

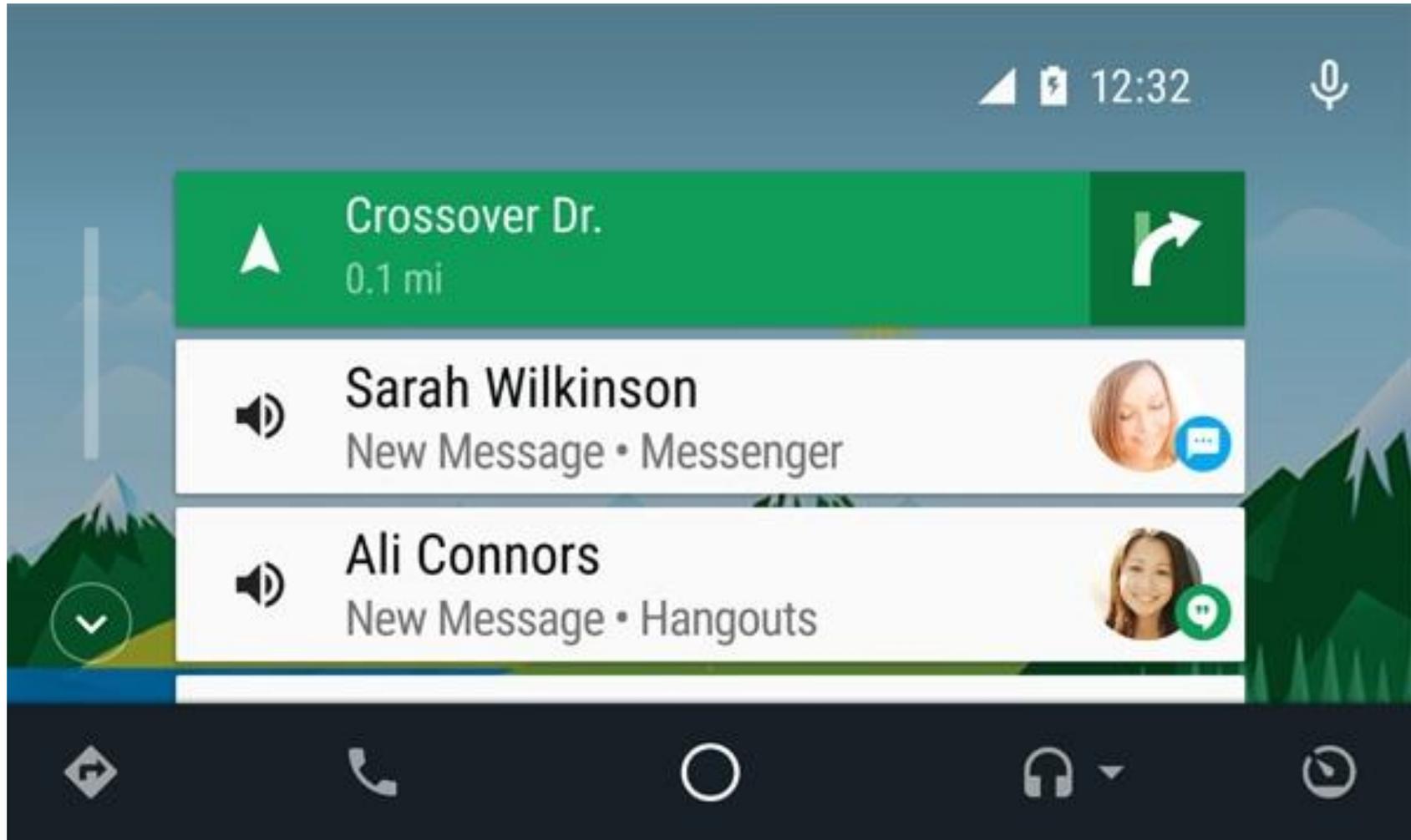
# Connected Car와 자율주행

■ 기술연구소 선행개발실

■ 서동권 실장 (sdkara@hyundai-mnsoft.com)

■ 2016.11.18

대외비  
(Internal use only)







# Different Connectivity Types

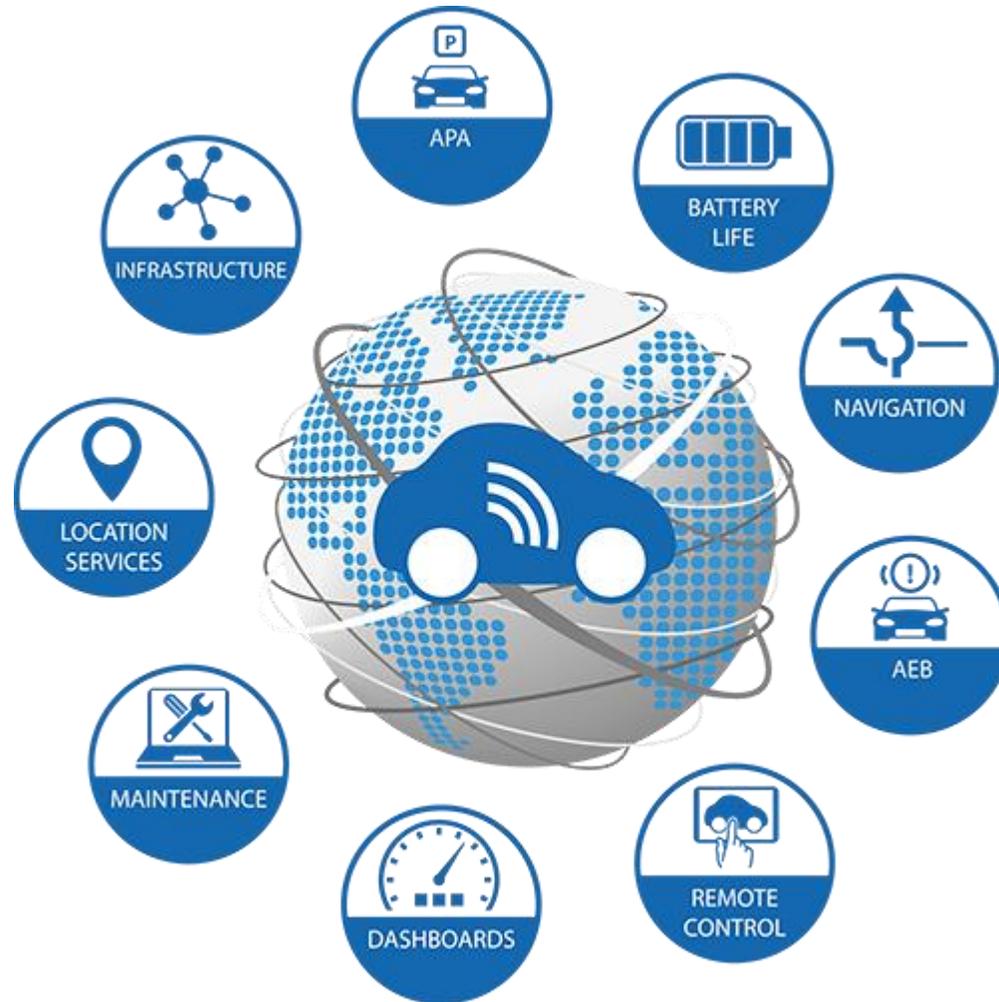
	Embedded	Tethered	Integrated
Components			
Communication module	Built-in	Brought-in	Brought-in
SIM	Built-in	Brought-in	Brought-in
Intelligence	Built-in	Built-in	Built-in
Services			
Safety	✓	▲	✗
Security	✓	✗	✗
Convenience	✓	▲	▲
Navigation	▲	✓	✓
Infotainment	✗	✓	✓
EV	✓	▲	▲
VRM	✓	▲	▲
PAYD	✓	✗	✗
Fleet Management	✓	✗	✗
Electronic Tolling	✓	✗	✗

