PTV GROUP

PTV'S JOURNEY WITH BING MAPS FOR ENTERPRISE

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07.06.2023
Schiphol

AGENDA

01 PTV – Who are we?

02 Geospatial Data at PTV

03 Data as a Service (DaaS)

04 Microsoft Bing Maps Distribution

05 Bing Maps Customer Usecases

06 Bing Maps in PTV Products

07 Outlook

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01

PTV – WHO ARE WE?

An overview

Empowering transportation and mobility
–
for a cleaner and smarter future.

Founded in 1979

spin-off of Karlsruhe Institute of Technology

Colleagues

~900 worldwide

Global presence

with 28 locations on all continents

Headquarter

in Karlsruhe, Germany

Active customers

>50,000 use PTV software (>2,500 cities)

Investors

PTV is part of Bridgepoint and Porsche SE

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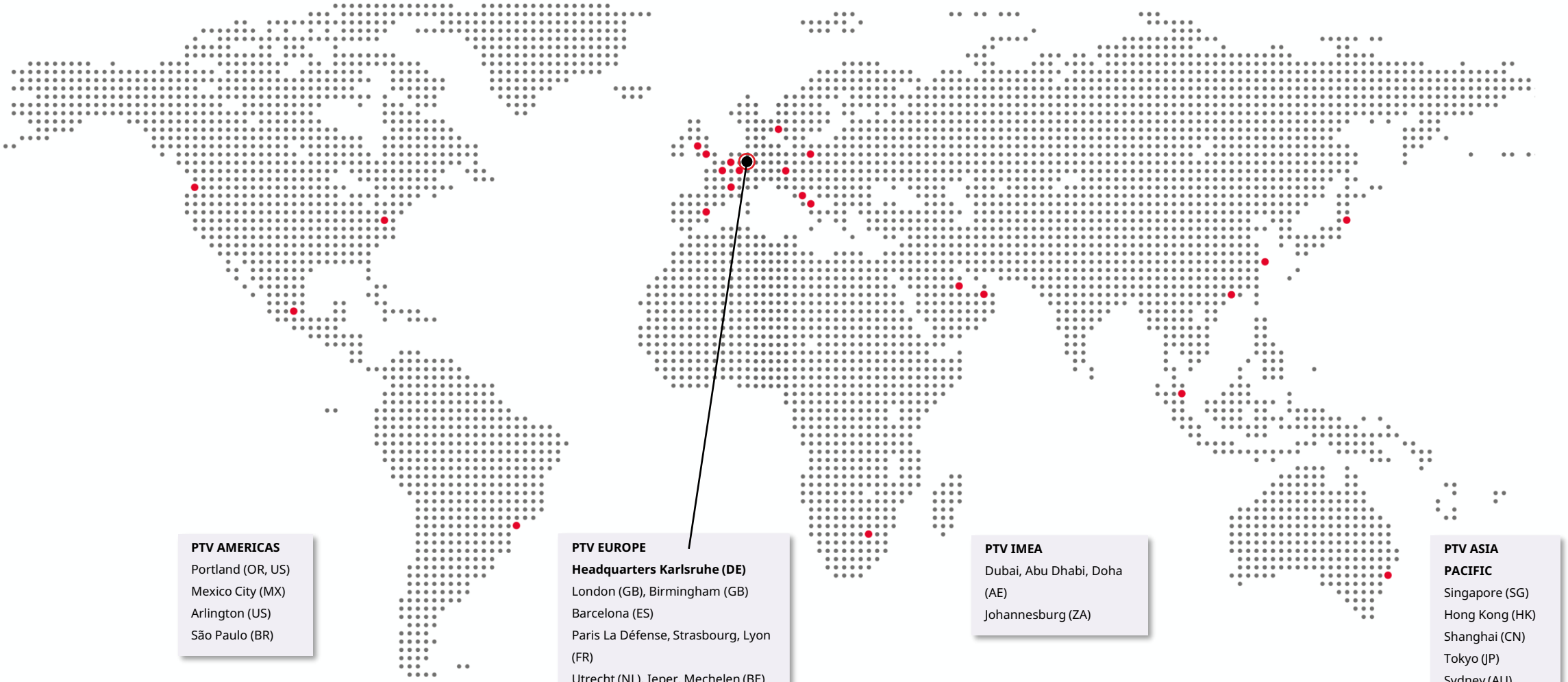
Our global presence



PTV AMERICAS
Portland (OR, US)
Mexico City (MX)
Arlington (US)
São Paulo (BR)

PTV EUROPE
Headquarters Karlsruhe (DE)
London (GB), Birmingham (GB)
Barcelona (ES)
Paris La Défense, Strasbourg, Lyon (FR)
Utrecht (NL), Ieper, Mechelen (BE)
Gothenburg (SWE)
Vienna (AT)
Rome, Perugia (IT)
Warsaw (PL)

PTV IMEA
Dubai, Abu Dhabi, Doha (AE)
Johannesburg (ZA)

PTV ASIA PACIFIC
Singapore (SG)
Hong Kong (HK)
Shanghai (CN)
Tokyo (JP)
Sydney (AU)

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Our segments

Mobility

Software for modeling and simulation as well as planning and decision making for the design of traffic infrastructure

For the public sector, railroad & public transport and consulting

Logistics

Software for planning and optimization of "classical" logistics processes

For industry, production, trade and logistics

Data

Custom-tailored data solutions for a broad variety of use cases and software applications

For retail, industry, logistics, research institutes, consulting and many more

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Our software expertise

Modelling and Simulating

Modelling and simulation of multimodal transport (macro- and microscopic)

Route Optimization incl. Routing & Scheduling

Algorithms for highly complex multi-vehicle and multi-depot fleet optimization problems

Real-Time Traffic Management

Managing of intersections, corridors & entire traffic networks in real-time

Routeplanning for Trucks & Fleet Scheduling

Efficient truck route planning and transport cost calculation taking into account various restrictions

Data-based visualization & analysis

Conception, visualization and analysis of data-based mobility problems for collaborative working

Field Force Planning

Analyze territories and locations and planning optimized routes for field service fleets

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02

GEOSPATIAL DATA AT PTV

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What is
„Data“?


'Without data, you’re just another person with an opinion’
W. Edwards Deming

"OUR GEOSPATIAL COMPETENCE EMPOWERS YOUR BUSINESS – INTERSECTORAL, INDEPENDENT, WORLDWIDE."

