digital Safety & Security	Vision, Automation & Control
Low-Emission Transport	Technology Experience	Innovation Systems & Policy	

MOBILITY IN THE CONTEXT OF CHANGE



SOLUTIONS FOR KEY SECTORS

OPTIMISATION FOLLOWS SIMULATION

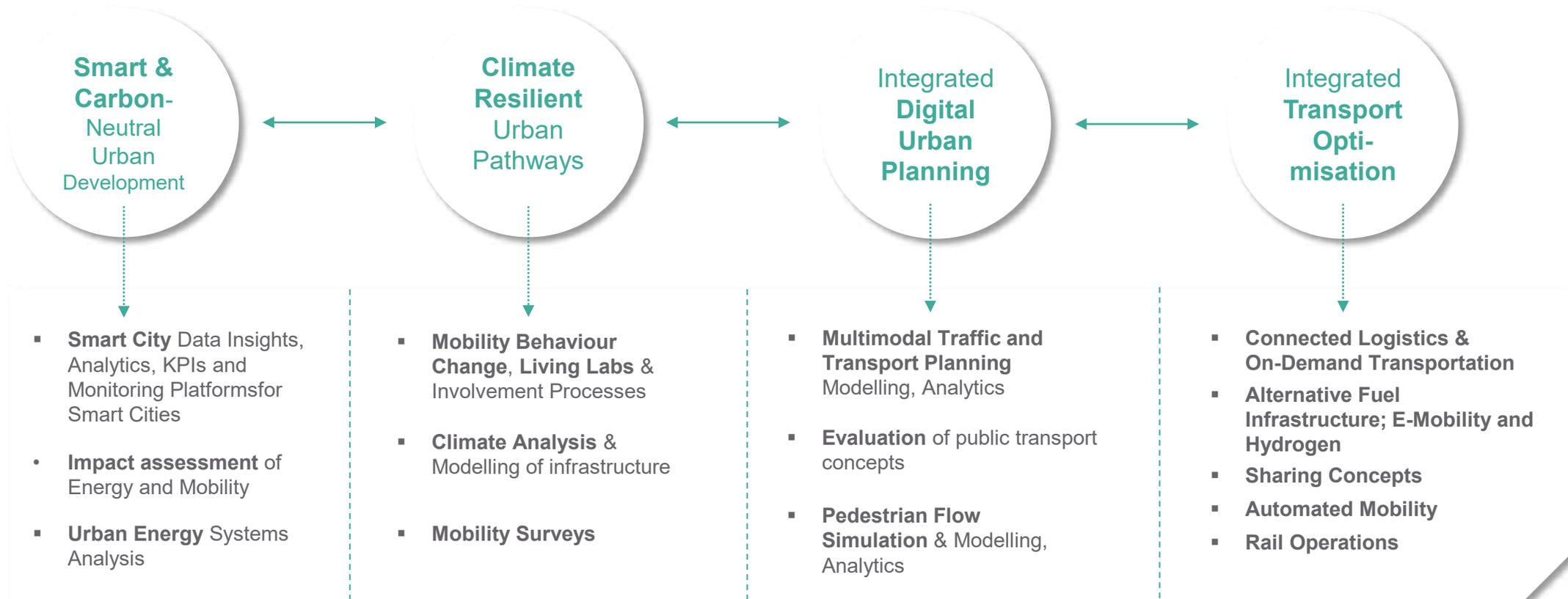


OUR EXPERTISE

AIT MOBILITY RESEARCH & CONSULTING

SIMULATION & MODELLING

OPTIMISATION



BEST PRACTICE: MULTI-MODAL TRANSPORT PLANNING AND MODELLING, TBILISI (GEORGIA)

ADB
Funded

- Impact assessment of measures in the traffic demand and supply
- Integration of all different modes of transport (walking, cycling, car, PT, MaaS, UAM, etc.)
- Future trends towards mobility behavior, changing demand, emissions and noise
- Includes “hard” and “soft” control methods (e.g. provide information users)

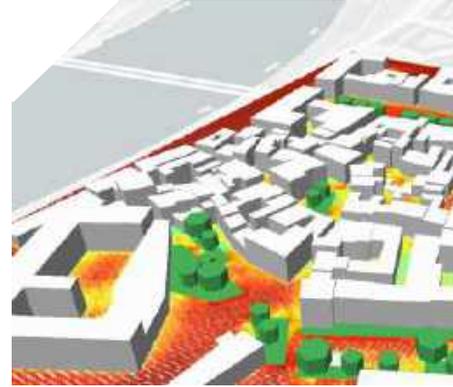


CITY INTELLIGENCE LAB



- Lab as a platform for the development of new urban planning methods (AI)
- Urban lab with AI-supported working environment
- Experimental space for digital collaboration
- Eliminating boundaries between digital and analogue

DRIVING MOBILITY INNOVATION WITH YOU!



Christian Ecker
Business Manager
Integrated Mobility Policy & Solutions
Center for Energy

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SEBASTIAN OERTEL

MANAGING DIRECTOR
PLASSER FAR EAST

Plasser Far East



Austria – Hong Kong Technology Days 2022

S. Oertel



Plasser Far East Ltd.

- **Was founded 1979 as Regional Sales Office for P&T**
- **P&T is a technology leader and further enhance the position in the market via a regional service structure**
- **Resident Service Engineer enabling fast response on service requests and enhance customer satisfaction**
- **MTR is a worldwide leading rail operator and key reference in the region**
- **Hong Kong SAR's proximity to regional customers makes it an ideal hub for P&T**

Plasser Far East Ltd.





