



Connected Car Services

Generalizing and Simplifying Telematics

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Why I Am Here, Who I Am, and What to Expect



Starting Point

Fleet Management (WEBFLEET®)



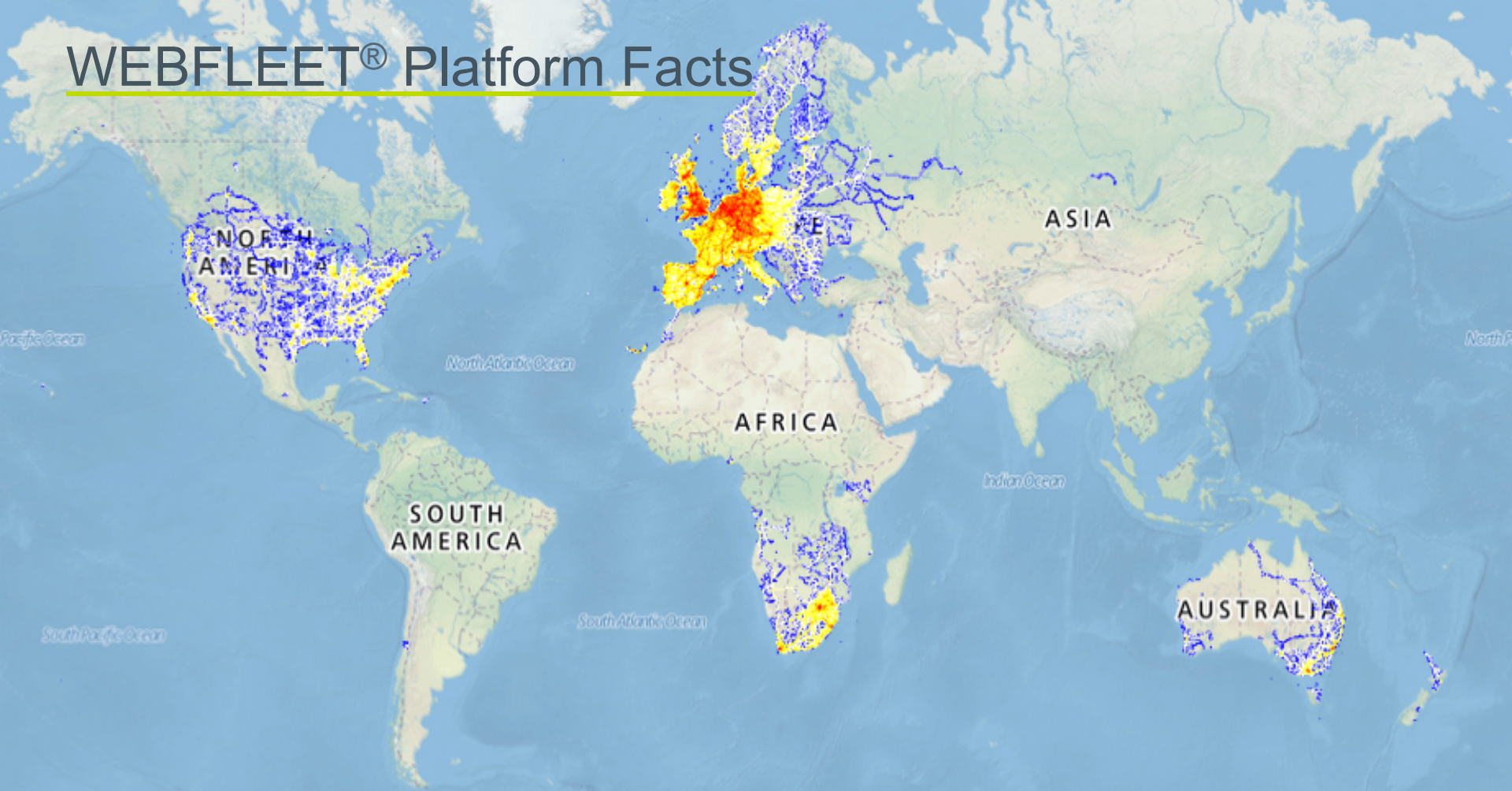
Roots and Traditions

Fleet Management Services and Platform

“Think of fleet management as a specific rendering of telematics & telemetry which in turn is a specific rendering of IoT”

- “traditional” business of TomTom Telematics (for more than 15 years)
- leading provider in Europe (Berg Insight) with 45,000+ customers and 625,000+ vehicles subscribed
- B2B, “blue collar”
- light and heavy commercial vehicles
- “bread & butter” use cases often don’t require advanced sensor data
- large partner eco-system with 300+ software and integration partners

