See.Think.Act.
Trends in Transportation and Logistics

Gerhard Gumpoltsberger | DAV

Digitalization – 3rd Phase Begins

1995 - 2005

Digitization of Data

- Connecting – Internet
- Digital Infrastructure is growing– Computer / Telecommunication / Content

2005 - 2015

Connected Consumers

- Digitization of Transactions – Trade, Banks
- Social Networks
- Mobile & Sharing Systems

2015 - 2025

Connected Machines

- Internet of Things – Automotive, Aero, Industry, Energy
- Automation of processes and decisions based on algorithms

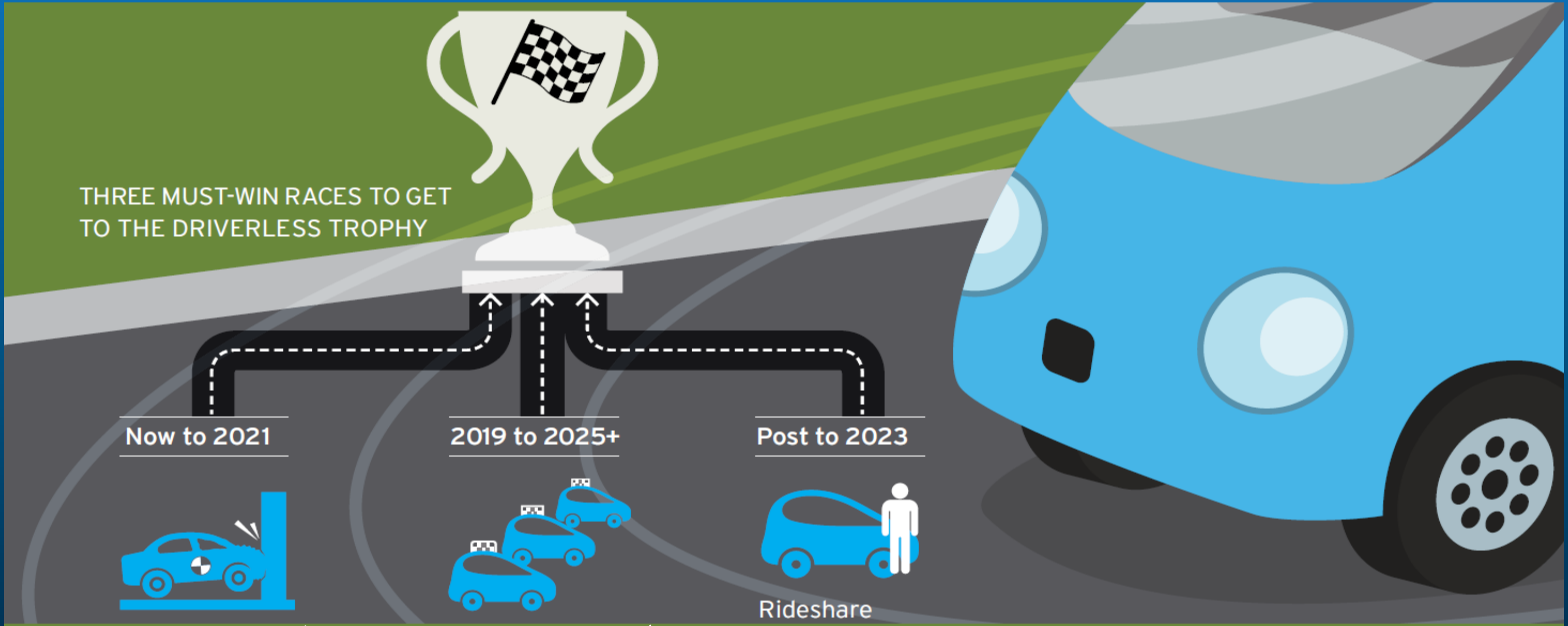
TRIGGERS

AFFECTED

Disruption: Auto Industry Changes 2015-2030

On-demand mobility will inflect with driverless and connected vehicles entering the market over the next 4-6 years	Driverless cars will enable new shared-ownership business models	The cost of electric vehicles will reach parity with internal combustion vehicles by 2025	Connected cars and big data will enable new revenue and efficiency streams throughout the life of the car

Disruption: Auto Industry Changes until 2023

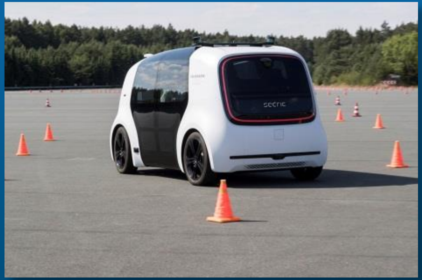


Build automated capability, test it and start validating it.