DANIEL PAETZOLD & DANIEL DOPPELMAYR

DOPPELMAYR CABLE CAR



DOPPELMAYR URBAN

Smart Mobility for Future Cities



INTO THE URBAN CONTEXT



Relative Share by User

Continent	Commuter	Tourism
Asia	36%	64%
Europe	38%	62%
North America	57%	43%
Africa	63%	37%
South America	68%	32%
Australia	0%	0%



Cablebús Mexico City

- Improved mobility for the residents of the Gustavo A. Madero district (pop. 1.7 Mio)
- Fully integrated into the public transport network
- Ropeways as a multimodal component of urban mobility

MULTIMODAL
COMPONENTS

MEXICO CITY
MEXICO

ROPEWAY

BUS

METRO



MULTIMODAL COMPONENTS

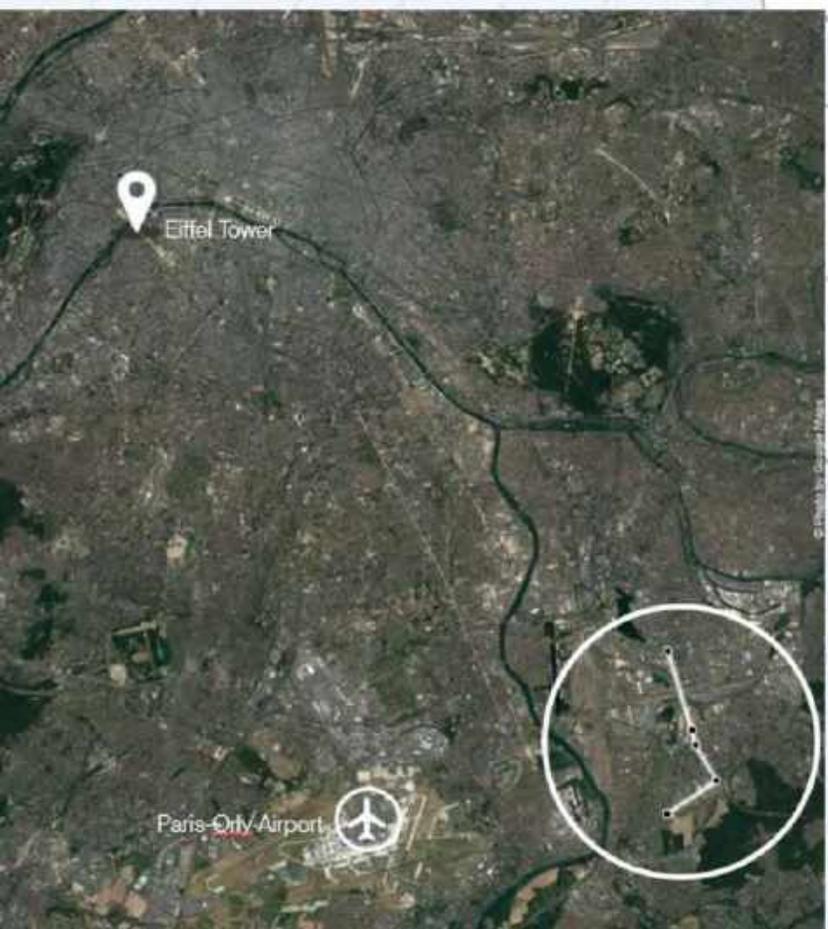
PARIS FRANCE

 GARAGES C1

 Projet de coulée verte « La Tégéval »

 Établissements d'intérêt public

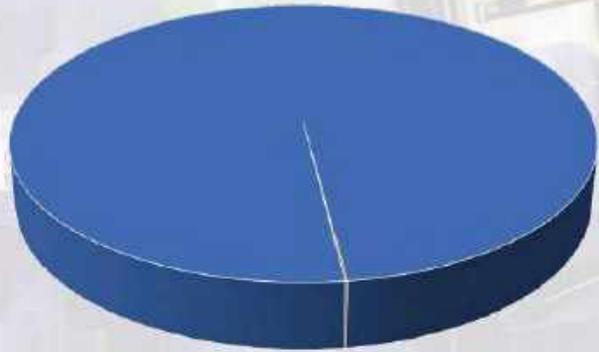
Afin de faciliter les correspondances du **CT**, les interconnexions avec le réseau de bus évolueront d'ici la mise en service.



TECHNICAL AVAILABILITY

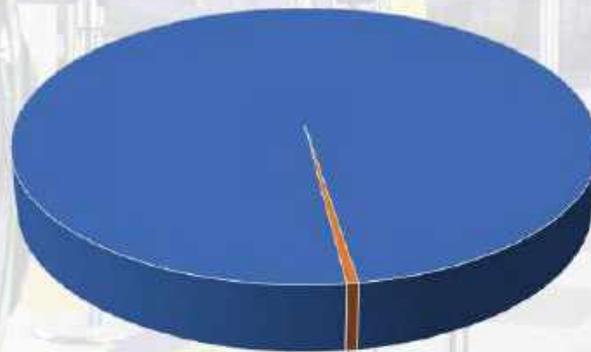
Metro (MTR)

- Availability of 99,9%



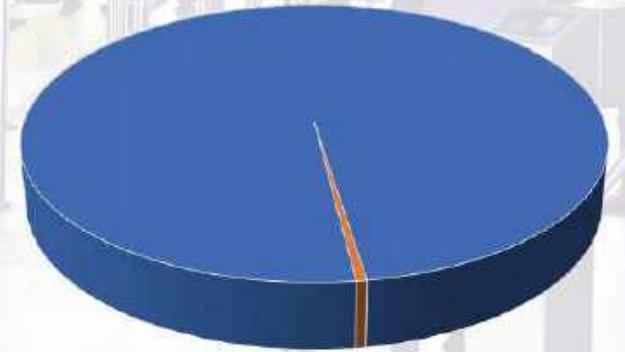
Bus (KMB)

