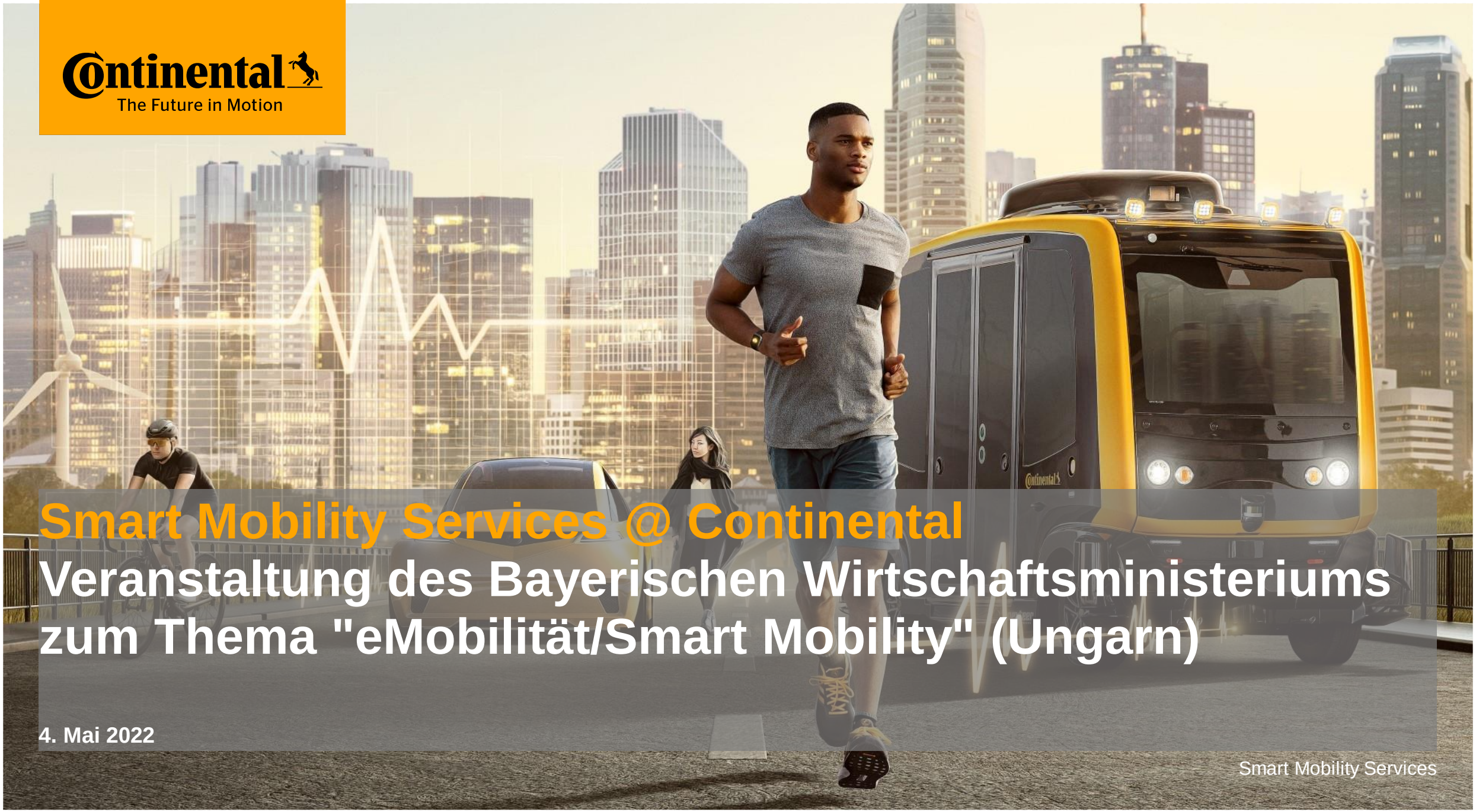


Continental
The Future in Motion

Smart Mobility Services @ Continental

Veranstaltung des Bayerischen Wirtschaftsministeriums zum Thema "eMobilität/Smart Mobility" (Ungarn)