Key

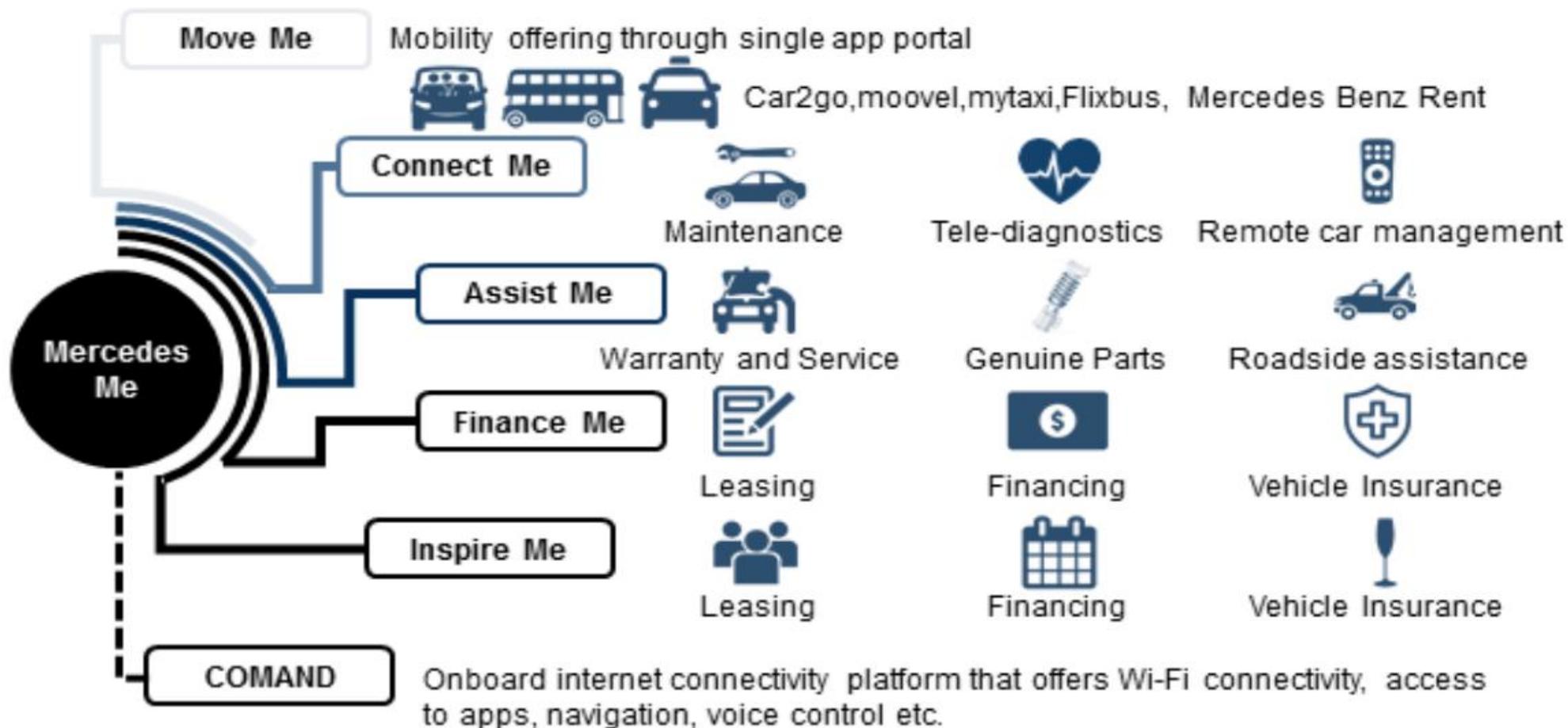
✓ = Optimum solution

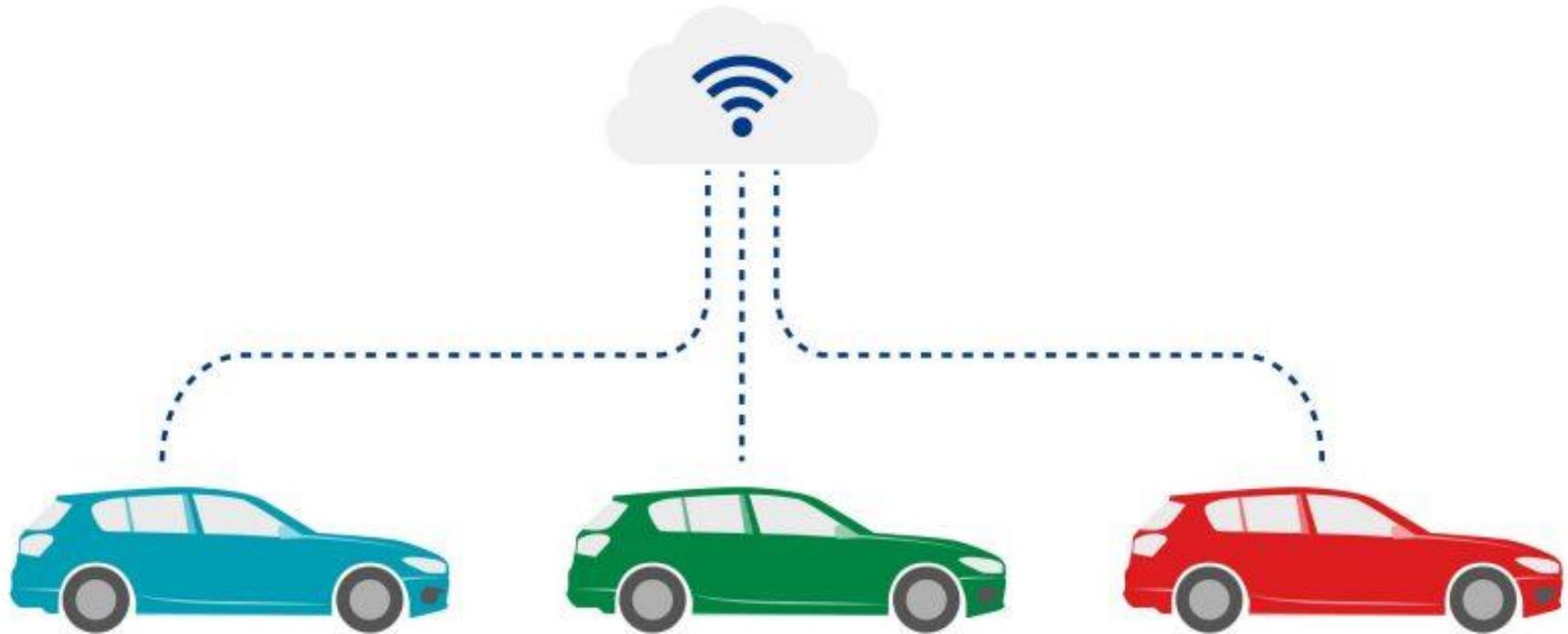
▲ = Acceptable for some services

✗ = Not possible or too difficult to implement



# Mercedes enabling access to all services through an Unified Digital Platform, Ford launched similar FordPass

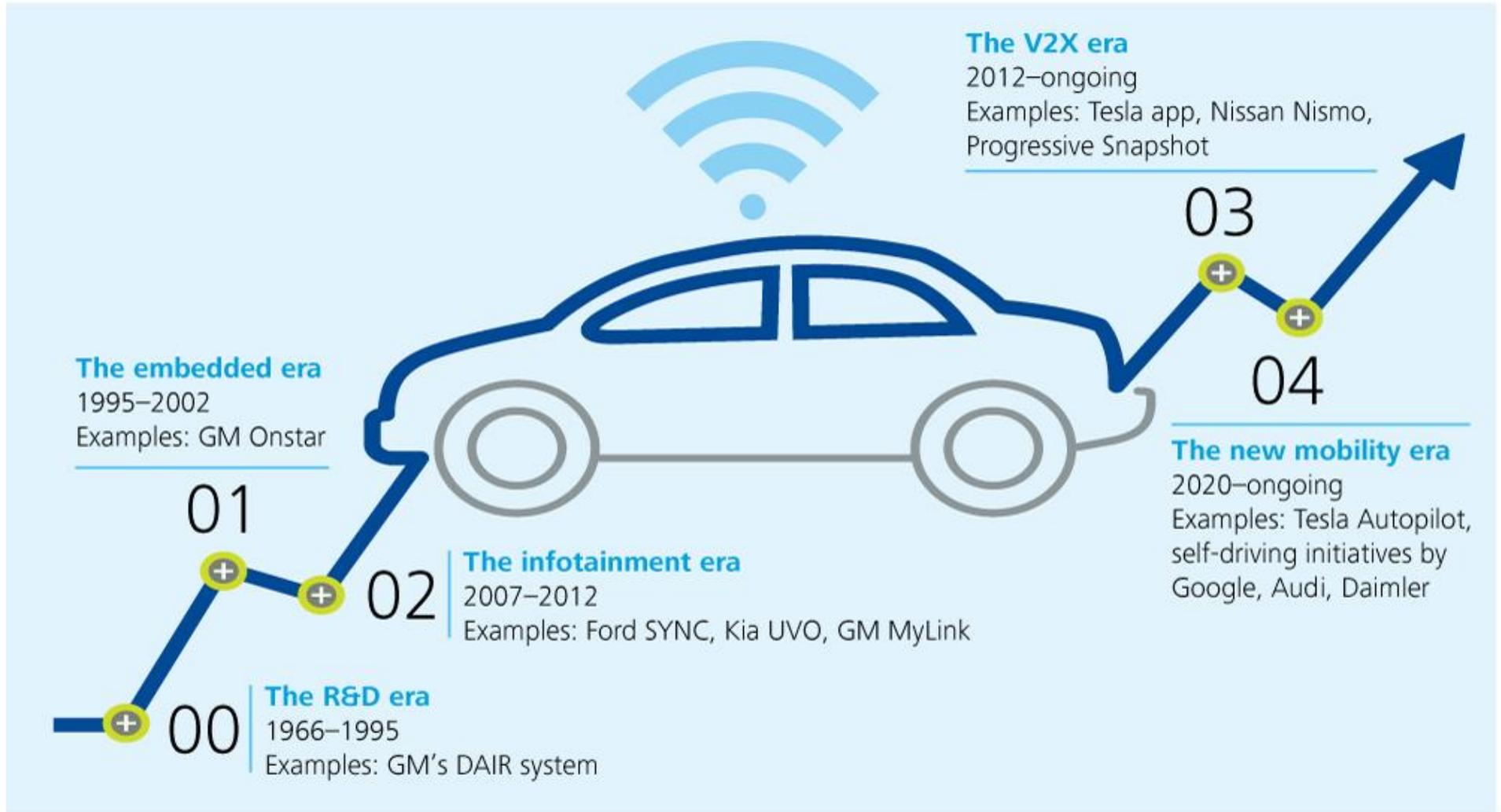




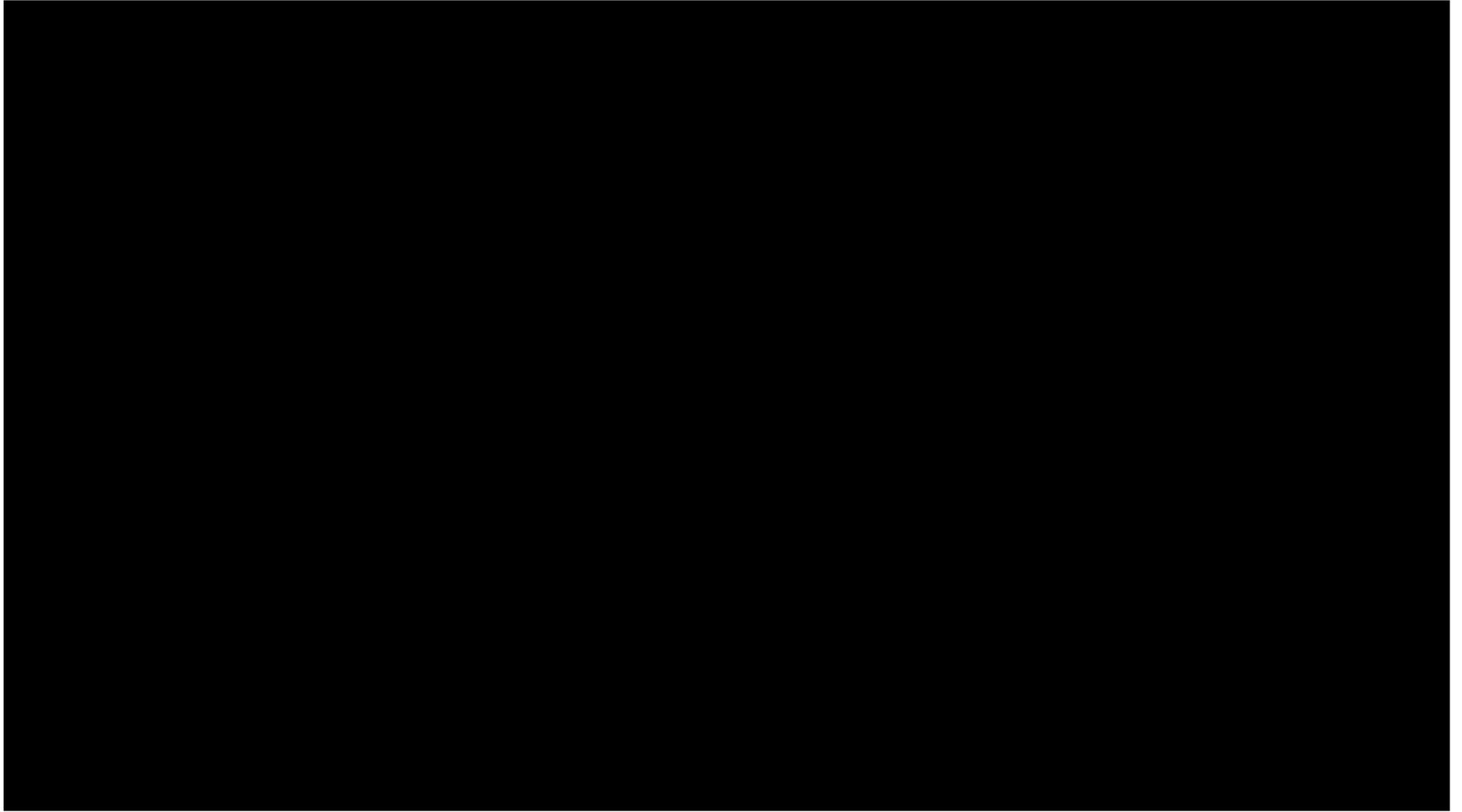
**2025**

The year nearly all new cars  
will be connected to the internet

*(Source: GSMA)*



Graphic: Deloitte University Press | DUPress.com



〈출처: Youtube.com〉

# The Initiative



- OADF Forum: founded by NDS e.V. and the ADASIS Forum in November 2015, first meeting in December 2015
- Meanwhile, also SENSORIS & TISA joined
- Objective: Give all stakeholders forum to present their issues and to jointly work on standardized solutions across different standardization organizations and companies
- WHITEBOOK summarizes findings and decisions in meetings



NDS



OPEN  
AUTO DRIVE  
FORUM

NAVINFO

5<sup>th</sup> OADF 14.10.2016 | Dr. Volker Sasse

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### Objectives

1. Act as a platform to present the latest developments and achievements towards a connected world of autonomous cars
2. Act as open discussion platform for cross-domain topics in the area of autonomous driving that require cooperation throughout the industry
3. Generate globally applicable, state-of-the-art solution possibilities as further input for standardization in organized bodies
4. Connect local authorities and the global industry to facilitate future deployment

### Mission

... is to develop industry wide accepted state-of-the-art solutions for autonomous driving which are compatible and work in the defined ecosystem.

# Autonomous Driving (AD) Revolution

AD is a central topic of future development in the automotive domain. The release of highly automated car functions is subject to the highest requirements on quality and safety.