PTV Data

- 2021: DDS Digital Data Services GmbH is merged into PTV
- PTV Digital Data Suite is born

Market Leader

- We are the leading data provider and use our expertise for everybody who intends to use or offer geospatial data

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PTV DATA

- Point
- Line
- Polygon

PTV DATA

- A map says more than 1,000 excel spreadsheets!
- Detect agglomerations of high and low turnover
- Show origin, destination and volumes of commodity flows
- Assign and visualize delivery zones
- ...

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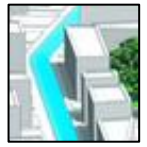
PTV DATA

- Intersectoral
- Independent
- Global

At PTV we offer custom-tailored data products for a variety of clients:

Data for Logistics



Data for Mobility

Data for Location Intelligence

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WHAT IS DATA FOR LOGISTICS?

Value proposition

- Are used in operative, every day tasks
- Create transparency
- Grow trust in inter-corporate relationships
- Provide seamless software integration

Usecases

- Calculation of freight rates
- Support invoice audits
- Address cleansing
- Logistics site selection
- Business/Location Intelligence

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WHAT IS DATA FOR MOBILITY?

Value proposition

- Target strategic usecases
- Increase trust in traffic models
- Accomplish and capitalise on customers‘ internal data

Usecases

- Calculation of local and regional traffic demand
- Help optimize the modal split and support sustainable mobility

WHAT IS DATA FOR LOCATION INTELLIGENCE?

Value proposition

- Target strategic usecases
- Increase trust in statistical models
- Accomplish and capitalise on customers‘ internal data
- Add “location“ to business intelligence

Usecases

- Site selection
- Sales territory optimization
- Market analyses and predictive models
- Analyses of natural and political risks
- and many more

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03

DATA AS A SERVICE (DAAS)

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DATA AS A SERVICE

DaaS is a modern way of data integration:

- High availability
- Easy to integrate
- Regular update cycles
- Flexible licensing

DATA AS A SERVICE

Our DaaS portfolio:

- Weather API
- Natural Risk Data WMS
- Air Quality Data API
- Aerial / Satellite imagery WMS
- Fuel Price Data API
- EWS Road Distance API
- and many more...

04

MICROSOFT BING MAPS DISTRIBUTION

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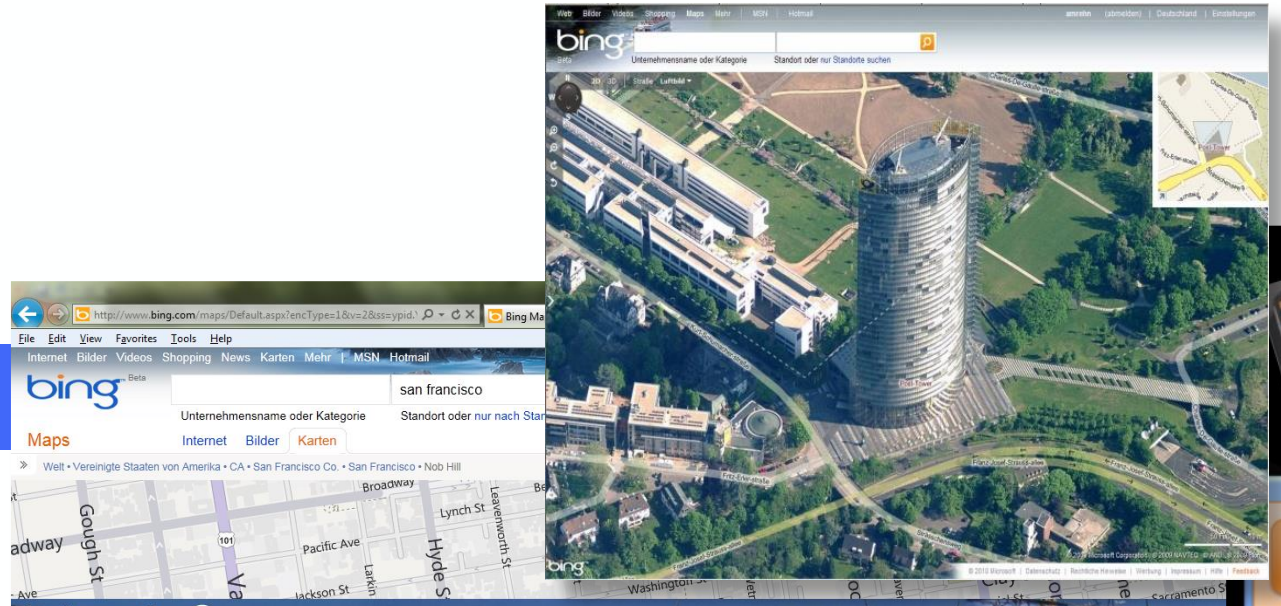
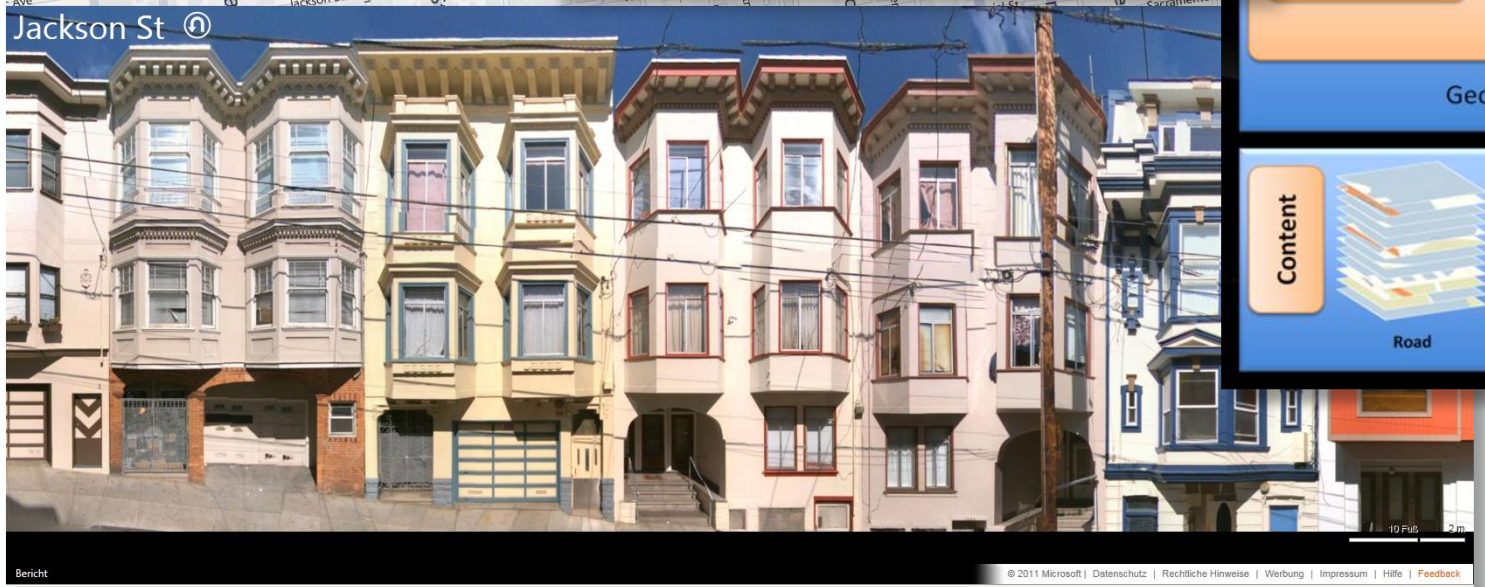
BING MAPS DISTRIBUTION SINCE 2011