Validate, certify and launch rideshare „robotaxi" in a geo-fenced zone

„robotaxi" beyond a geo-fenced zone and entry of personal driverless cars

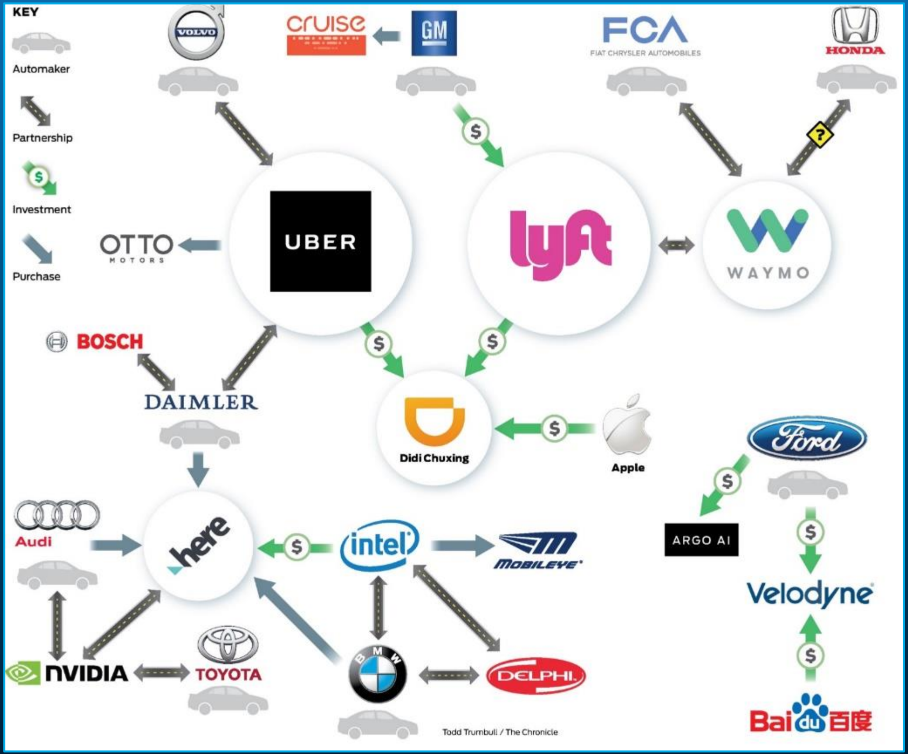
Digital Products und Services accelerate Market Transformation



Autonomous Vehicles

Autonomous Transport Systems

Traditional OEMs are becoming Mobility Service Providers and supporting Changes in the Value Chain



Strategic partnership/investment in the automotive environment:

- OEMs
- Logistics
- Technology Companies

AD is a Disruptive Factor for Changes in the Value Chain in the Supplier Industry

Traditional value chain

end customer

individual vehicle

traditional OEMs

BMW, VW, Audi

Future value chain in the range of AD

Transport as a Service TaaS

lyft, MAGNA, transdev (MOBILITY INSPIRED BY YOU), WAYMO, DiDi (More than a Journey), MOIA, ZOOX, UBER