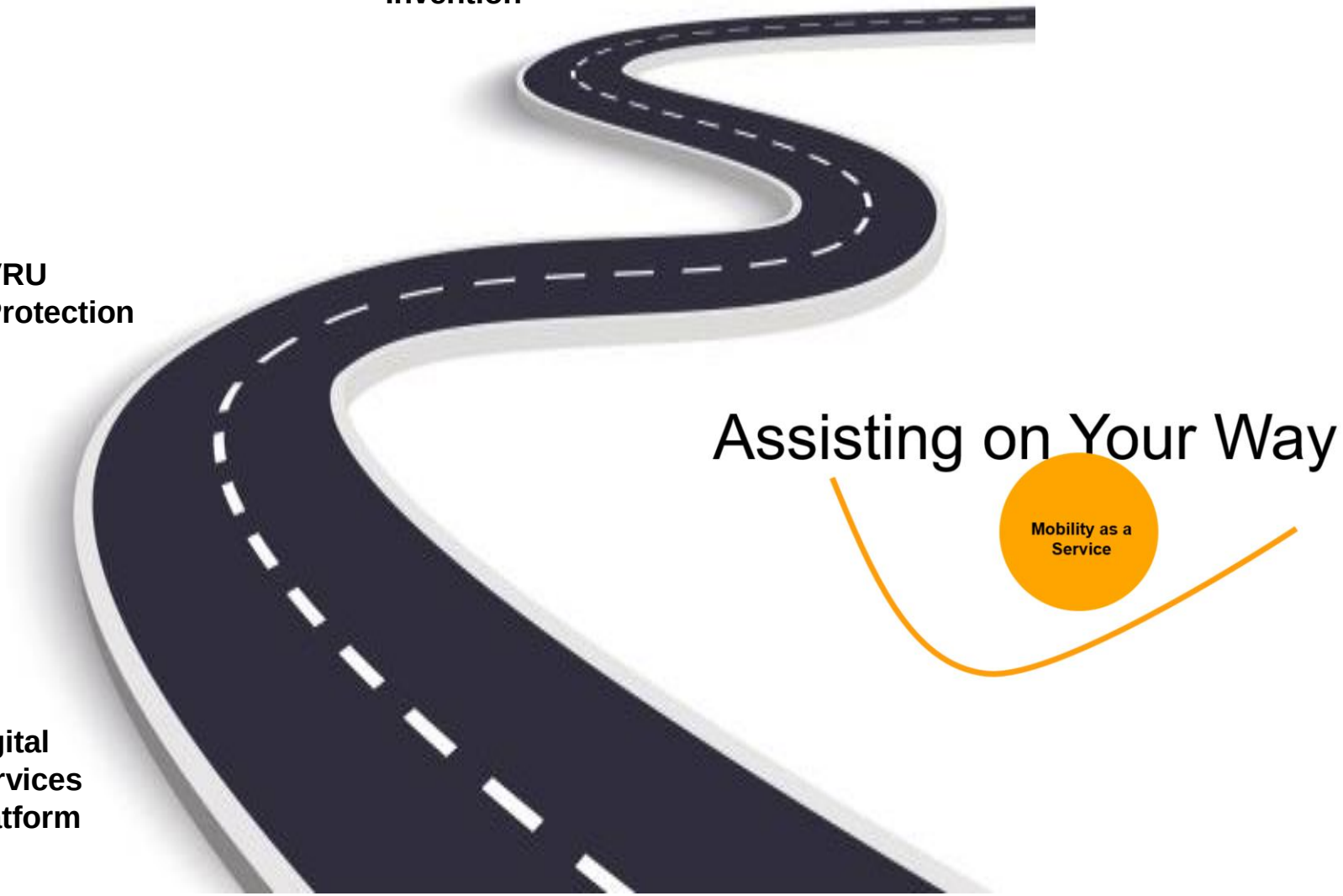
4. Mai 2022

Agenda

03 **Quantum Invention**

02 **VRU Protection**

01 **Digital Services Platform**



Digital Services for Shared Mobility
Value Chain

Digital Services for End-User

Reservation & Booking
Feedback (e.g.: Damage report)
Registration (e.g.: ID, Account, License etc.)
Billing
Information (e.g.: Pricing, Location, AGBs)