- Availability of 99,41%



Ropeway

- Availability of **99,5%**



57

IMPLEMENT OF
INFRASTRUCTURE

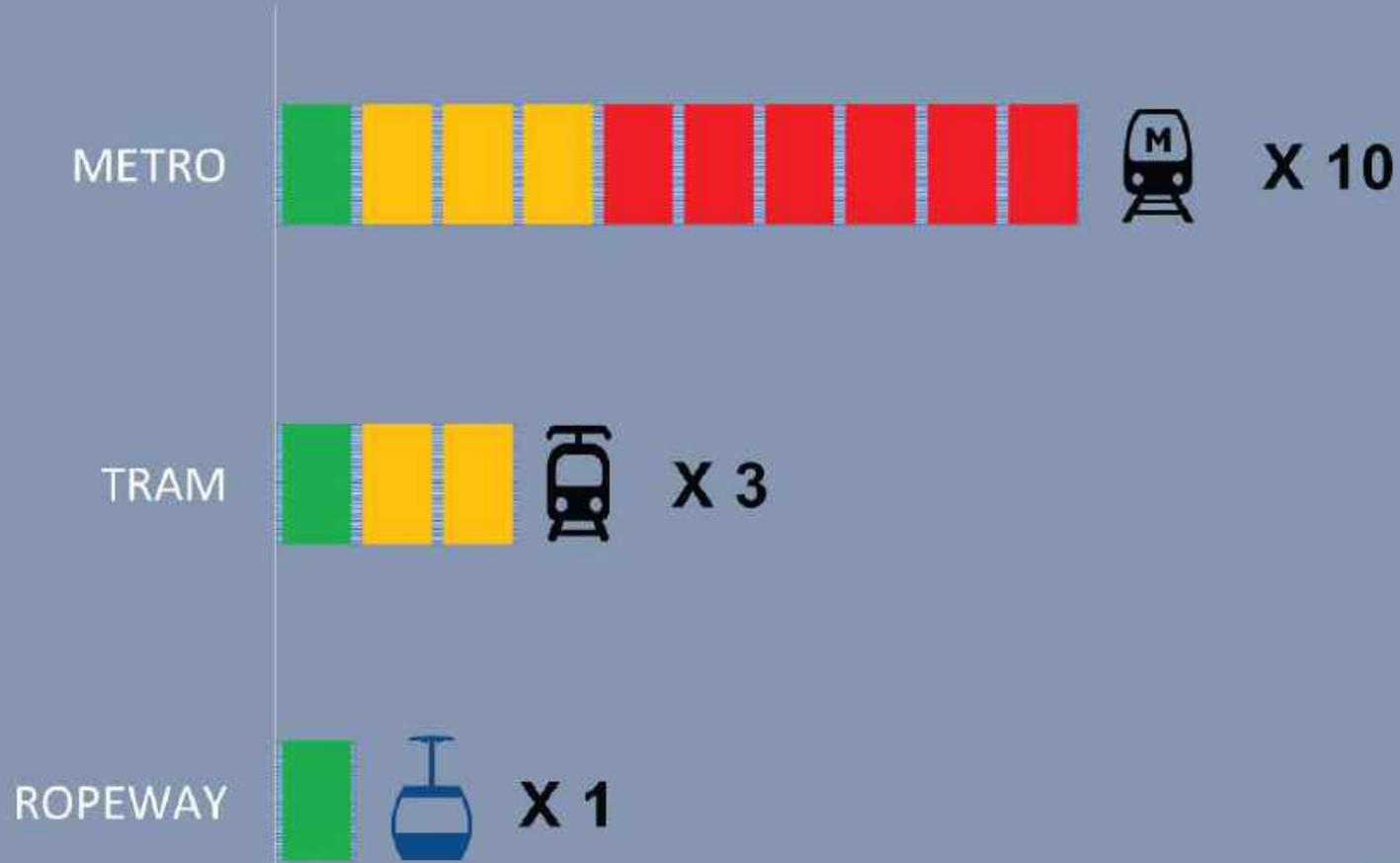
FAST IMPLEMENTATION



Ropeways as a multimodal component of urban mobility

- Fast implementation
- Small construction site
- Temporary closure of street and usage of area
- Tower construction time of only 2-3 weeks

