Systematic on-site reviews of autonomous vehicles
Virtual Meeting – 16th, September 2020

A presentation for
ITU

A member of The Transformation Alliance

The h&z Center for Future Mobility (CFM) is an in-house knowledge hub working on four core topics in close cooperation with various clients

Introduction of h&z Center for Future Mobility

Autonomous driving/ ADAS
- Key developers
- Software stacks
- Technical performance
- Operations
- Test projects
- …

Autonomous Driving

Mobility Solutions

Mobility solutions
- ODM Mobility
- Multimodality
- VTOL
- First and last mile
- Micromobility
- …

Center for Future Mobility

Connected vehicles
- Applications
- Legislation
- Data Privacy
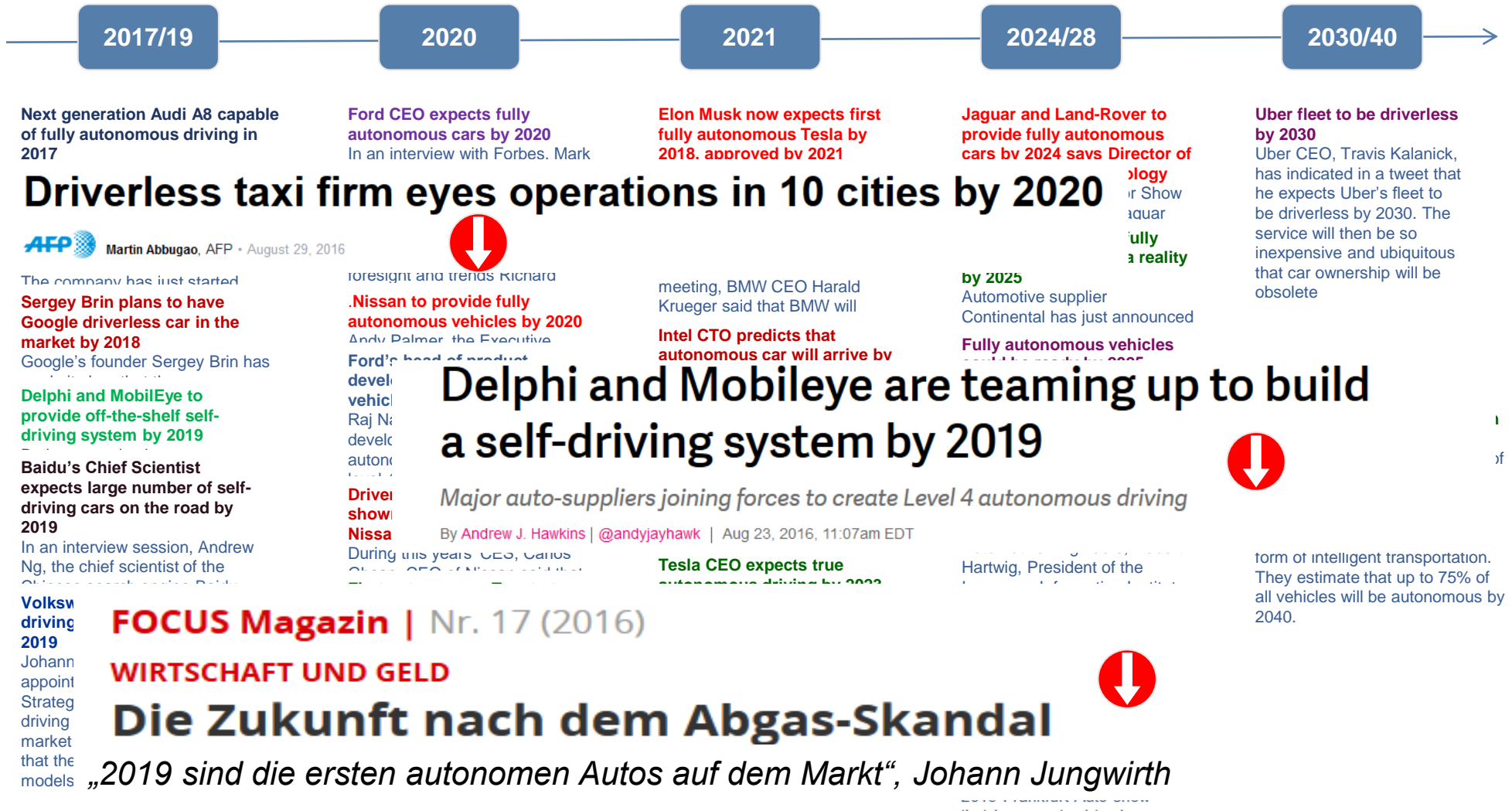- 5G
- Infrastructure
- …