Shared Mobility Functional Value Chain

Infrastructure Provider
Parking, EV charging, Docking Stations

Vehicle Provider

Digital Services Platform

Hardware Provider
(ECU / MCU)
GNSS, CAN

Backend
Continental Cloud Analystics Services

Apps
End-user
Fleet Management

Mobility Operator
Operation & Maintenance

System Integrator
Customer Acquisition & Responsibilities

End-Customer

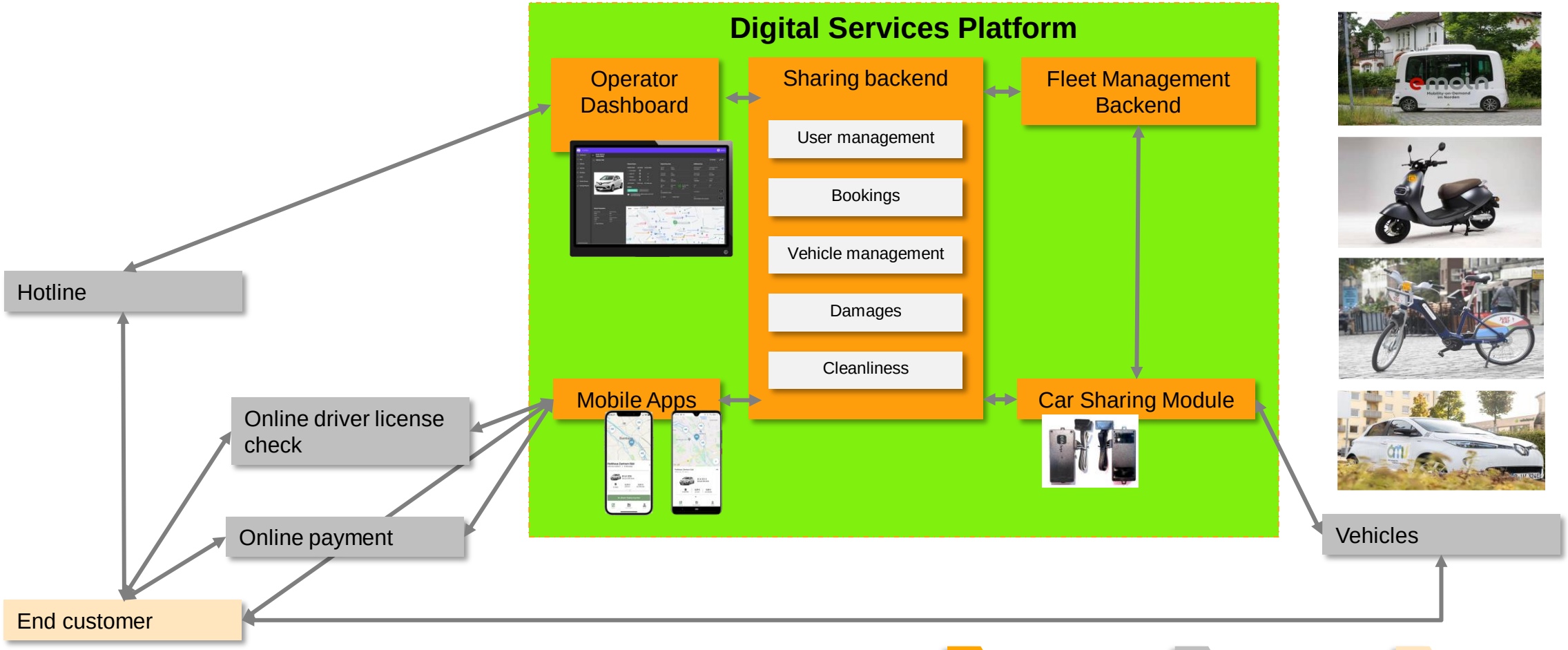
Digital Services for Fleet Management

Vehicle Onboarding & Offboarding
Price Management
Distribution Management
Maintenance
Usage Monitoring
Distribution