COST COMPARISON

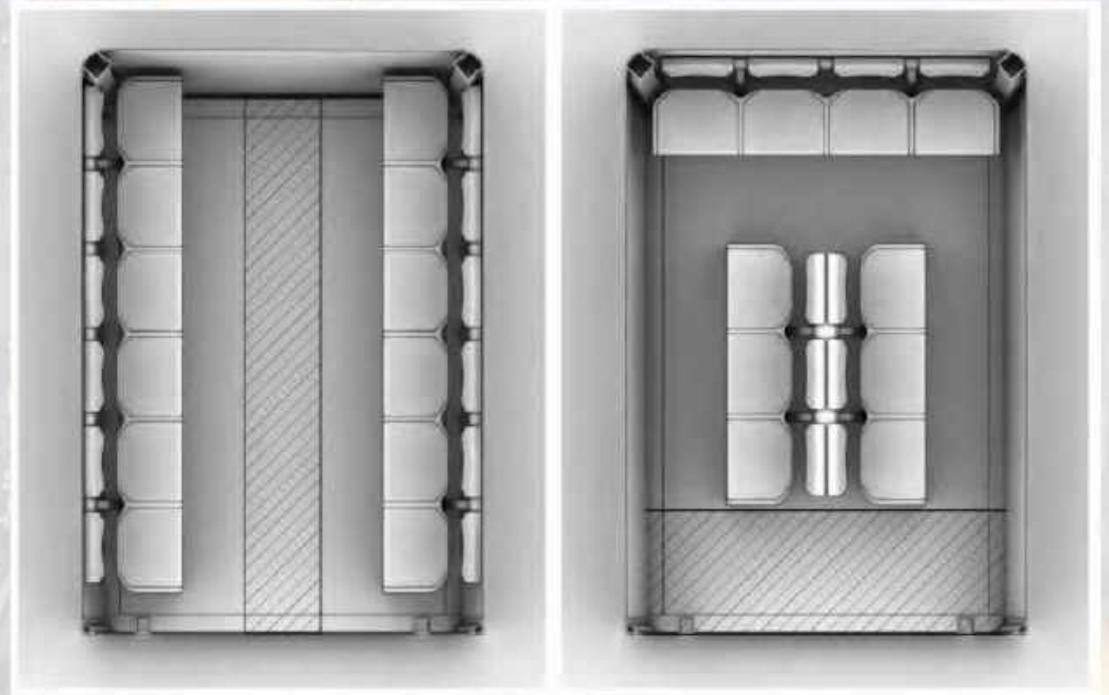


POST PANDEMIC

SMALL VEHICLES



- Continuous movement
- No waiting time
- Custom interior design



NEW URBAN REALISM

PARIS
FRANCE



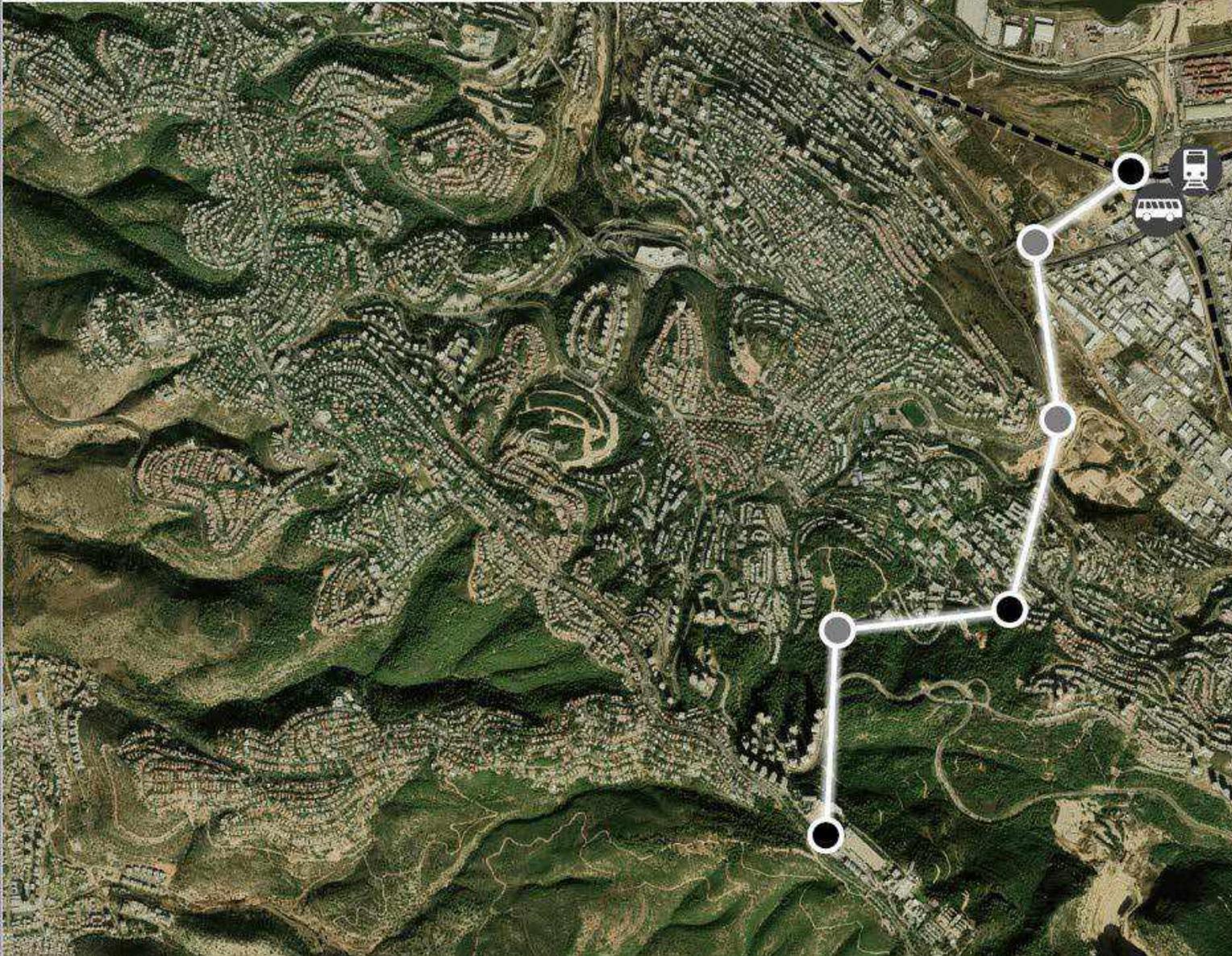
RECENT REFERENCE

HAIFA ISRAEL

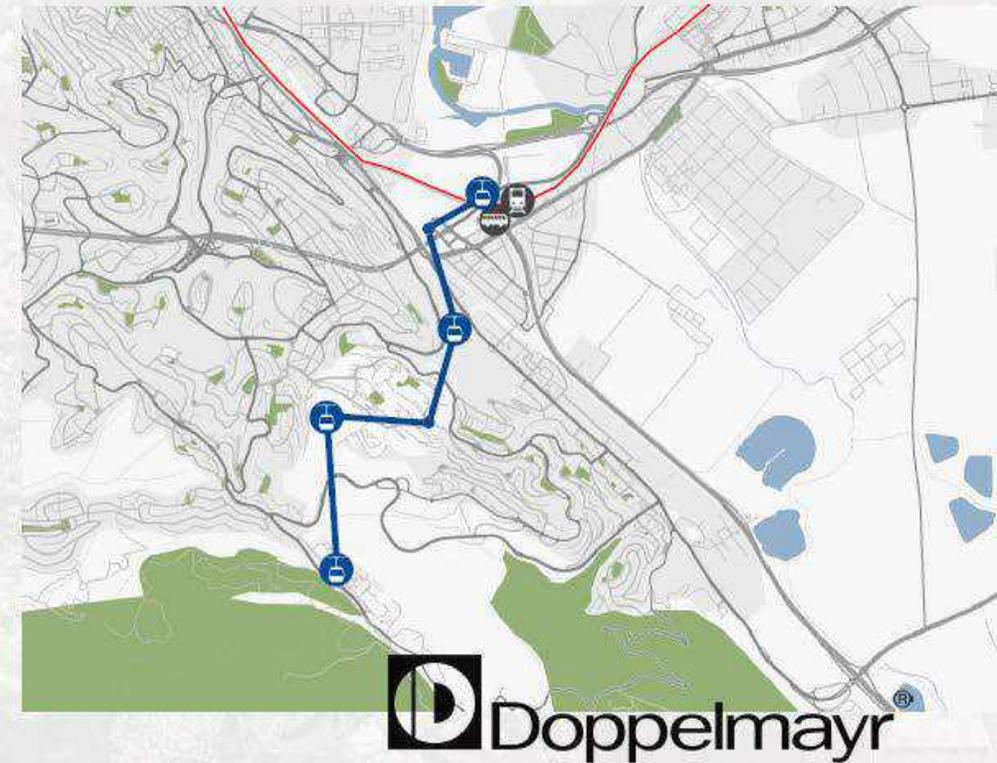


RECENT REFERENCE

HAIFA ISRAEL



- First urban cable car in Israel
- Link to university campus
- Fully integrated in public transport network
- Achieves significant travel time savings



- One stop shop
 - Project development
 - Planning & construction
 - Operation and maintenance
- Includes advisory to implement mobility solutions with ropeways
- Financing & Investment counseling
- Together with local partner and academic research

RECENT REFERENCE

KÖNIG LAURIN ITALY



- Cable car embedded in an iconic landscape
- Integration to achieve UNESCO heritage compliance
- Protection of station Infrastructure and Passenger Comfort



EMPLOYEES
WORLDWIDE

3,154

COUNTRIES
WITH
SUBSIDIARIES

50

COUNTRIES
WITH
DOPPELMAYR
INSTALLATIONS

96

ROPEWAY
INSTALLATIONS
WORLDWIDE

15,400

2021 / 22 REVENUE
(MILLION EUROS)

886

**WE ARE HAPPY
TO ADVISE**

DANIEL PÄTZOLD



REINHARD FITZ





MARIO GALLER

CEO
GALLER CONSULTING





We want to and have to be Mobil





Large Infrastructure Limits Route Choices and Increases Costs





- Large Rail Guideways Infrastructure
- Large Overhead Infrastructure



- The large rail Guideways reduce Lanes for Other Forms of Public Transit





<u>MODERNIZING TASK</u>	<u>RESULT</u>
We Created Smaller Infrastructure	Less Cost with Easier Implementation
Modernized vehicle operations (Offline stations)	Creates the Capability to Network a Transit System
Automation	Reliable and Repeatable Operations 24/7
Improved Financial Model	100% Fare Collection



A large advertisement for Skyweb Express. The background is a night-time aerial view of a city with many lit-up skyscrapers. In the foreground, a red and white pod-shaped vehicle is shown from a side profile, appearing to travel on a dark surface. The text 'SKYWEB EXPRESS' is prominently displayed in the upper middle, with 'TRANSPORTATION FOR THE 21ST CENTURY' below it. The MRM logo and company name are in the bottom right, along with the website address.