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MICROSOFT BING MAPS CUSTOMERS

Web App Developers

- Store Locators
- Content Management Applications
- Business Travel Applications
- Precision Farming
- ...

CRM Applications

- Sales Territory Planning
- KPI Visualisation
- Sales Force Optimisation
- Appointment Planning
- ...

Mobile Asset Management

- Truck Routing
- (Small) Fleet Management
- Waste Management
- ...

Retail Applications

- Site selection
- Network analyses
- Expansion analytics
- Isochrone analyses
- ...

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05

BING MAPS CUSTOMER USECASES

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BING MAPS AT CM4ALL

Customer Voice

- Small business websites today serve as a hub for integrating a wide range of digital services.
- CM4all has integrated a variety of such services into its website building software, for example booking doctors’ appointments, hotel reservations or job postings.
- The interactive route and location map is a must-have for many of our customers.

BING MAPS AT CM4ALL

Application:
CM4all Sites – a website building software with a focus on ease of use for non-technical users.

Target group:
Small and micro-entrepreneurs are the focus of our development. With the CM4all ecosystem, we want to make it as easy as possible for them to take the step towards integrated digitization.

Functionalities:
We use Bing Maps as a widget within our software. Users can drag and drop a map into a page and configure it according to their requirements. Different layouts are available, so the map fits perfectly into their websites. Operation is simple & intuitive and requires no technical knowledge.

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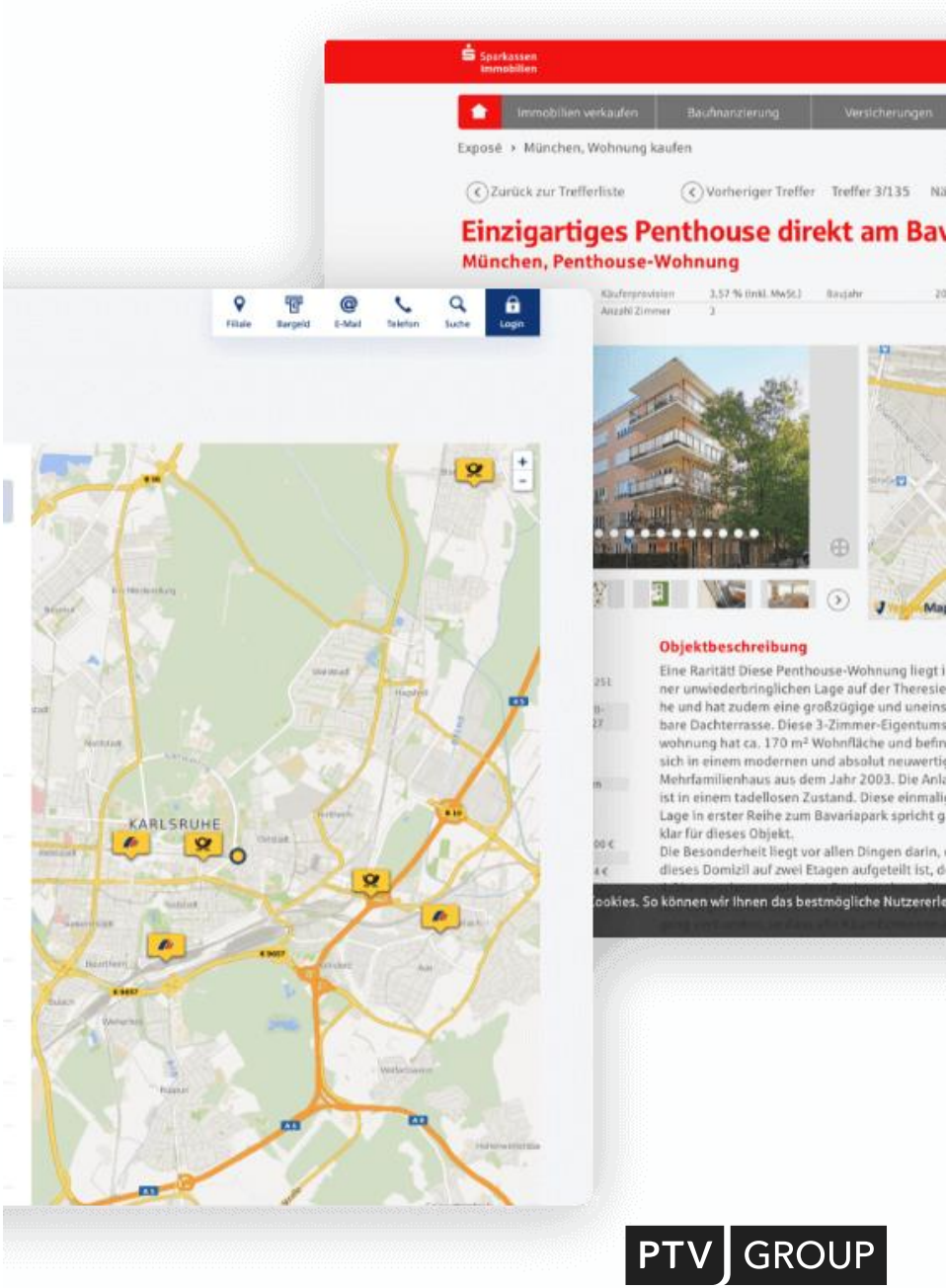
BING MAPS AT YELLOWMAP

Use case

- Location finder of all kinds: for websites (mobile or desktop), ATM finder, real estate finder, POI finder etc.
- Best possible allocation of resources (how to get there, modes of transport, territory divisions e.g., in sales) and much more



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BING MAPS AT YELLOWMAP

Application:
YellowMap's Bing Maps applications can be used both as a ready-to-run application or built by customers themselves using our JS-API. There is a high level of freedom in both cases. Integration into a public website, use in an extranet solution, etc.