WEBFLEET® Platform Facts

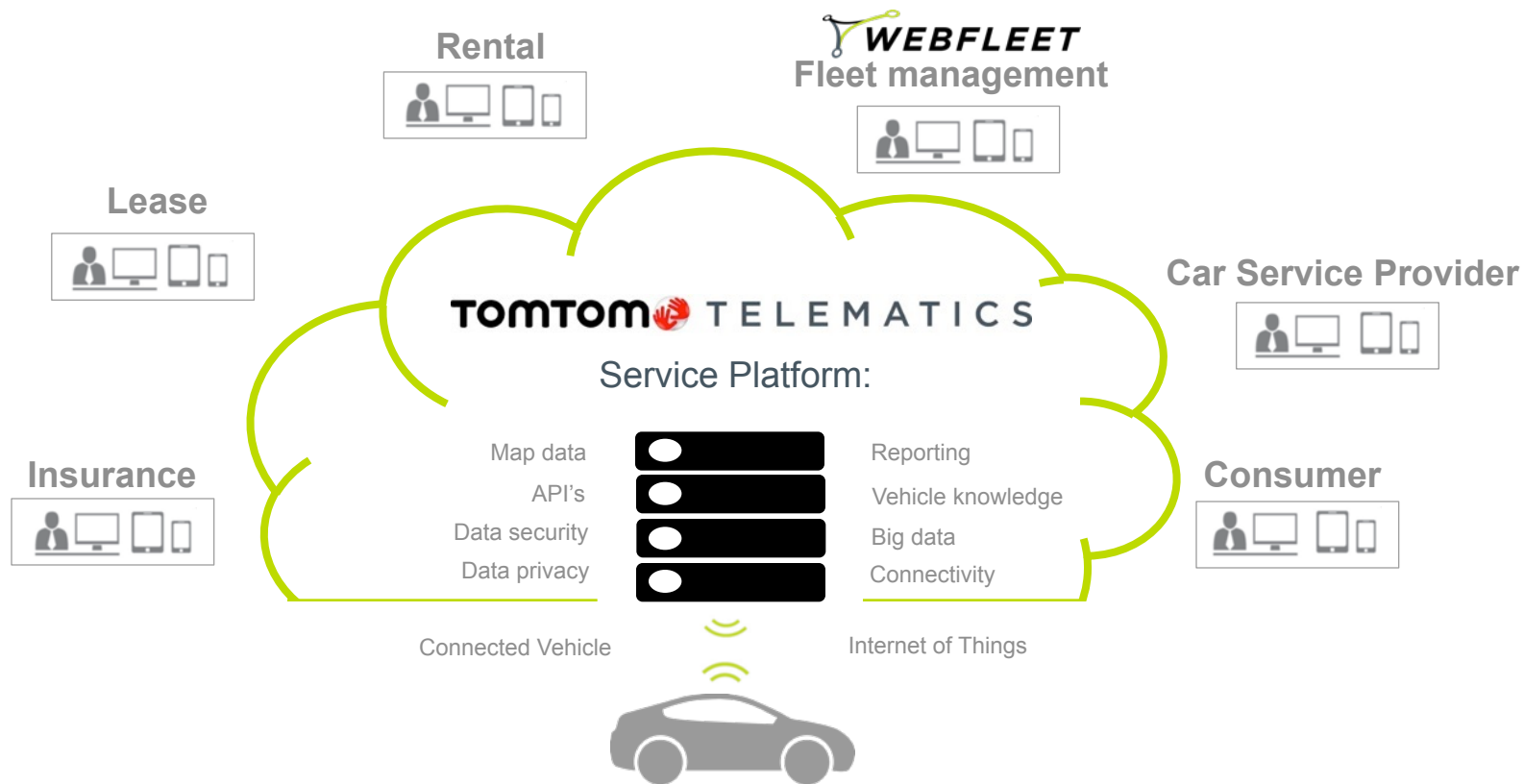


Next Destination

“Ubiquitous” Connected Car Services

Telematics Service Platform

One platform enabling multiple applications and use cases around the “Connected Car”