SKYWEB EXPRESS
TRANSPORTATION FOR THE 21ST CENTURY

MRM
INTERNATIONAL, INC.
www.mrmintl.com



Introducing the Next Generation Guide Rail

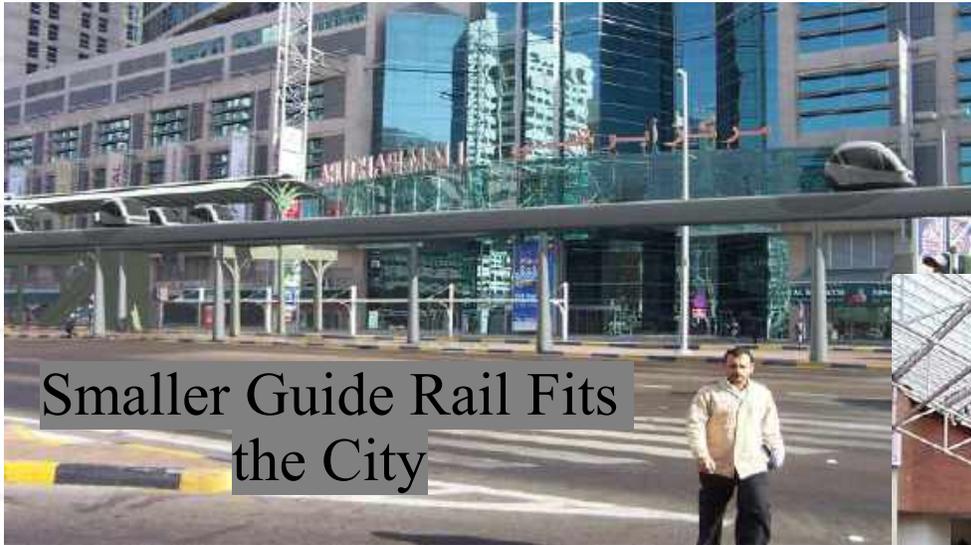
MRMI



SKYWEB EXPRESS



Benefits of Next Generation Guide Rail



Smaller Guide Rail Fits the City

More Design Choices for a Smarter City

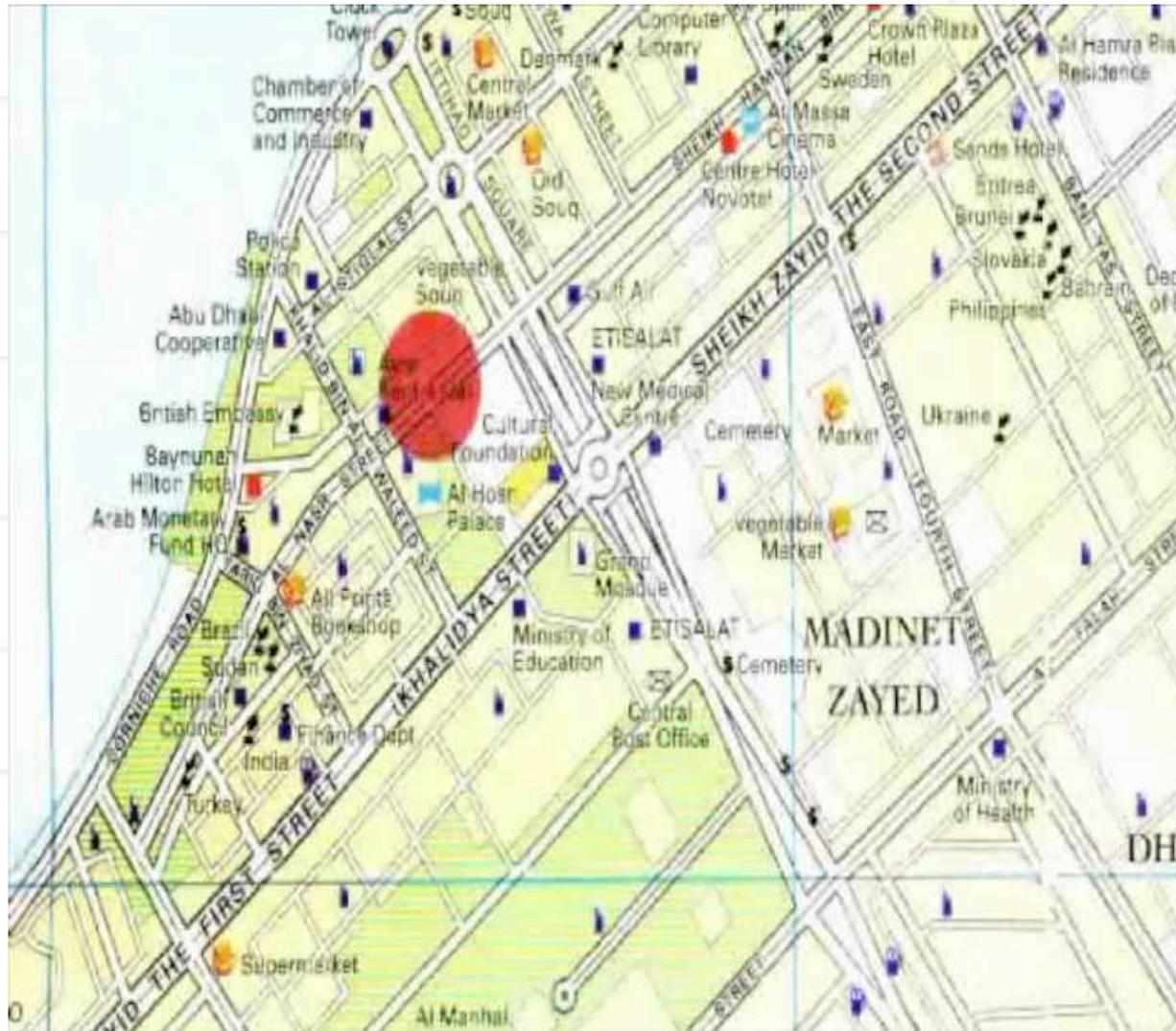


A Smart City with a Connected Transportation Network



Smart City with a Transit Network

MRMI



Direct Access From Any Station to Any Station – No stops to where you are not going

Increases System Capacity – Constant flow and not waiting with stops and starts

Decrease Operational Costs – System only has to work when passengers are paying

SKYWEB EXPRESS



Time for the Next Generation

MRMI



Contact:

Mario Galler

MRM INTERNATIONAL, INC.

mg@mrmintl.com

Modern Rapid Mobility

SKYWEB EXPRESS





CHRIS STELZMUELLER

CTO & CO-FOUNDER
TRIPLY





**Make sustainable mobility accessible,
everywhere for everyone.**

Passenger Travel, and especially business travel produce more and more emissions as people move back to work from their home offices