Target group:
YellowMap and its solutions provide services across all industries with a focus on the financial sector, insurance and retail.

Functionalities:
Proximity searches and calculations according to actual road kilometers, worldwide geocoding, display of satellite and aerial images, routing directions including calculation of travel time, ...

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BING MAPS AT SMARTCRM

Use case

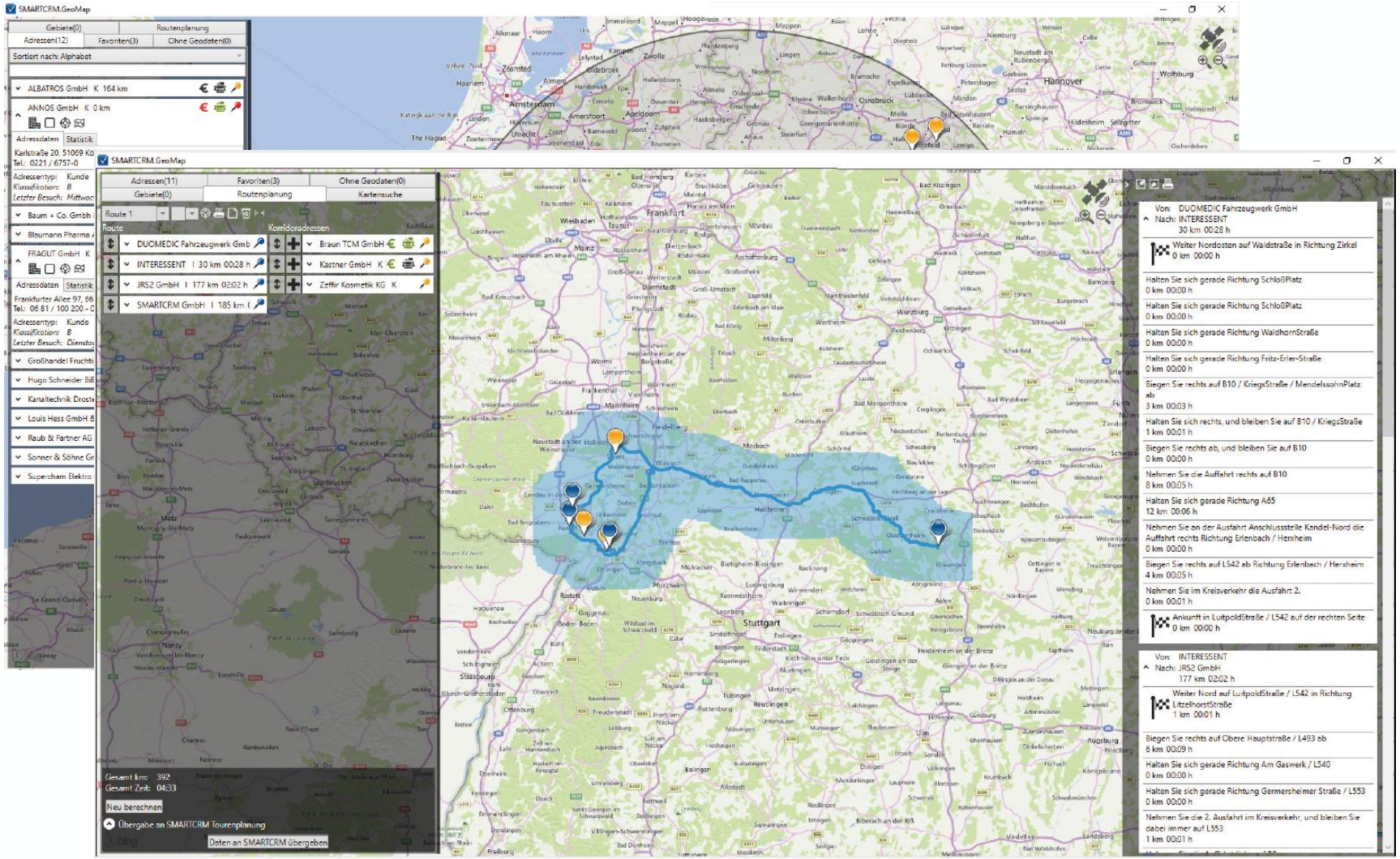
- Visit scheduling, for example on the basis of defined standard trips or also calendar weeks, etc. – in the sales and service fieldwork – transfer of addresses to Bing Maps, for example on the basis of the proximity search or a trip defined in SMARTCRM. This enables visualization of the locations, including display of classifications and statistical information.
- Also possible is the visualization of sales territories and route planning with the display of travel time and route details
- SMARTCRM includes the automatic generation of customer call appointments and planning activities or the assignment of addresses to trips

BING MAPS AT SMARTCRM

Application:
SMARTCRM

Target group:
Medium-sized companies from industry and the B2B trade

Functionalities:
Automatic geocoding, visualization of address locations, route calculation



BING MAPS AT T.A.G. SOFTWARE GMBH

Use case:
Mobile Asset Management, Trip planning and route optimization – individually, or also in connection to existing systems

Application:
Via logis is a software product for trip planning and route optimization. An Excel interface is included as a standard interface, others are optional. Via logis also has a WebFleet telematics and TomTom navigation interface.

Target group:
All industries that have extremely dynamic trips or plan a high number of stops on their trips