Full Aftermarket Solution

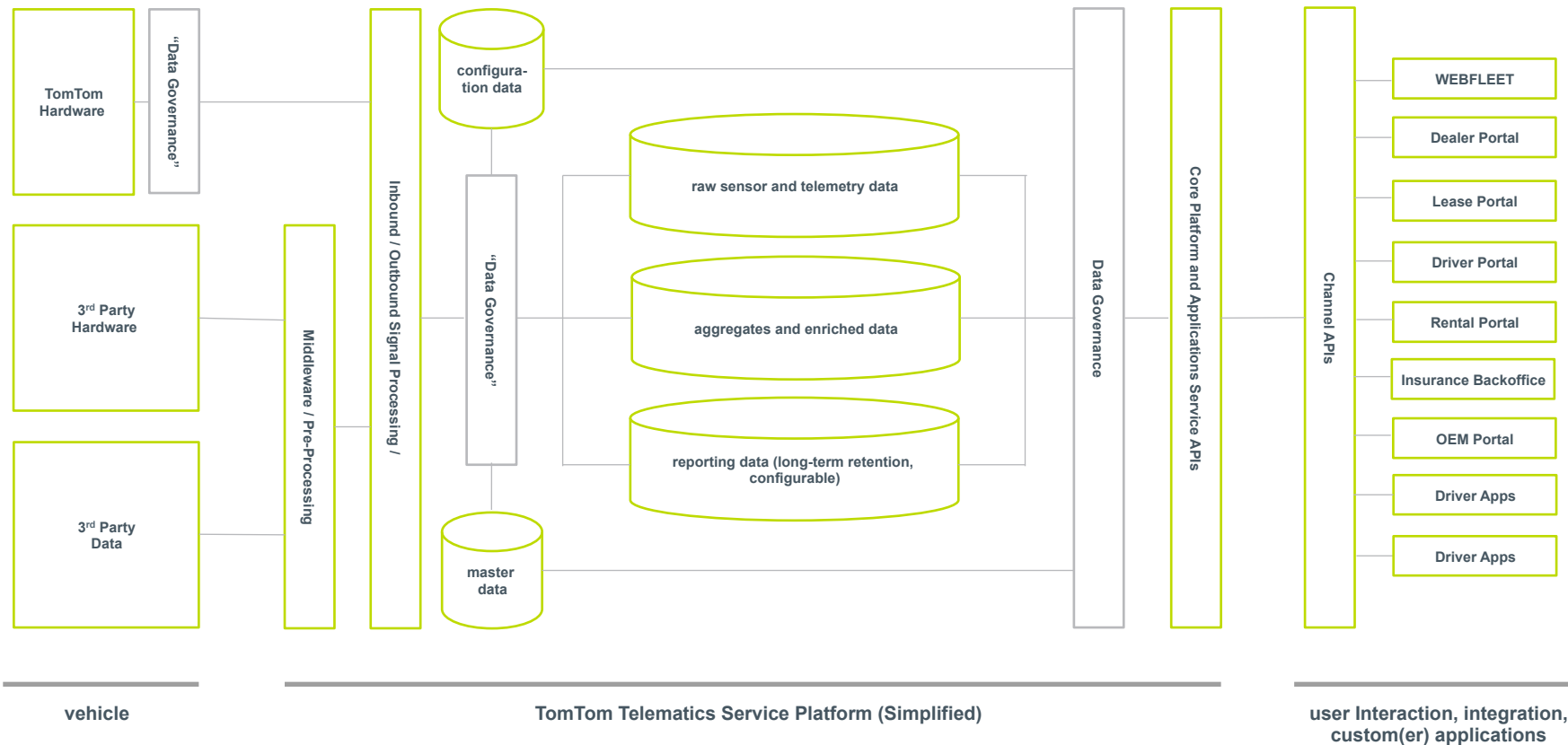
Connected Car Proposition

3rd Party Data

Same Functionality / Data

- vehicle status (e.g. coolant, fuel)
- peace of mind (e.g. doors locked?)
- position data (e.g. locate my car)
- alerts (e.g. passive movement)
- driving behavior (e.g. insurance)
- reporting (e.g. logbook)
- vehicle maintenance
- break down assistance
- ...

Telematics Service Platform - Schematics



“Let’s Dance”

Dodging the Innovator’s Dilemma and Other Challenges

The Innovator's Dilemma and Other Challenges

Key challenges in the transition to a general purpose telematics service platform

Fleet Management
Platform
(single-purpose)

Generalization
New Technical Aspects
Organizational

Telematics Service
Platform
(general purpose)

Deep Vehicle Insight (as a Managed Service)

Sensors & Sensor Networks

- CAN Bus
- OBD
- GPS
- accelerometer
- gyroscope
- ...

On Board Unit / Black Box

- communication uplink
- filtering + routing
- aggregation
- ...