Continental *Partners* *Continental Customer*

Architecture

Technologies & Use Cases



Achievements

Market Entry

Bicycles

- Successful launch in Edinburgh 03/2020

Mopeds/Bikes

- Commercialisation planned this year

Cars

- Commercial Car Sharing system ("ShareCar") provided to ASSA in Indonesia (app. 100 units)
- Approx. 200 units with other customers in Singapore

eCars

- SOP OMU Bamberg 10/2021 and Alp Region Tegernsee/Schliersee 4/2022

Shuttles

- Pilot demonstration August – October 2021 / Hamburg

public
Continental AG
04.05.2022

Current Activities

… to achieve Skaling

Market Differentiation

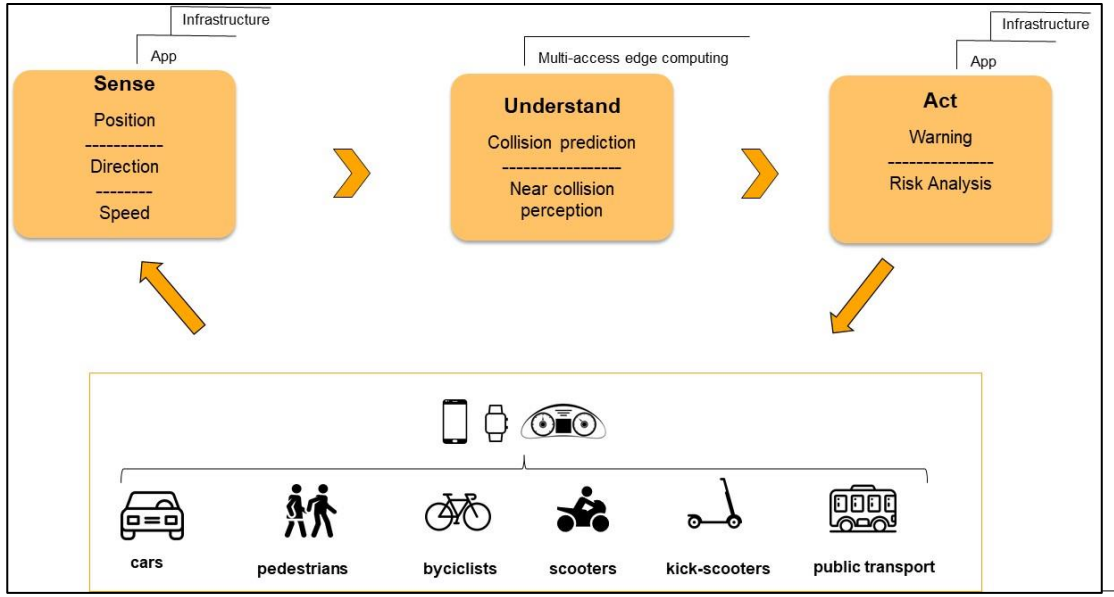
Use Case Extension

Cooperation Customers/Partners

Vulnerable Road User Protection

Solution Description

- ✓ Digital protective shield for road users
- ✓ Real-time collision warning protects particularly vulnerable road users such as pedestrians, cyclists and scooter drivers
- ✓ Cloud application does not require any separate hardware and can be integrated into smartphone apps



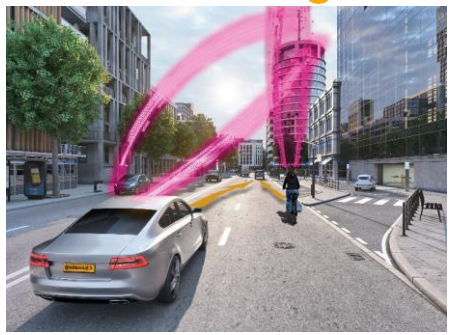
Car – eScooter

Pedestrian - Shuttle

Car - Bicycle

Achievements
Product Validation

Reallabor Hamburg



- Successful implementation and validation in Hamburg 2021
- Integration infrastructure

Pilot Singapore/Daegu

- Successful demonstration in Singapore (2021) and Daegu City (2022)

Test Frankfurt

- Successful test concerning interoperability with multi-Telecom Networks

Current Activities

… to achieve Skaling

Integration into other solutions

PPP project opportunities

Cooperation Customers/Partners

QUANTUM INVENTIONS

---mobility intelligence---

A company of Continental corporation

Overview & Introduction

Quantum Inventions

QI functions in two related business areas that cover a wide slice of mobility & transportation