Functionalities:
Geocoding, distances, truck routing

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06

BING MAPS IN PTV PRODUCTS

BING MAPS IN PTV VISUM

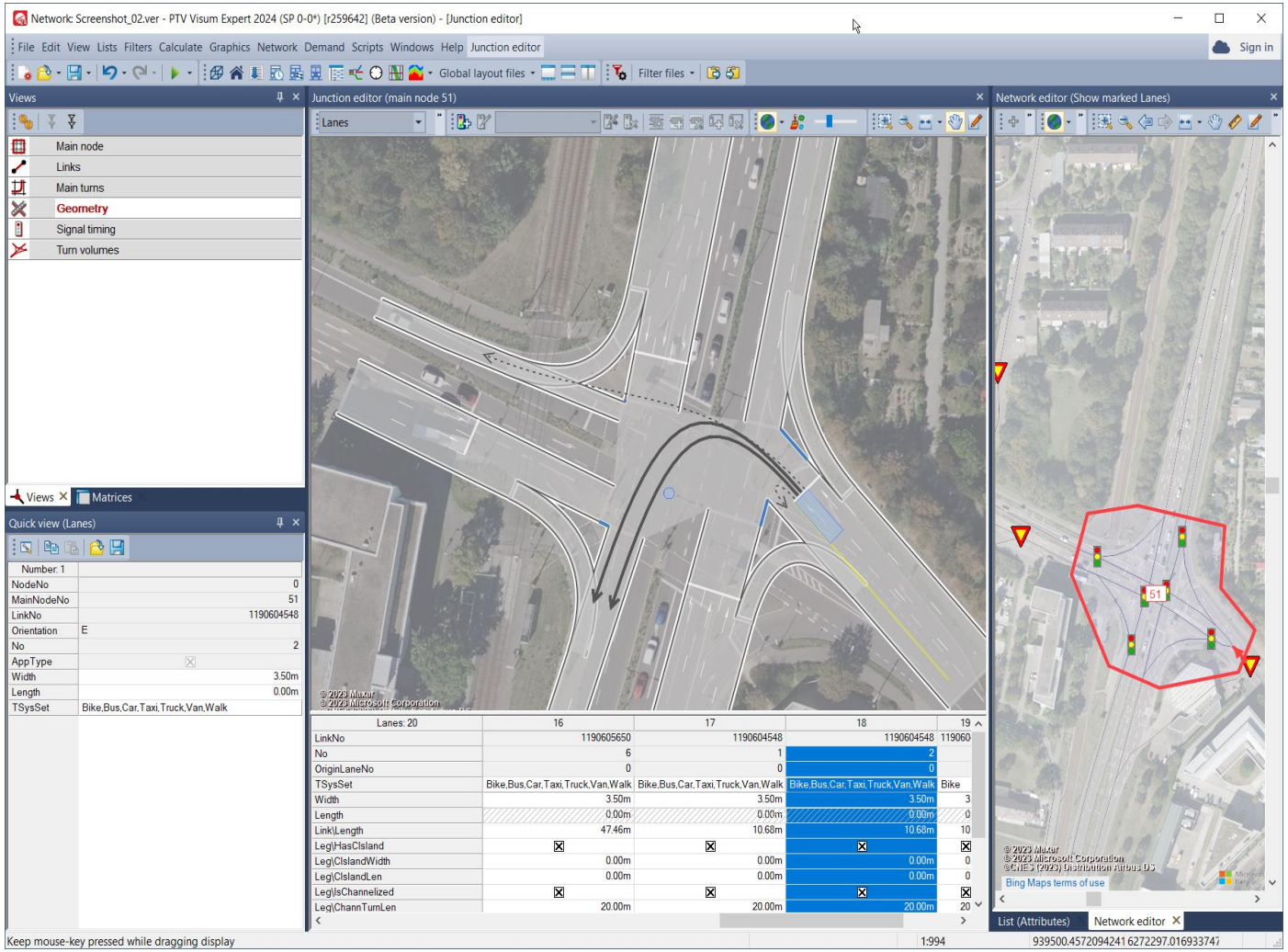
The world’s leading transport planning software

- PTV Visum is the standard for macroscopic simulations and modelling of transport network
- It covers transport demand modeling, public transport planning, and the development of transport strategies and solutions
- With PTV Visum, our clients create transportation models that provide insights for long-term strategic planning and short-term operational use

BING MAPS IN PTV VISUM

High-resolution aerial imagery as background map

- Capture and validate junction layouts
- Lanes & turning movements
- Pockets & traffic islands
- Stopline position
- Crosswalks
- Widths, offsets