## Mapping ORGs

**TISA**  
Travel Information Services Association

**NDS**

**ADASIS**

**PEGASUS OpenDrive**

**DLR**

**Meetup**

**OPEN AUTODRIVE FORUM**

**SENSORIS**

**CAR 2 CAR**  
COMMUNICATION CONSORTIUM

**Ge\*IT**

**WHERE CAMP BERLIN**

**VDA**

**Ko-HAF**  
KOOPERATIVES HOCHAUTOMATISIERTES FAHRZEUG

**DIGITALES TESTFELD AUTOBAHN**

**SAE INTERNATIONAL**

**Bundesministerium für Verkehr und digitale Infrastruktur**  
**BMVI**

**Gouvernement Initiative HAD China**

**Dynamic Map Planning HAD Japan**  
(SIP-adus)

**PRESS RELEASE**



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# Auto Drive Ecosystem

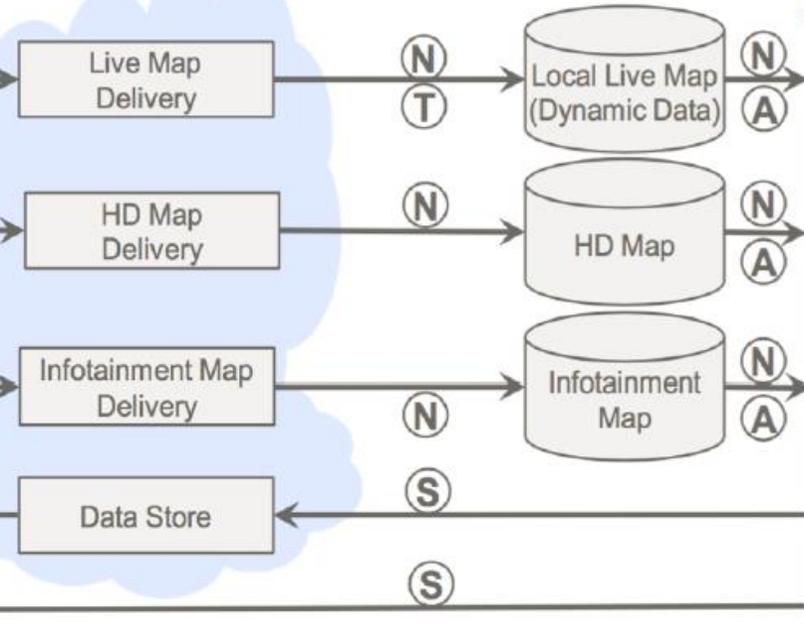
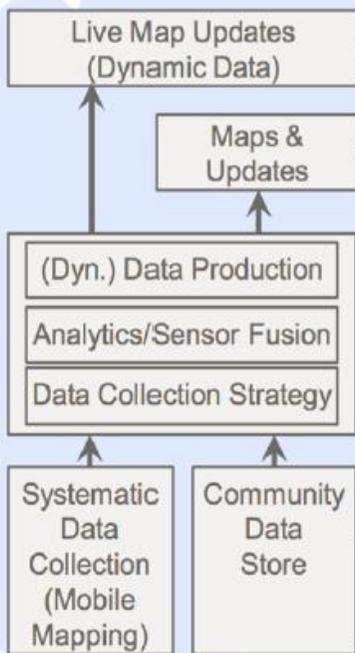
OADF >

- N** NDS
- A** Adasis
- S** Sensoris
- T** TPEG

## ----- INFRASTRUCTURE -----

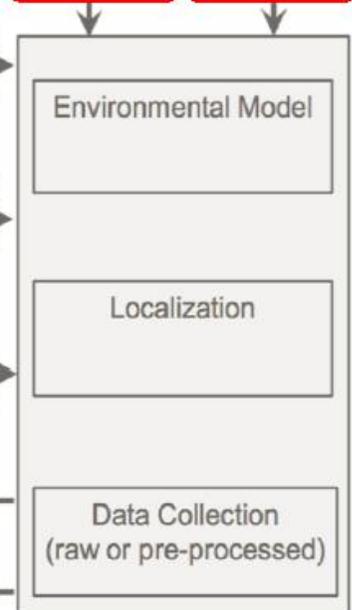
Backend (one or multiple) operated by Map supplier / OEM / 3<sup>rd</sup> Party