Quantum Inventions; digital infrastructure for the future of mobility

Fleet Mobility as a Service

- GPS fleet tracking: usage, speed and vehicle data
- Web fleet platform with dashboard for fleet optimisation / management
- Connected vehicle data tracking for performance and security monitoring
- Safe driving & fleet monitoring solutions
- Fully owned customisable multi-platform navigation
- Logistics dispatch integrated with routing, navigation and fleet tracking
- Management & optimisation: Total Cost of Ownership

FLEET MOBILITY
FLEET MOBILITY AS A SERVICE

Smart Cities

- Modular & configurable platform solving transportation problems for cities
- Mobility data management
- Real-time traffic & transport information
- Technologies for congestion management
- Online and real-time dynamic routing systems
- Digital car key and vehicle sharing
- Scalable from nano-cities to mega-cities
- Autonomous Vehicle Fleet Management Systems ("AVFMS")

SMARTCITIES

SMARTCITIES

Customer types

Government

Enterprise

Fleet owners / operators

Products

QORS
MAPPING•ROUTING•WAY-FINDING
Quantum Online Routing System

High-performance routing engine that enables dynamic data utilisation for mapping, route optimisation, way-finding and dispatch

TRIP
Transport Information Platform

Transport information platform that incorporates state of the art techniques to efficiently process real-time dynamic data for enabling intelligent transportation use cases in traffic and data management

Smart Cities *offers a modular and configurable platform to enable intelligent transportation systems.*

Backed by data processing systems & services that provide customised solutions to government and enterprises for traffic data creation, data fusion, delivery, and data analytics towards optimisation in urban mobility.

Core Technology: Quantum Online Routing System (QORS)

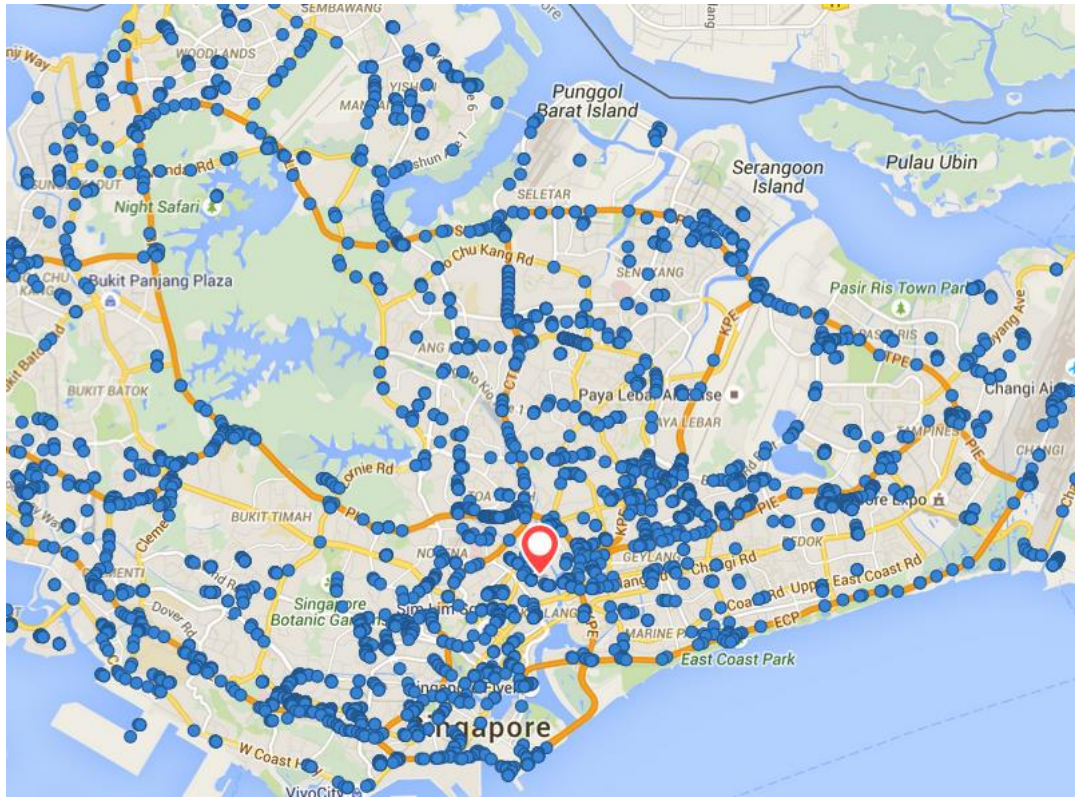
State of the art routing platform for dynamic routing based on multiple static and dynamic criteria