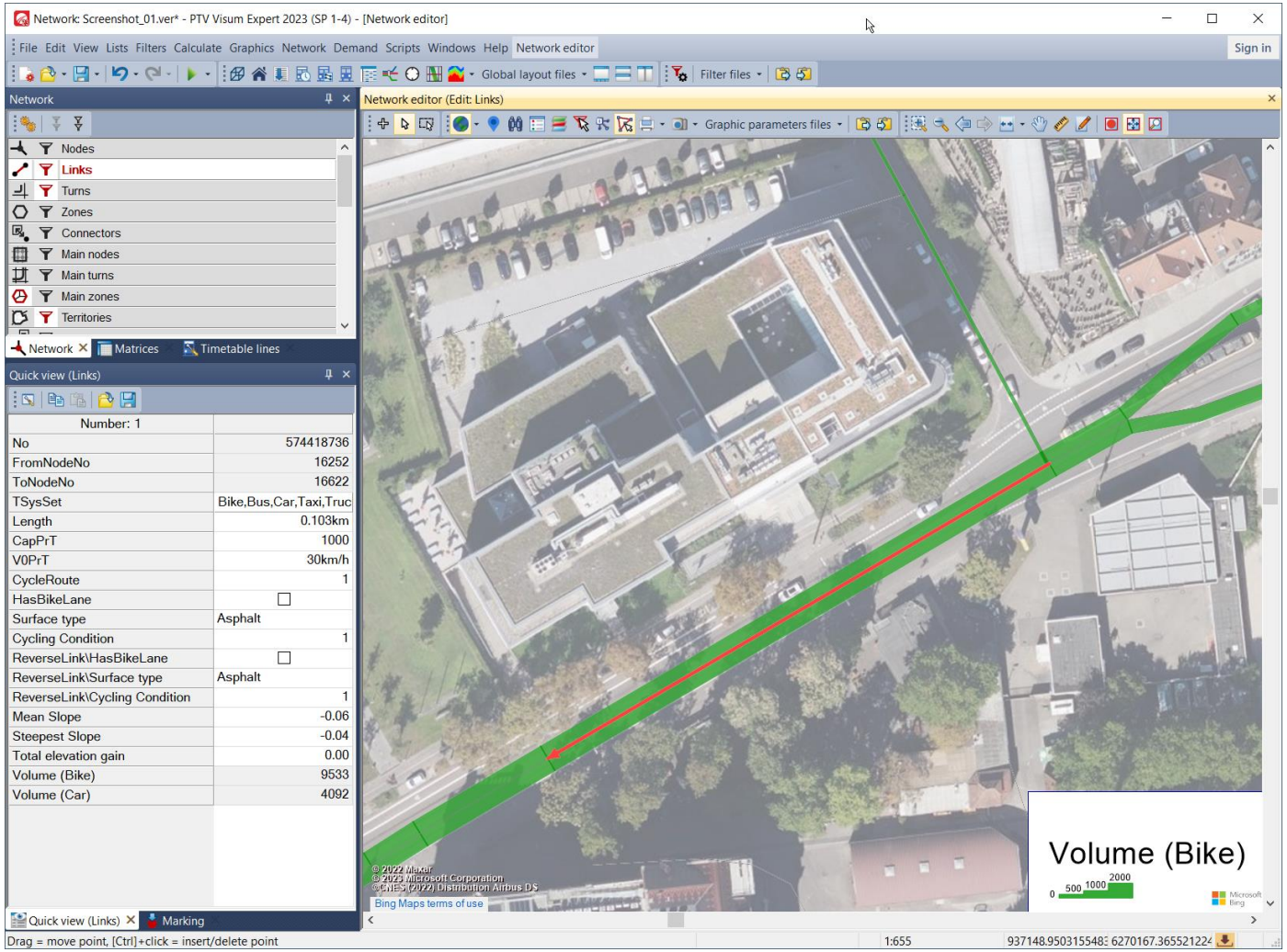


BING MAPS IN PTV VISUM

Capture and validate data on cycling infrastructure

- Bike lanes, markers, separation
- Surface types
- Parking

- Used for location quick search



BING MAPS IN PTV VISSIM

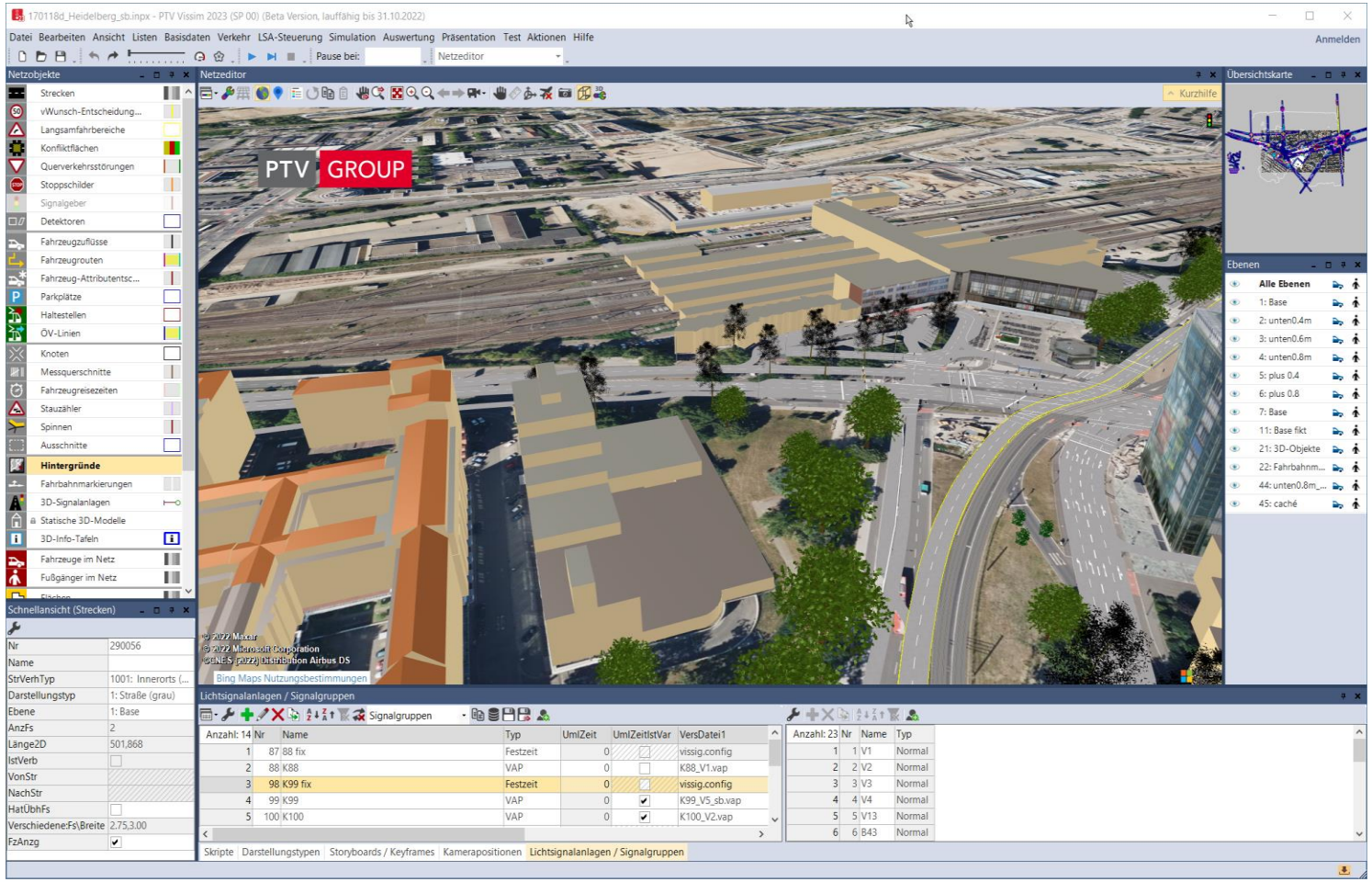
Multimodal Traffic Simulation Software

- The world's leading multimodal traffic simulation software PTV Vissim digitally reproduces the traffic patterns of all road users.
- PTV Vissim evaluates and improves the performance of traffic facilities.
- Results establish the basis for traffic planning decisions and address road traffic challenges, such as congestion and emissions.

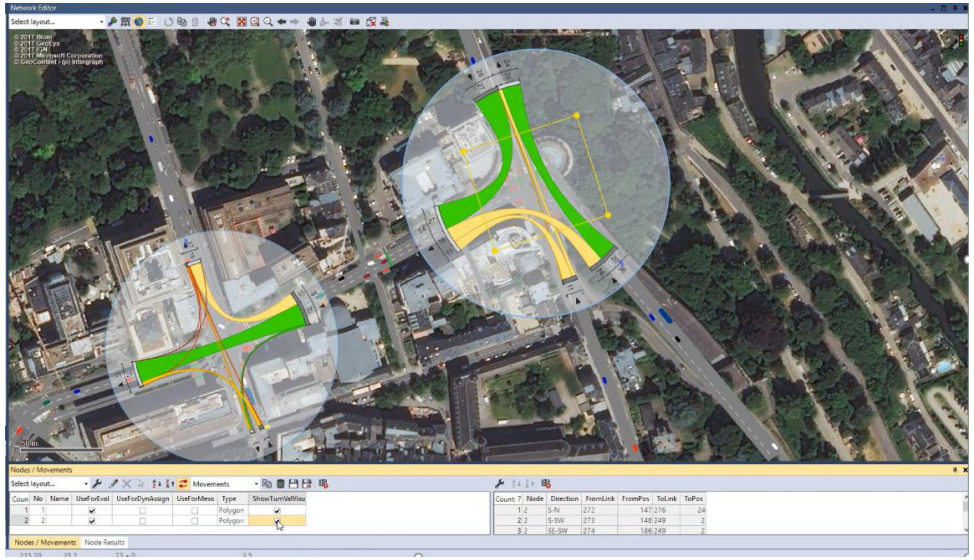
BING MAPS IN PTV VISSIM

High-resolution aerial imagery as background map

- Capture and validate junction layout
- Provide context and orientation in 3D models