AD fleet owner

transdev (MOBILITY INSPIRED BY YOU), WAYMO, DB, ZOOX

AD vehicle manufacturer

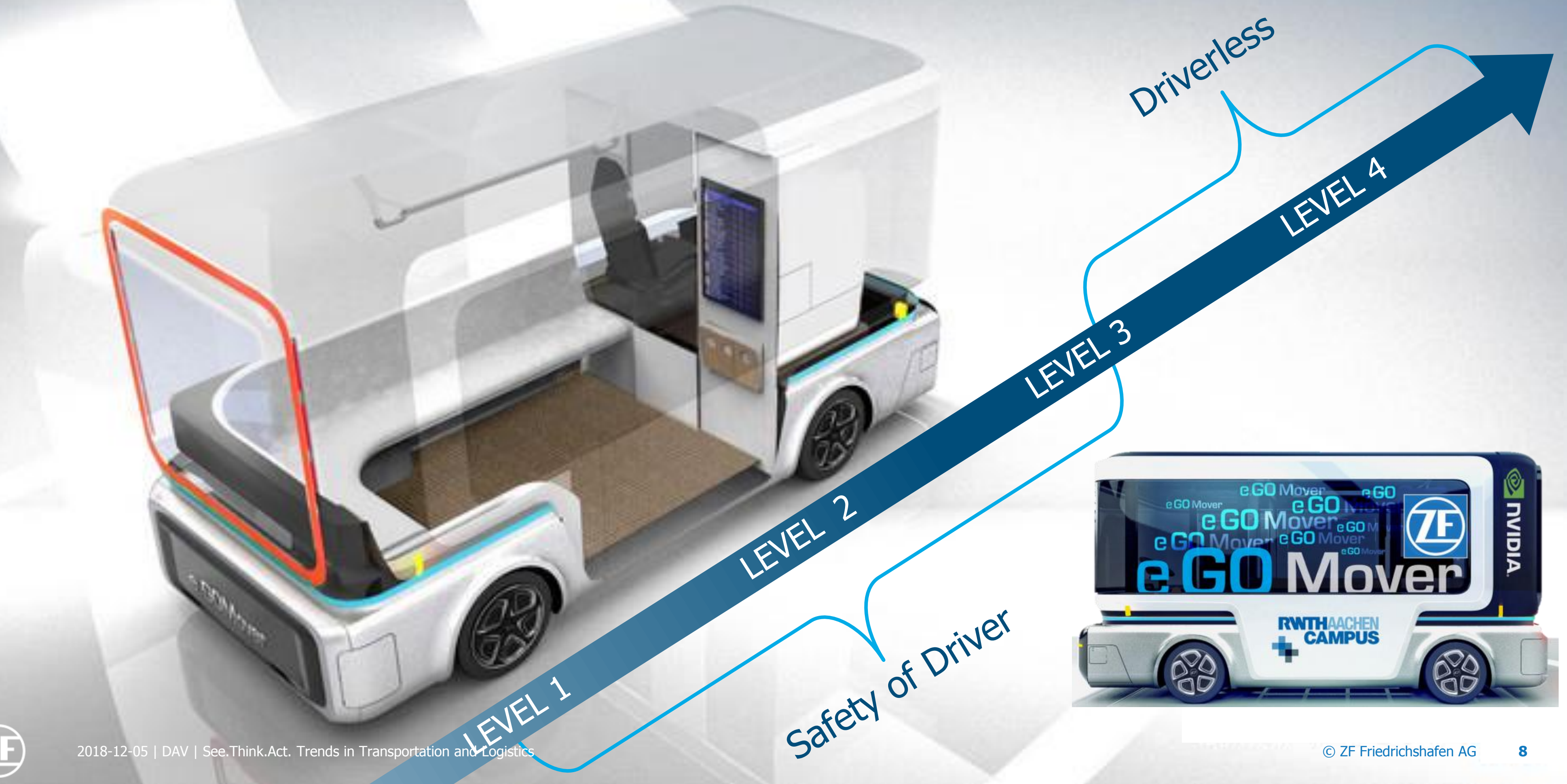
PARAVAN, navya, cruise, STREETSCOOTER, EASY MILE, ZOOX, e.GO

Tier 1 supplier

BOSCH, ZF, MAGNA, DELPHI Automotive Systems, Continental

The mapped companies are entitled not to completeness, but are to be seen as an excerpt of the most important players