OEM-specific Backends



## ----- VEHICLE -----

- (Local) Sensors**
- (C2x provided) Sensors**



NDS



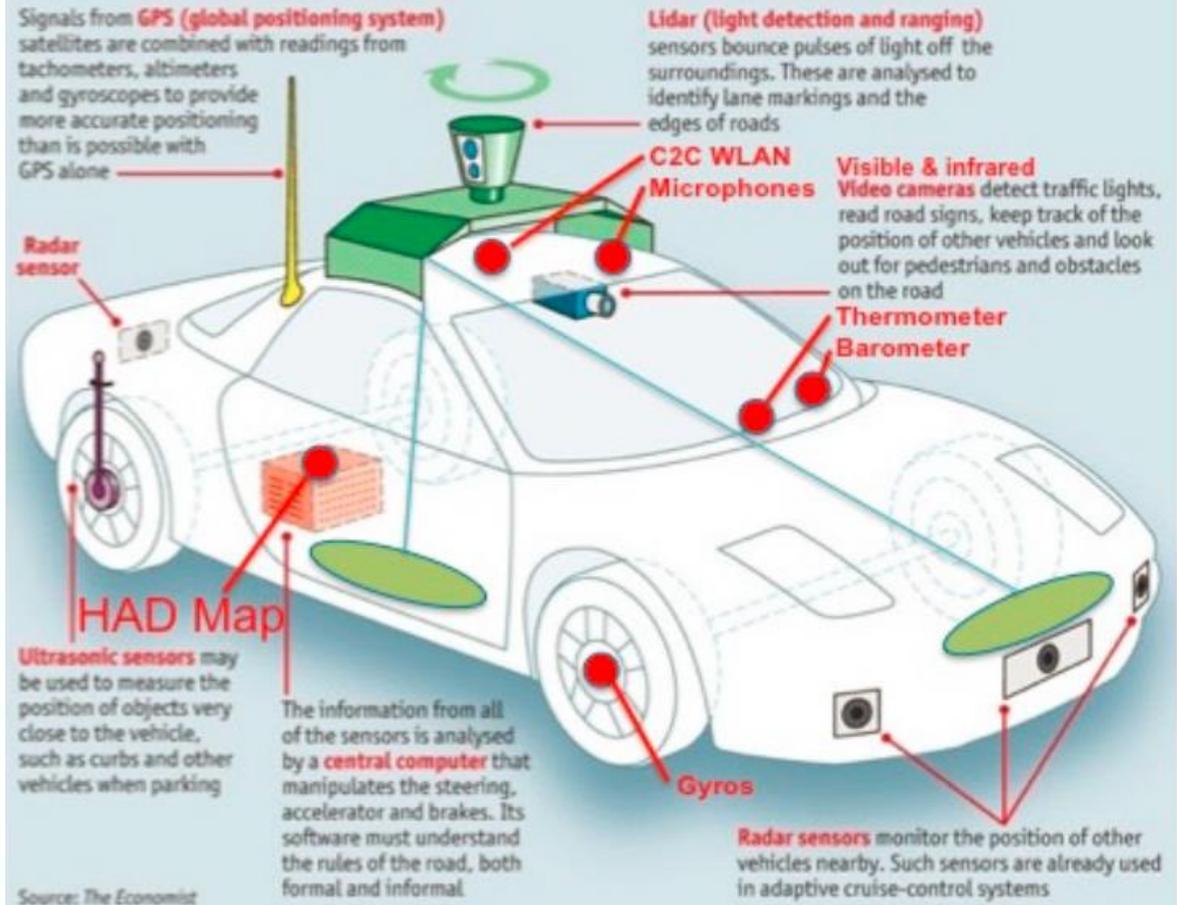
NAVINFO

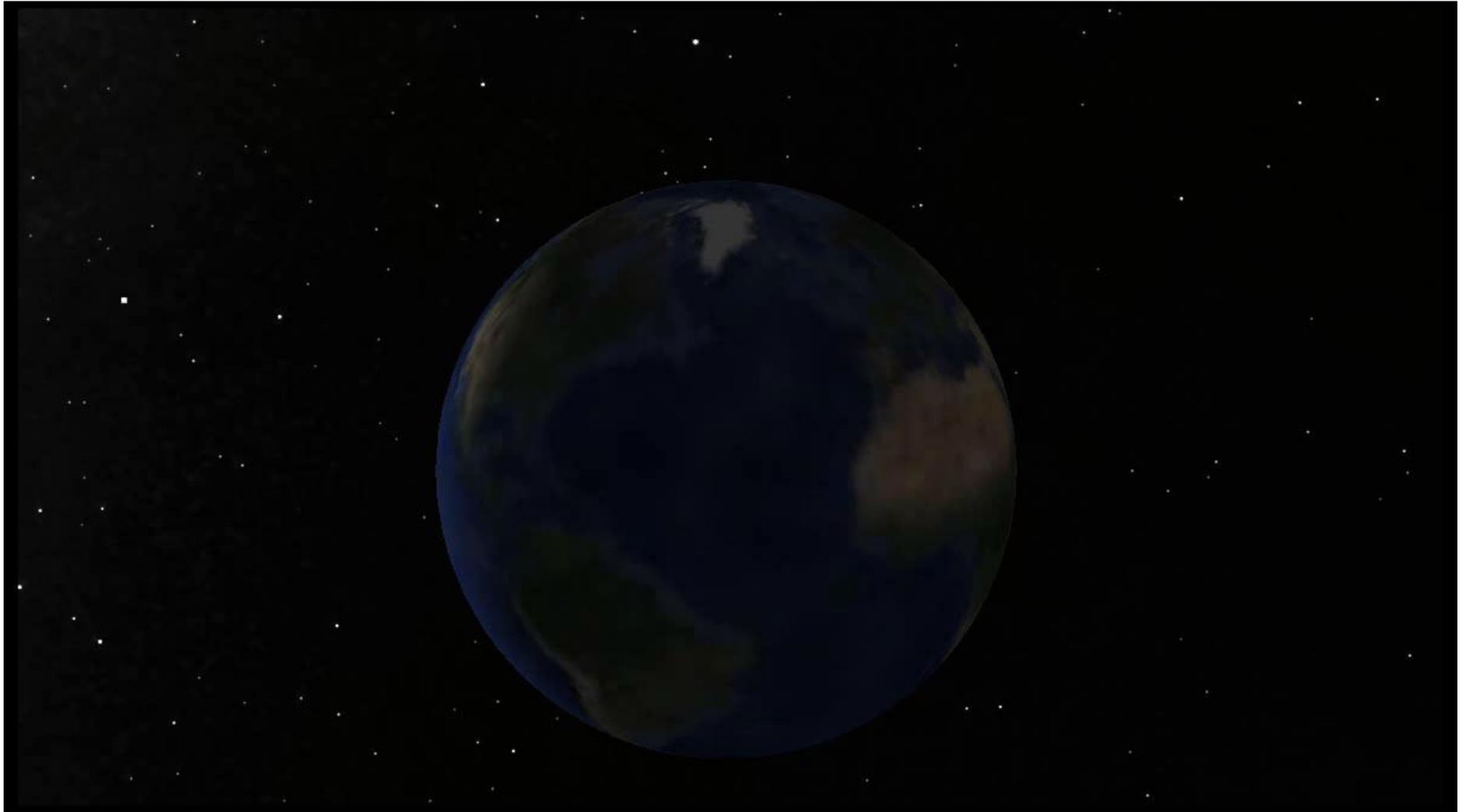
5<sup>th</sup> OADF 14.10.2016 | Dr. Volker Sasse