Connected Vehicles

Alternative Fuels

Alternative fuels
- Batteries
- xEVs
- Hydrogen production
- Charging infrast
- …

Especially in AD we have witnessed stark discrepencany between promises and reality, however traditional ways of *understanding* only got us to a certain point…

Empty promises in AD

2017/19	2020	2021	2024/28	2030/40

Next generation Audi A8 capable of fully autonomous driving in 2017

Driverless taxi firm eyes operations in 10 cities by 2020

AFP Martin Abbugao, AFP · August 29, 2016

The company has just started

Sergey Brin plans to have Google driverless car in the market by 2018
Google's founder Sergey Brin has

Delphi and MobilEye to provide off-the-shelf self-driving system by 2019

Baidu's Chief Scientist expects large number of self-driving cars on the road by 2019
In an interview session, Andrew Ng, the chief scientist of the

Volksw driving 2019
Johann appoint Strateg driving market that the models

Ford CEO expects fully autonomous cars by 2020
In an interview with Forbes. Mark foresight and trends Richard

.Nissan to provide fully autonomous vehicles by 2020
Andy Palmer, the Executive

Ford's head of product develo vehicl
Raj N develo auton

Driver show Nissa
During this years 'CES, Carlos Ghosn, CEO of Nissan said that

Delphi and Mobileye are teaming up to build a self-driving system by 2019

Major auto-suppliers joining forces to create Level 4 autonomous driving

By Andrew J. Hawkins | @andyjayhawk | Aug 23, 2016, 11:07am EDT

Elon Musk now expects first fully autonomous Tesla by 2018, approved by 2021

meeting, BMW CEO Harald Krueger said that BMW will

Intel CTO predicts that autonomous car will arrive by

Tesla CEO expects true autonomous driving by 2023

Hartwig, President of the

Jaguar and Land-Rover to provide fully autonomous cars by 2024 says Director of
ology
r Show
aguar
ully
a reality
by 2025
Automotive supplier Continental has just announced

Fully autonomous vehicles could be ready by 2025

Uber fleet to be driverless by 2030
Uber CEO, Travis Kalanick, has indicated in a tweet that he expects Uber's fleet to be driverless by 2030. The service will then be so inexpensive and ubiquitous that car ownership will be obsolete

form of intelligent transportation. They estimate that up to 75% of all vehicles will be autonomous by 2040.

FOCUS Magazin | Nr. 17 (2016)

WIRTSCHAFT UND GELD

Die Zukunft nach dem Abgas-Skandal

„2019 sind die ersten autonomen Autos auf dem Markt", Johann Jungwirth

On-site observations are critical to fully understand the status quo with regards to vehicle performance, operational setup and developed business models

Examplary observation area in California and Phoenix

Bay Area

ZOOX Apple DAIMLER
aurora WAYMO cruise

On-site Details

- Multiple times per year, we visit the testing hotspots of the world
- Until today, we have collected more than **12 hours of structured and prepared 10-15 seconds clips**
- These videos serve for a systematic review of the status quo and the implications of AD

Los Angeles

WAYMO

Phoenix

WAYMO cruise tu simple

Media and PR only tell a skewed story. In order to see how far autonomous driving *really* is, one must be on-site and understand what is going on

During the on-sites we have gathered enormous amounts of data on a very detailed level that is helpful to various project partners

On-site observations – selected outputs

Location(s) & Operations

In previous projects, we have provided a detailed overview of the scale of operations and the efficiency level of testing efforts incl. indication of fleet utilizations

Technical assessment & driving behavior

During our many observations of autonomous vehicles on the road, we collect ample data on how the system behaves in real-life traffic situations and the overall technical set-up is performing
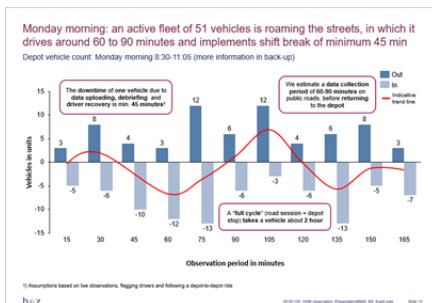
Routes, testing area & scale

Given our several weeks in the testing area, we are able to provide estimations on where the autonomous vehicles go, what area they span and what potential customer value they can create

Feel free to reach out!

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The Transformation Alliance