USE CASE

- TRANSPORT PLANNING
- VEHICLE DISPATCH SYSTEM
- ON-DEMAND TRANSPORT
- JOURNEY PLANNING
- AV GUIDANCE

Routing for smart dispatch of taxis/ ride-hailing

On-premise or available as an API

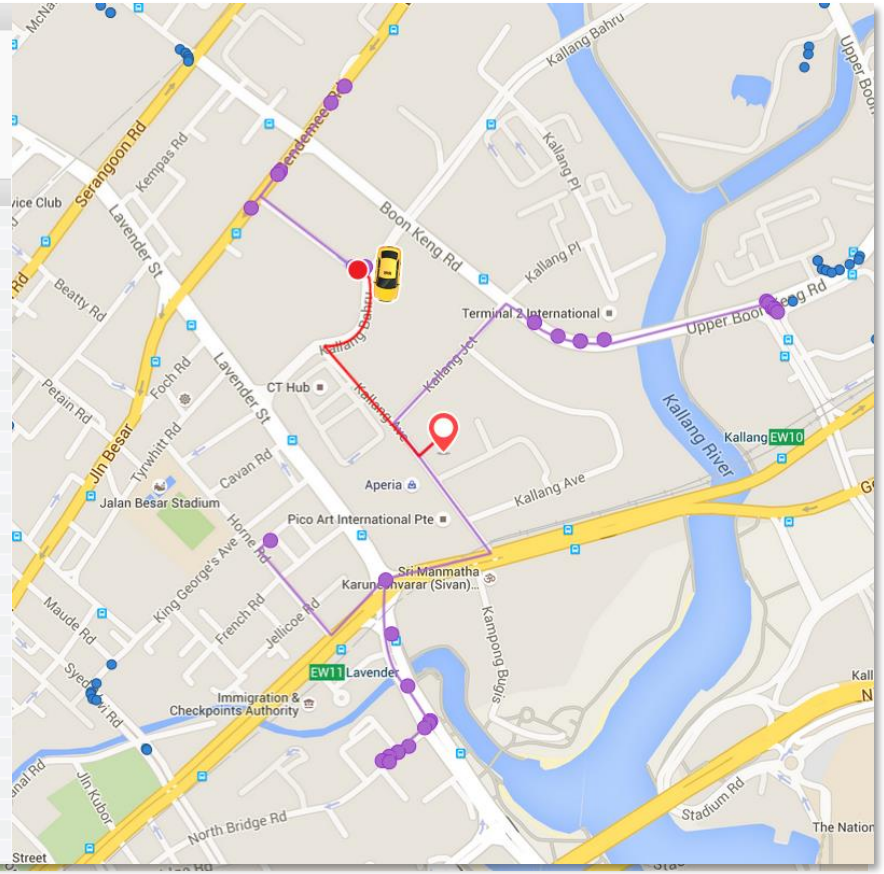


Taxi Distance Calculator

Latitude: 1.311524
Longitude: 103.865119
Time Taken: 499 msec

Calculate

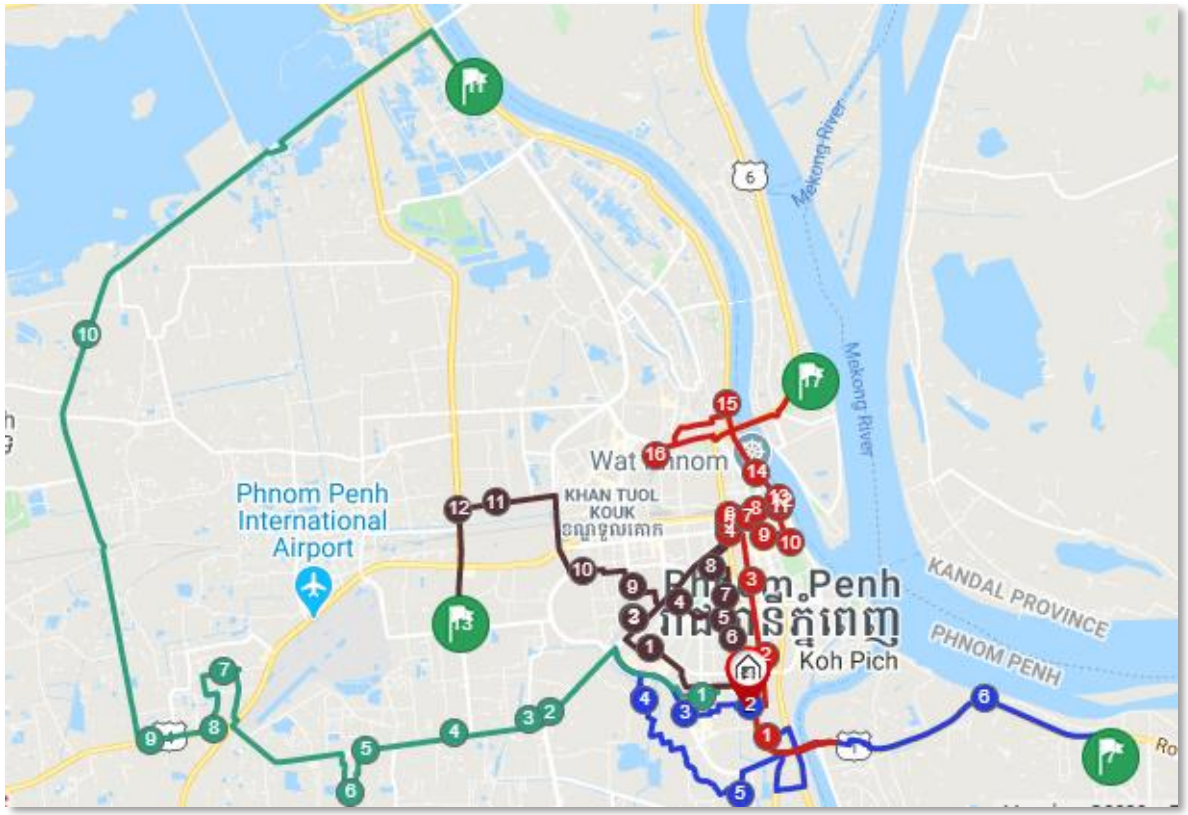
ID	Latitude	Longitude	Distance
SHD7094S	1.31451	103.863558	693 m
SHX1625H	1.314569	103.863485	704 m
SHF9656X	1.306145	103.864787	834 m
SHR7170R	1.306228	103.86487	837 m
SHV6842N	1.306268	103.86489	842 m
SHS7958N	1.306268	103.86489	842 m
SHB8593E	1.306272	103.864883	843 m
SHY6001R	1.30691	103.864478	930 m
SHB2874B	1.309567	103.861972	942 m
SHF5312Y	1.314566	103.863705	977 m
SHD6693V	1.314496	103.863657	987 m
SHL3996M	1.314484	103.863632	988 m
SHC7768S	1.31626	103.862106	1005 m
SHI7014K	1.31626	103.862106	1005 m
SHQ984G	1.316315	103.86215	1013 m
SHH8587O	1.30786	103.864183	1043 m
SHT5917A	1.308845	103.864077	1097 m
SHC3037R	1.315642	103.861619	1122 m
SHG1521H	1.313904	103.871066	1156 m
SHY6750O	1.317565	103.863078	1189 m
SHF8909U	1.317868	103.863328	1233 m
SHP9610T	1.313742	103.871226	1462 m
SHI9420Y	1.313797	103.871181	1470 m
SHK6519L	1.313812	103.871168	1472 m
SHJ3208G	1.313812	103.871168	1472 m
SHR1780I	1.313808	103.871142	1473 m
SHG4915B	1.313237	103.868064	1499 m
SHW8335R	1.313209	103.867629	1548 m
SHE7145Y	1.313209	103.867629	1548 m
SHX2793U	1.313939	103.871027	1570 m
SHV1098S	1.313301	103.867219	1595 m
SHG6859R	1.313552	103.86679	1653 m



Live GPS Location of Entire Taxi Fleet

Booking: Pickup Location of Customer

Multi-vehicle route optimisation for fleets

On-premise or available as an API

Input	Input	Output
Vehicles	Services (Jobs)	Optimized Routes