# Autonomous Driving (AD) Revolution

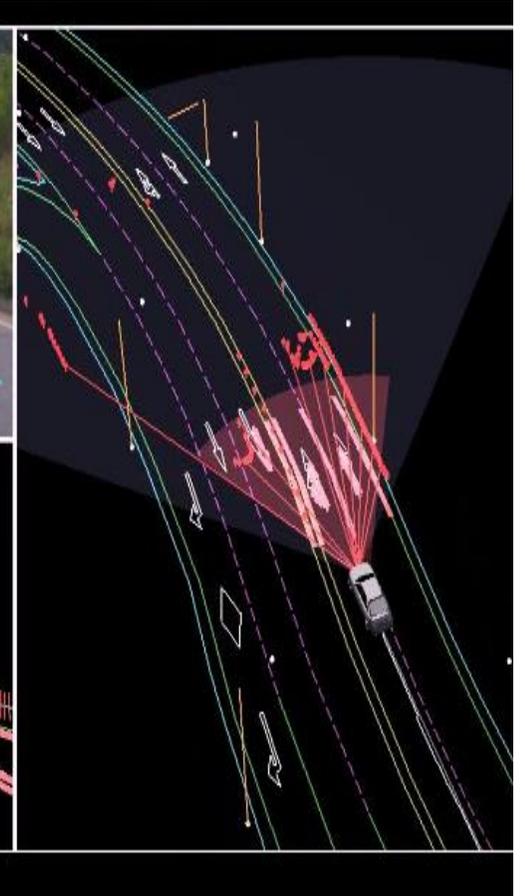
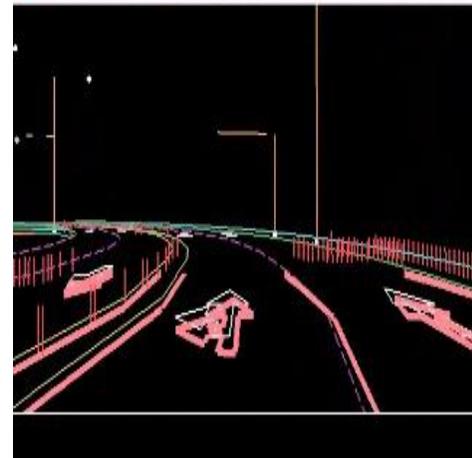
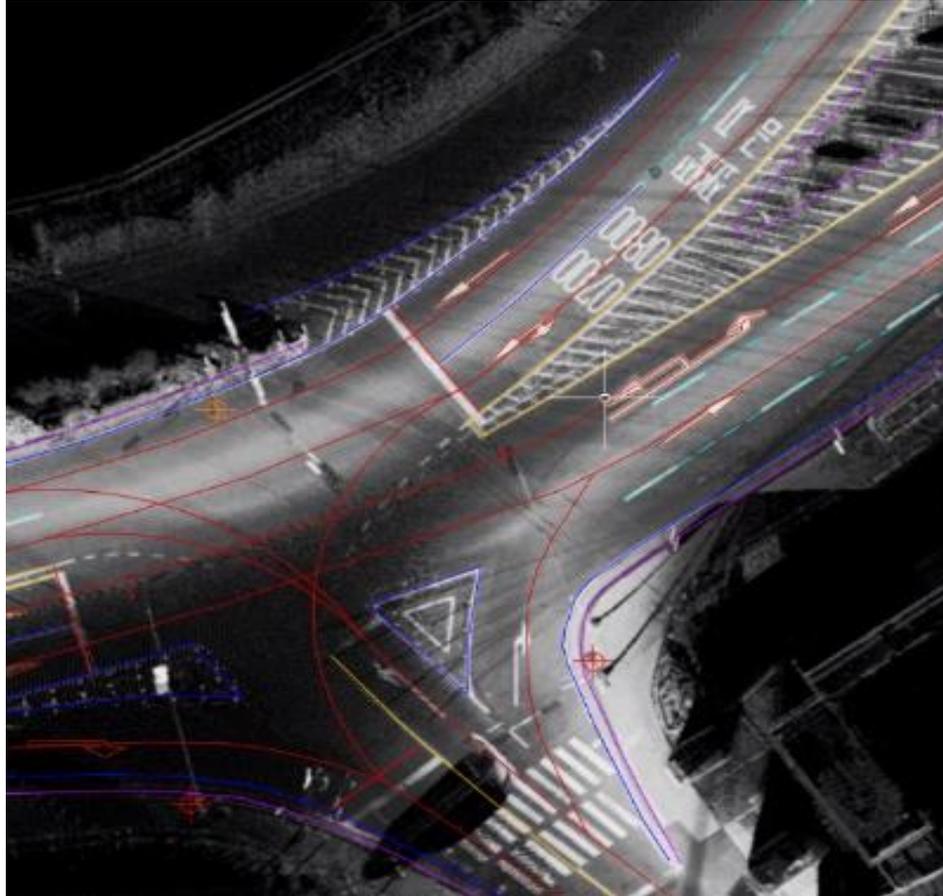
## Map = Sensor & Timing

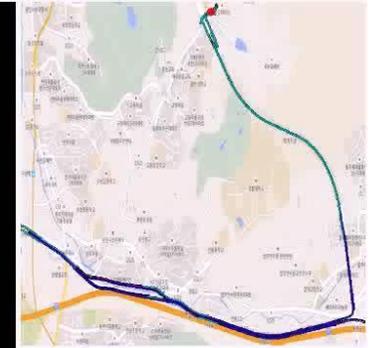
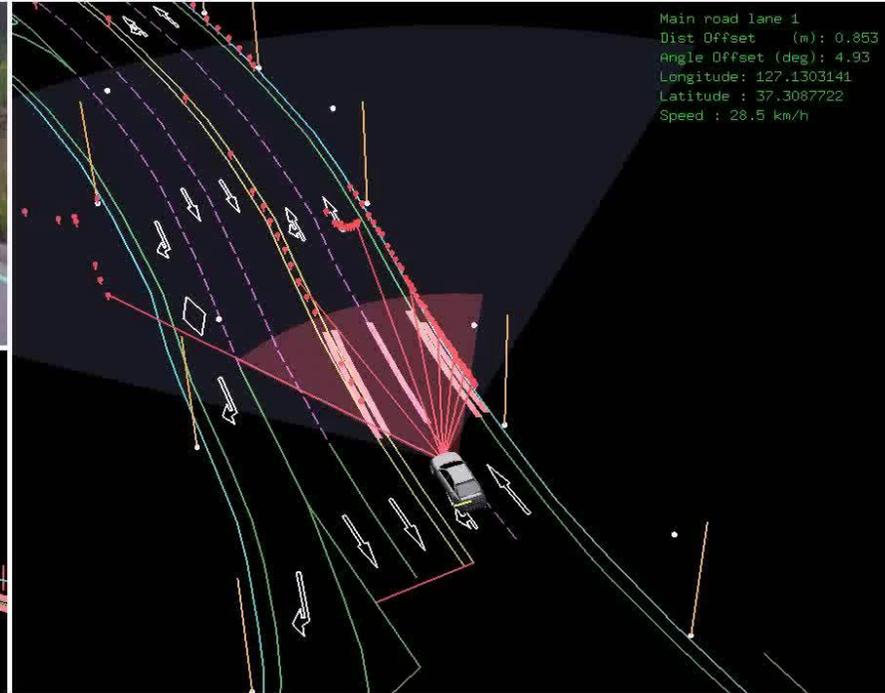
- Modules of AD cars (exemplary)
- Map Suppliers assure consistency in the map clouds