Triply helps analyze and improve corporate mobility

**Company
Locations**

**Employee Count
& Locations**

MINIMUM REQUIRED DATA

STATUS QUO

automated emissions reporting
for employee mobility

KPI Vorschau

299 Mitarbeiter



40%

Mobility Score

- Fuß
- Rad
- ÖV
- Fahrer
- Mitfahrer

5%
15 MA
6%
18 MA
15%
45 MA
70%
200 MA
4%
12 MA

6

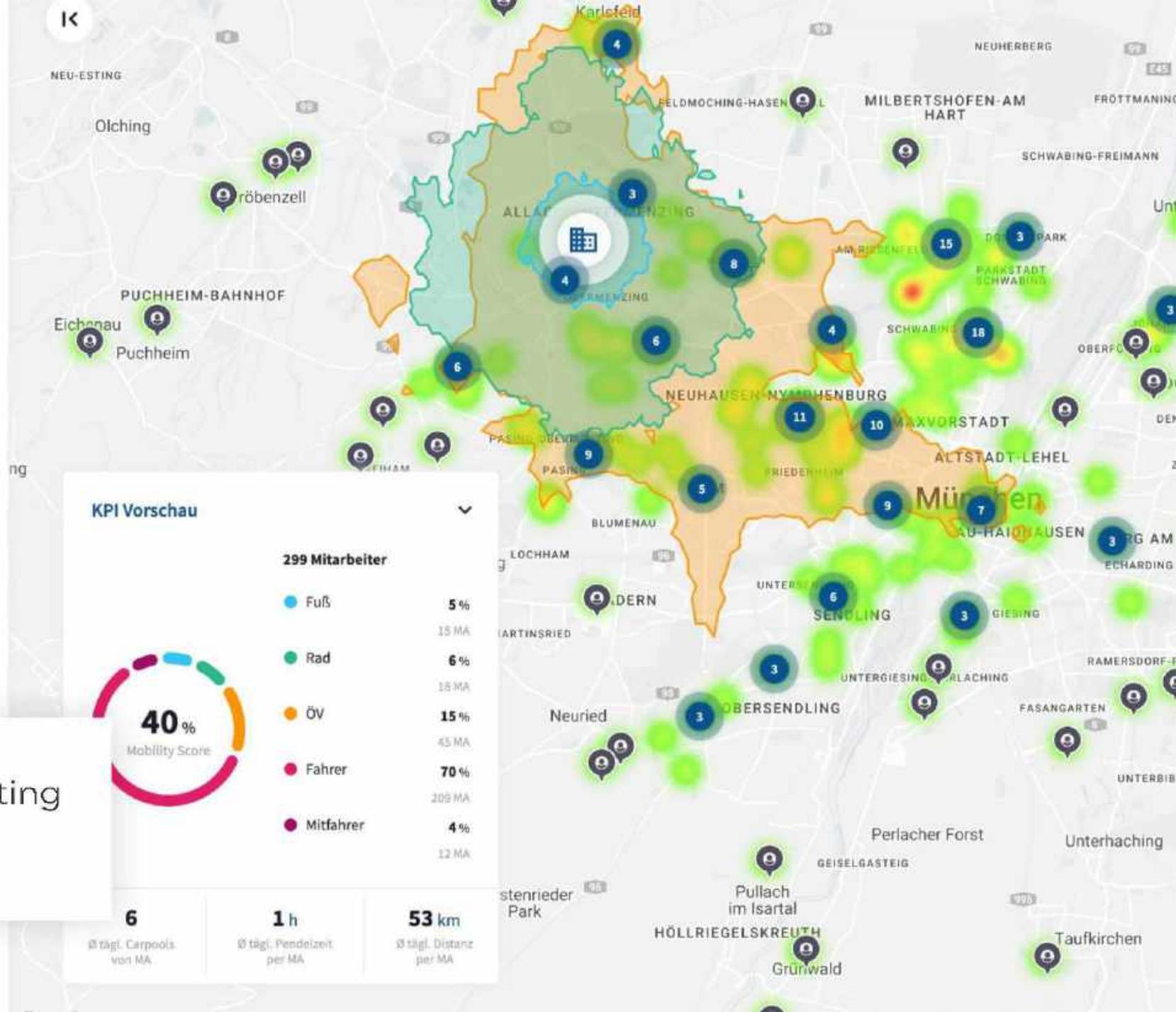
Ø tägl. Carpools
von MA

1 h

Ø tägl. Pendelzeit
per MA

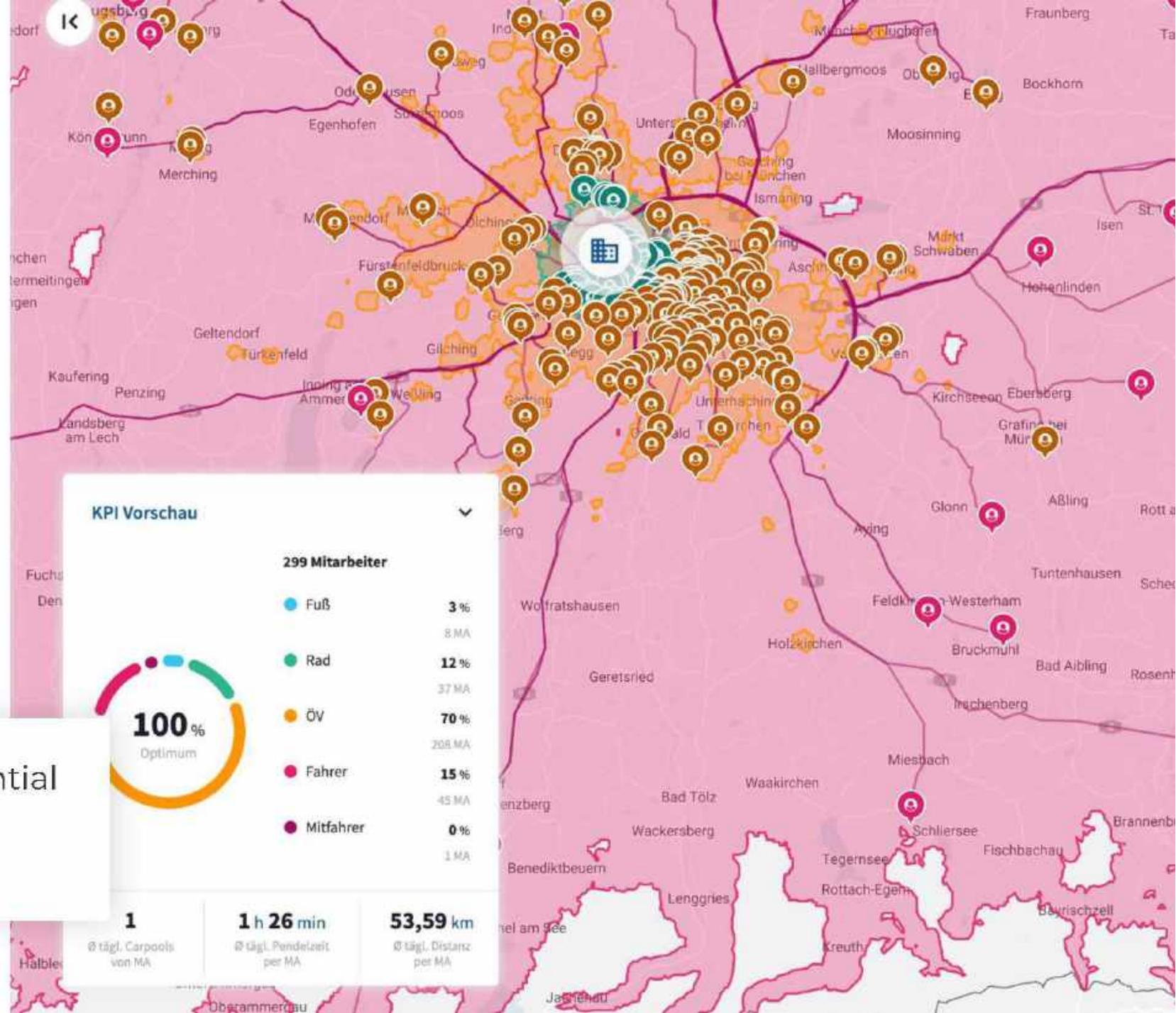
53 km

Ø tägl. Distanz
per MA



OPTIMUM

automated analysis of potential improvements given the available infrastructure





Standort
München, Deutschland



STATUS QUO — OPTIMUM — **MAßNAHMEN**

+ HINZUFÜGEN

Package A



Carployee Job-ticket Home Office

berechnet am 08.01.2022

SOLUTIONS

automated identification of the best mobility solutions and actions to implement

IK

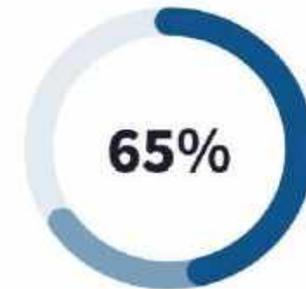
Package A

berechnet am 08.01.2022

Mobility Score

+41,3 %

(46 % → 65 %)



- Erreichbares Optimum (100 %)
- Status Quo (46 %)
- Status Quo inkl. Maßnahmen (65 %)

MIV Besetzungsgrad

+13,64 %

(jährl. 1,1)

1,25 Personen

durchschnittlich pro Fahrzeug

Modalspl



Modalspl

Rad (4 %)

Fuß (1 %)

ÖV (7 %)

Fahrer (80 %)

Mitfahrer

Mobility Consultants

that want to work with our software and provide improved services to their customers

Corporates

that want to know more about their current mobility situation and incentivise better mobility for their employees

WHO WE'RE LOOKING FOR



**Make sustainable
mobility accessible,
for everyone, 
everywhere.**



Christopher Stelzmüller

CTO & Founder