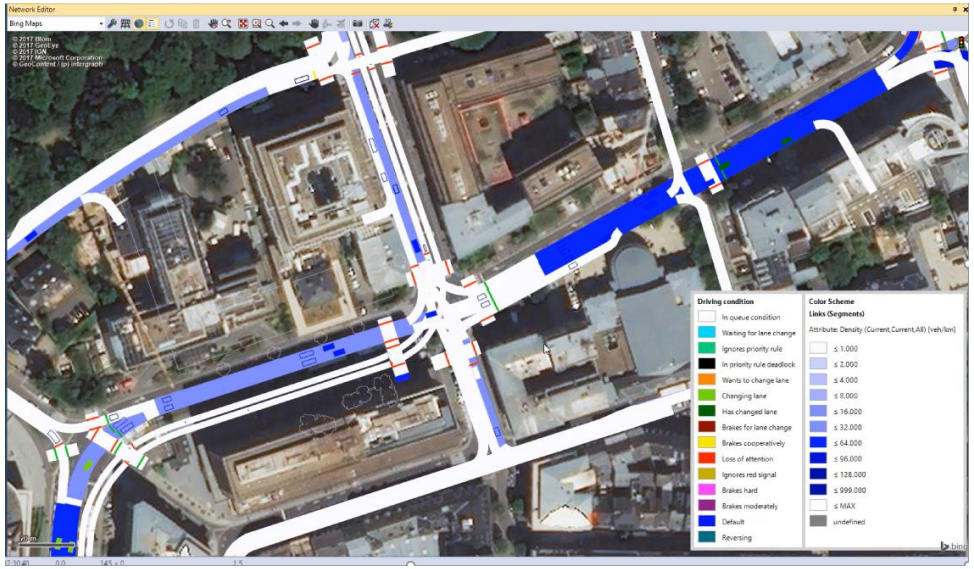


BING MAPS IN PTV VISSIM



High-resolution aerial imagery as background map

- Enrich images with powerful analyses and visualisations
- Background images provide intuitive reference



Use aerial imagery as basis for network build-up

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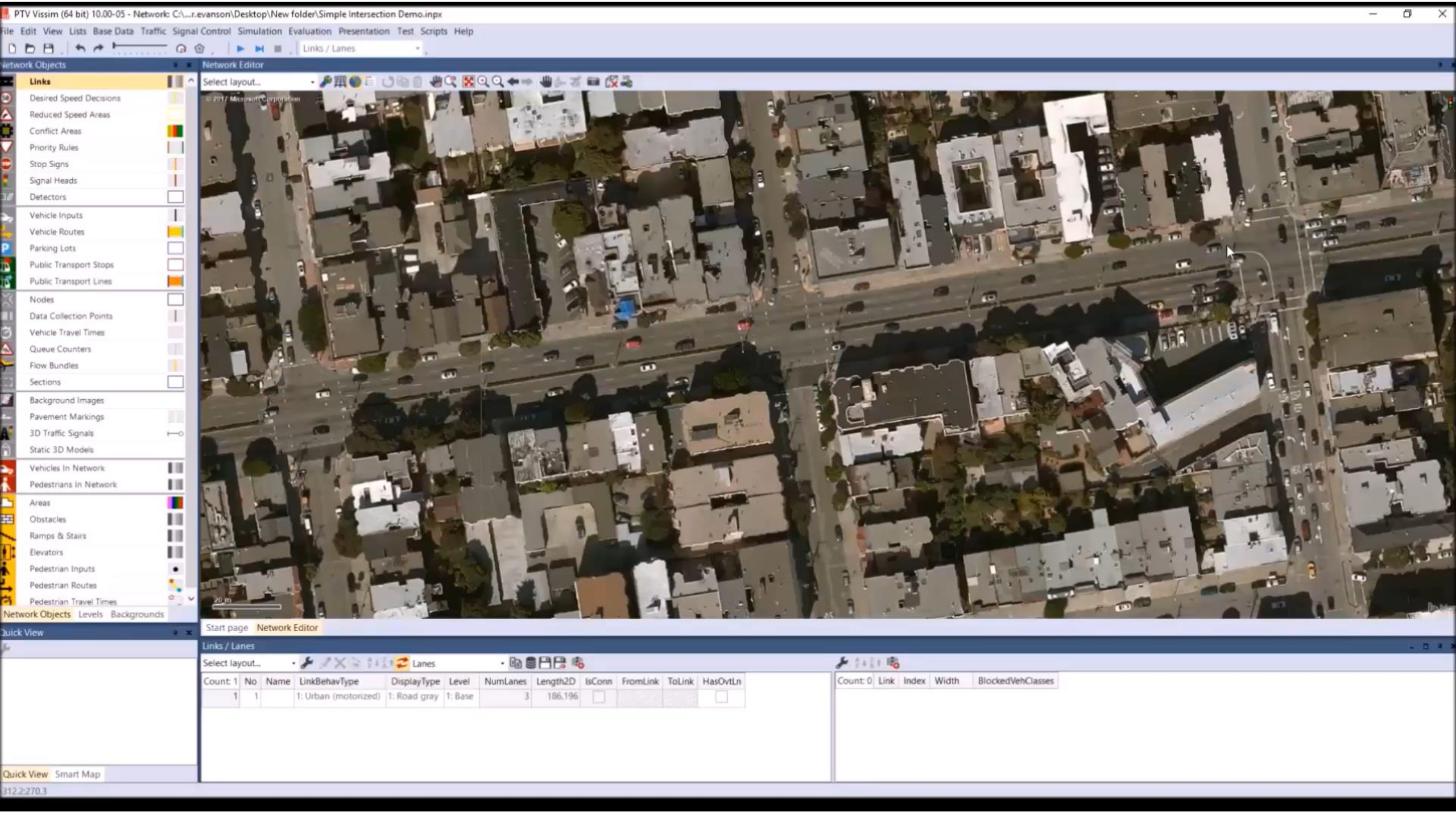
PTV Vissim (64 bit) 10.00-05 - Network: C:\...r.evanson\Desktop\New folder\Simple Intersection Demo.inpx
File Edit View Lists Base Data Traffic Signal Control Simulation Evaluation Presentation Test Scripts Help
Links / Lanes
Network Objects
Links
Desired Speed Decisions
Reduced Speed Areas
Conflict Areas
Priority Rules
Stop Signs
Signal Heads
Detectors
Vehicle Inputs
Vehicle Routes
Parking Lots
Public Transport Stops
Public Transport Lines
Nodes
Data Collection Points
Vehicle Travel Times
Queue Counters
Flow Bundles
Sections
Background Images
Pavement Markings
3D Traffic Signals
Static 3D Models
Vehicles In Network
Pedestrians In Network
Areas
Obstacles
Ramps & Stairs
Elevators
Pedestrian Inputs
Pedestrian Routes
Pedestrian Travel Times
Network Objects Levels Backgrounds
Quick View
Quick View Smart Map
Network Editor
Select layout...
© 2017 Microsoft Corporation
20 m
Start page Network Editor
Links / Lanes
Select layout...
Lanes
Count: 1 No Name LinkBehavType DisplayType Level NumLanes Length2D IsConn FromLink ToLink HasOvtLn
1 1 1: Urban (motorized) 1: Road gray 1: Base 3 186.196
Count: 0 Link Index Width BlockedVehClasses