Market Access: e.Go usp approach

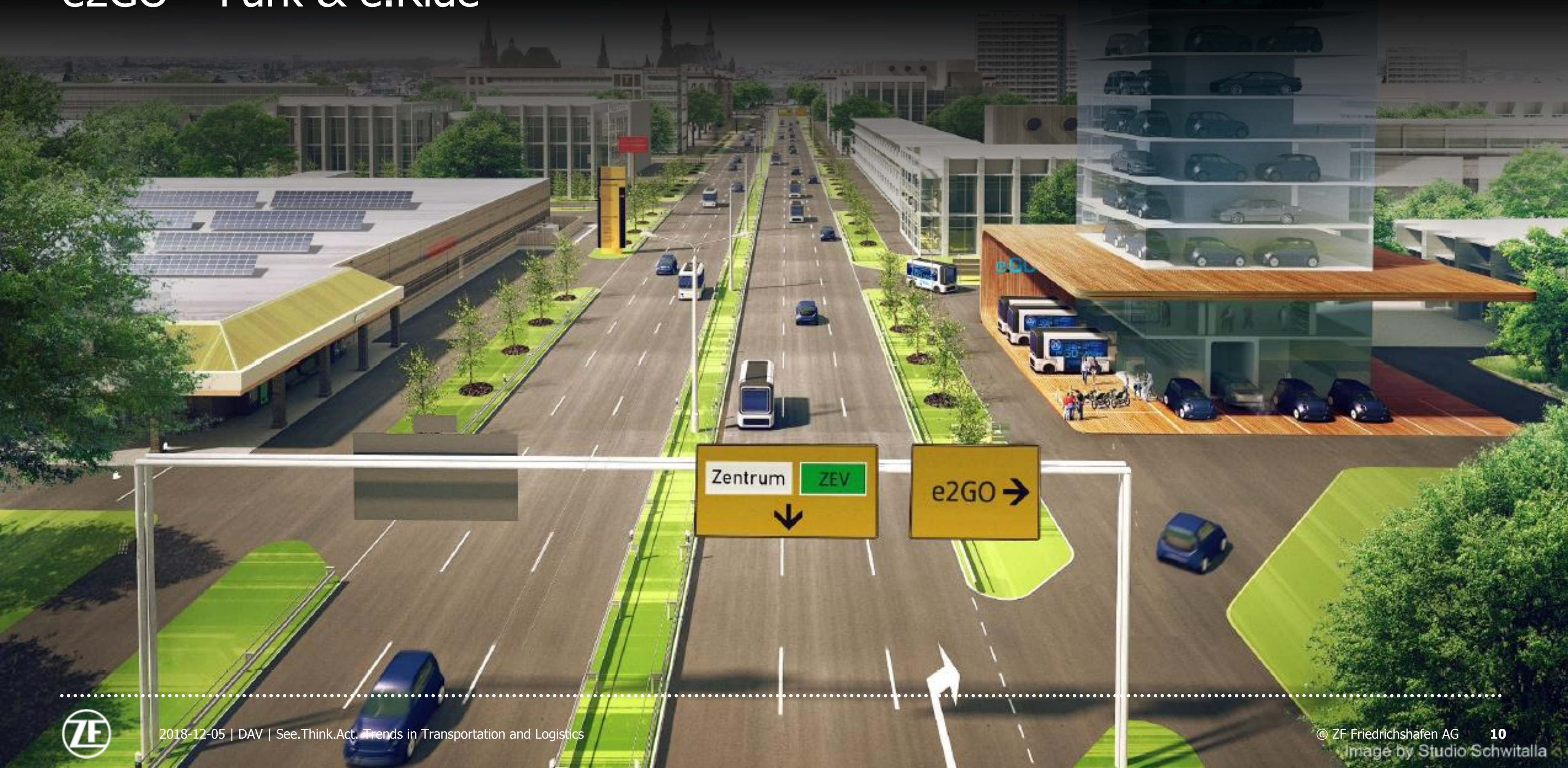


Overview

e.GO:digital

Image by Studio Schwitalla

Prospects on New Mobility Solutions
e2GO – Park & e.Ride



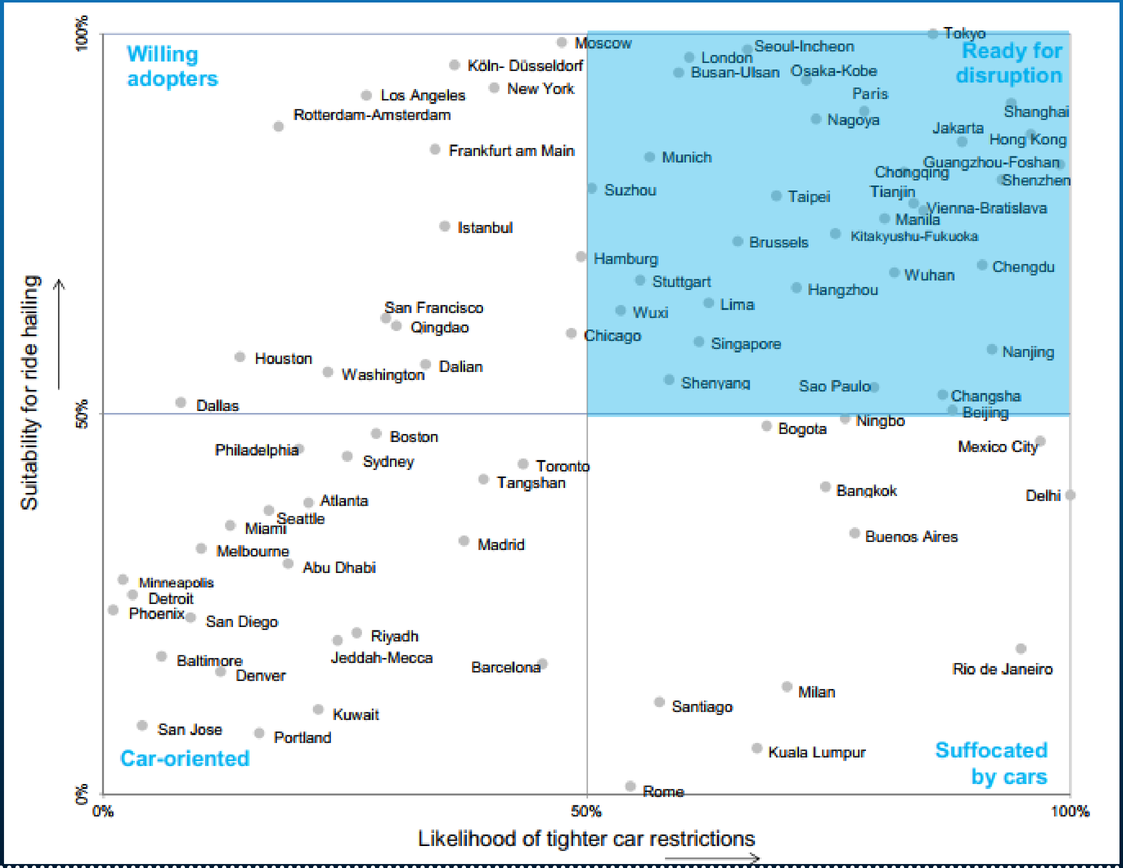
e2GO Hub

Prospects on New Mobility Solutions

Image by Studio Schwitalla

Published AD-People Mover Activities

Which Cities are Ready for the Change?



„Push and pull factors determine which cities are likley to experience the greatest disruption"

Source: Company data, Goldman Sachs Global Investement Research

Strategic Market Segments of Autonomous Driving

Passenger Car

Traditional OEMs

car manufacturer with
business model to
end customer

Commercial Vehicles

Comm. Vehicle OEMs and Fleet Owners

HCV / LCV manufacturer
with business model to
fleet owners

Fleet owners

People & Cargo Mover

People and Cargo Purpose Built Vehicles

PBV manufacturer with
business model to
fleet owners, cities,
mobility providers

Ride Hailing

Transport as a service providers

TaaS as business
model to end customers

no fleet ownership
low asset valuation

Industry Automation

Automated Operation

Automation as cost
reduction factor

highly diversified market

New Mobility/Transportation Concepts

Autonomous
Electric
People Mover

Autonomous
Electric
Cargo Mover

Customer Expectations Require Highly Optimized Supply Chains

Transport Systems in the Logistics Chain

Shaping Smart Logistics – Autonomous Depot

Shaping Smart Logistics – Last Mile Delivery

Thank you