cs@triply.at

+43 660 158 1637

www.triply.at



JUERGEN HEINRICH

MANAGING PARTNER
EVERSUM MOBILITY SOLUTIONS





eVersum

Austrian Technology Days

Who we are

OEM of electric public passenger vehicles – Conventional and especially Autonomous Driving

What we offer

Purpose designed vehicles to amplify opportunities of the electric drivetrain era

What is our technological concept

Entirely new vehicle architecture, utilizing state of the art materials, battery systems and electronics

What makes our products unique

Unrivalled match between range and passenger capacities combined with sustainable energy storage concepts

WHAT'S IN IT FOR YOU

Opportunity to operate highly efficient passenger vehicles, offering...

...Perfect match between appealing commercial rentability and honest environmental sustainability

...Unique chance to gradually establish autonomously driving operations



PRODUCT LINE-UP

Three lines of products – eTrain, eShuttle and eCity Bus - are introduced to the market stepwise

E-TRAIN



SOP: 2021

Electric on-road train for touristic applications





MB 61-EJH

SONČEK sve ACADEMIA ACADEMIA ACADEMIA

E-SHUTTLE

Electric shuttle for inner-city and airport applications





eShuttle – Next Generation of Urban Mobility





E-CITY



SOP: 2023



The centrepiece of eVersum's eco-system
for public transport



+43 316 405 812
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www.eversum-mobility.com
www.eversum-vehicles.com



LET'S DO
BUSINESS
TOGETHER



Q & A



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Register for 1-on-1 Meetings