Global Market

More than 10,000
licences worldwide

North America
- Delaware Valley
- Atlanta
- Oregon
- New Mexico
- City of Winnipeg

Central & South America
- Peru
- Ecuador
- Bogota
- Medellin
- Mexico

Africa
- Johannesburg
- Cape Town
- Addis Ababa
- Mauritius

Asia
- Beijing
- Shanghai
- Shenzhen
- Hong Kong

Europe
- UK
- Italy
- Germany
- Paris
- Wales
- Barcelona

Middle East
- Dubai
- Abu Dhabi
- Sharjah
- Qatar

Australia
- Victoria
- Queensland

- Philippines
- Kuala Lumpur
- Singapore

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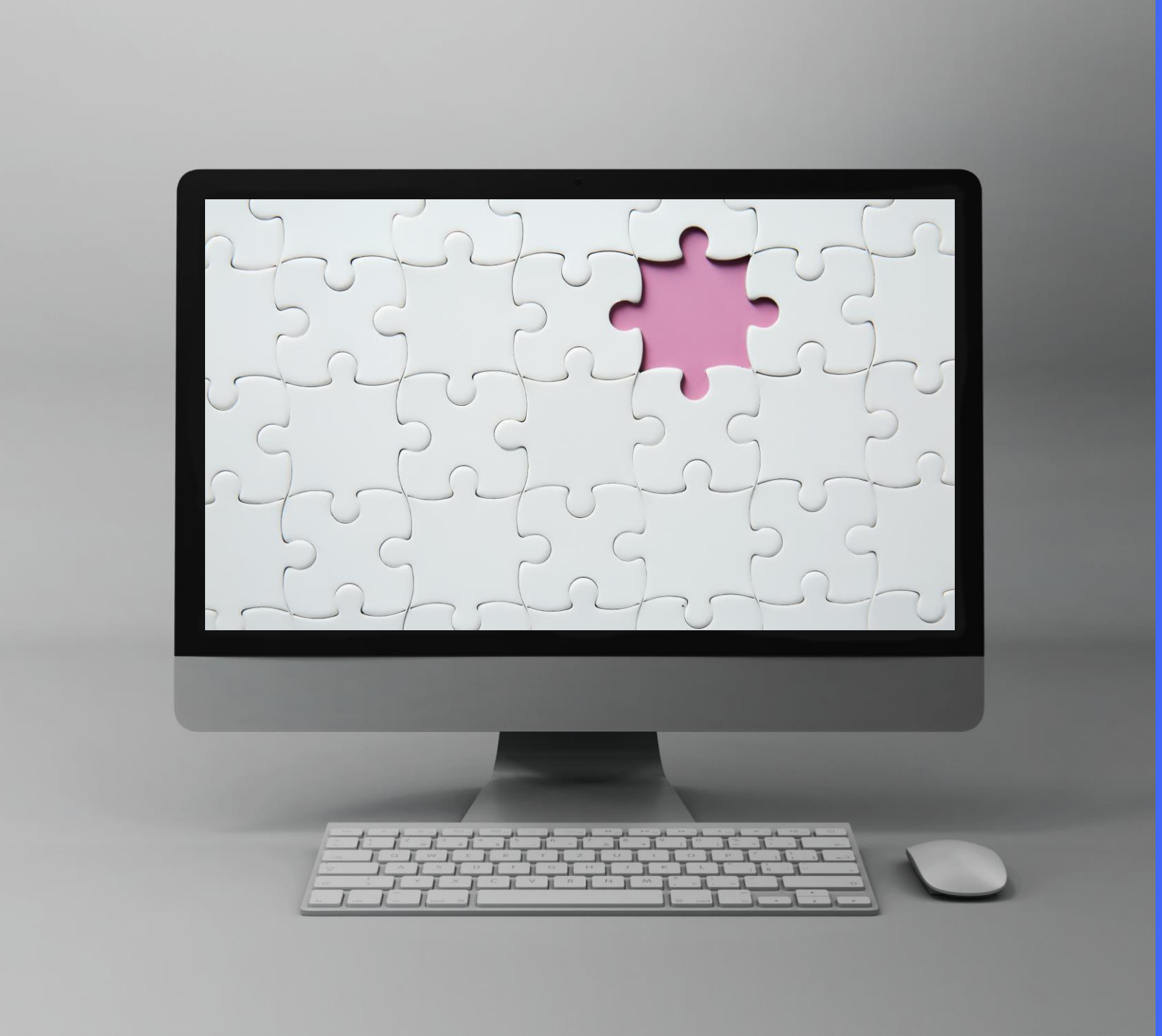
the mind of movement

07 OUTLOOK



OUTLOOK

- Combination of various DaaS offerings
- Vector vs. Raster data
- WMS / WMTS vs. APIs
- Public vs. Private Cloud
- ...

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LET'S TALK

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