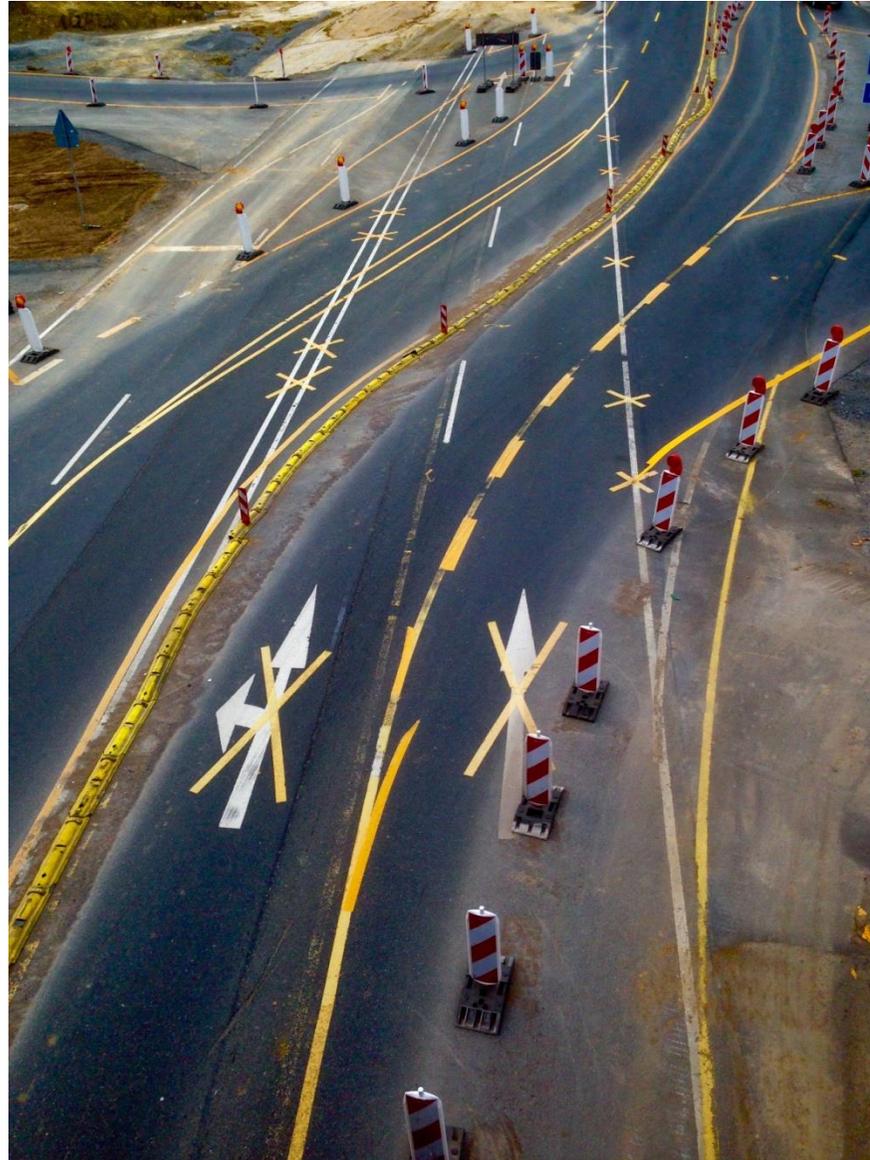
■ AD (Autonomous Driving) Map Sample (현대엠엔소프트 & 현대모비스)



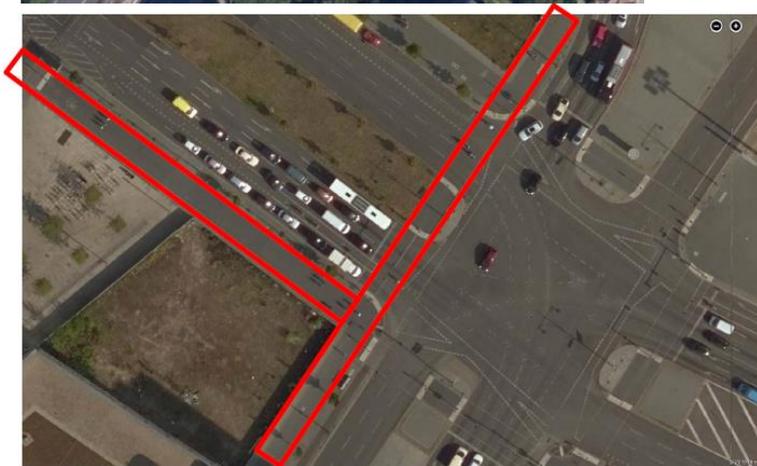
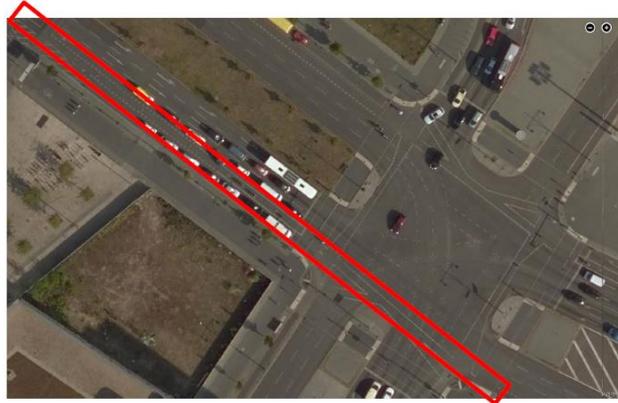
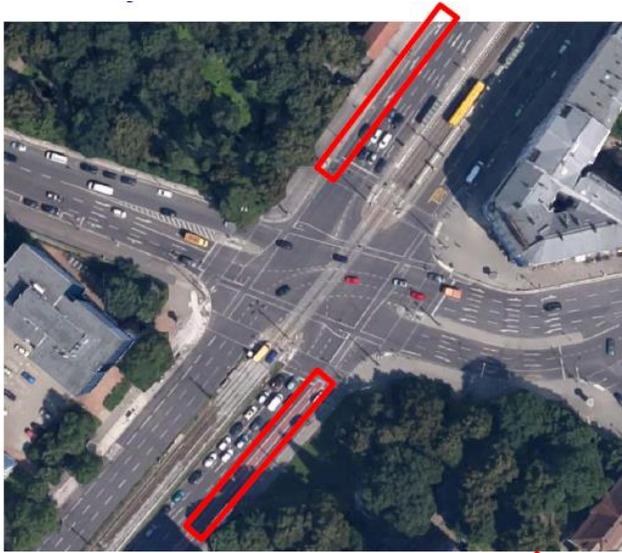


HYUNDAI  
**MOBIS**

〈출처: 현대모비스〉



〈출처: NDS〉



〈출처: NDS〉

감사합니다.