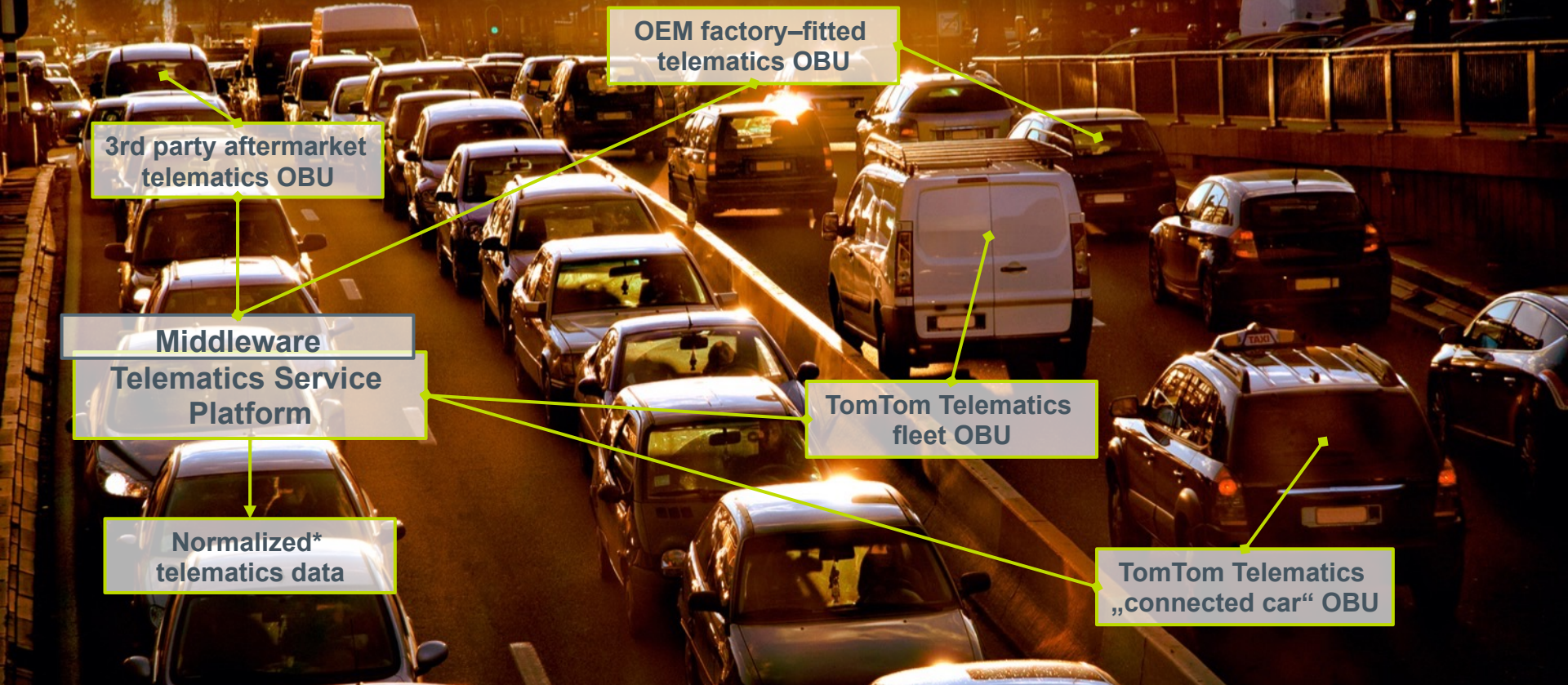
Internet Access

- on-demand
- 78% indirection shields the vehicle
- ...

Telematics Service Platform

- processing + enrichment
- storage + retrieval
- “distillation of meaning” and actionable advice
- access control, infrastructure
- ...

Middleware and Telematics Data Normalization



Modularity & Extensibility as Platform Value

"After a decade of providing APIs our focus now is to make a UI platform that is open and accessible to developers."



UI Platform

Widgets
+
Components

Organization Drives Architecture

Conway's Law at work (observations on the "Mirroring Hypothesis")



Organization / Team Challenges

- teams in different sites collaborate
- many new joiners
- externals / contract workers
- cross-functional deliverables



Architecture / Patterns

- micro-services, loose-coupling
- modularization, components
- standard stack
- pace-layered architecture



Standard
Stack

The End

Summary, Quiz, and Questions

TL;DR

Transition from single-purpose fleet management platform to a general purpose **Telematics Service Platform**.

Connected Car Services based on full aftermarket solution or 3rd party data are the next objective.

Deep Vehicle Insight results from connecting sensor networks in the vehicle to the “Internet of things”.

Modularity and extensibility are important **platform values**.

Mirroring of organizational to system structure seems to be observable.



Quiz

When you hear TomTom, what do you think first?

The Navigation
Company?



Automotive
Supplier?



Digital Mapping?



Telematics Service
Provider?



Thank you

Any questions?

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