



**FCA**

**CAPITAL MARKETS DAY**  
BALOCCO - JUNE 1, 2018

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# **A TECHNOLOGY UPDATE ON AUTONOMOUS DRIVING AND CONNECTIVITY**

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# DEMAND-LED ADVANCEMENTS

Transportation Service Providers, OEMs and Tier 1s are shaping their plans for the opportunities and challenges of autonomous vehicles.

These advancements are being **driven** primarily by:

## BUSINESS OPPORTUNITIES

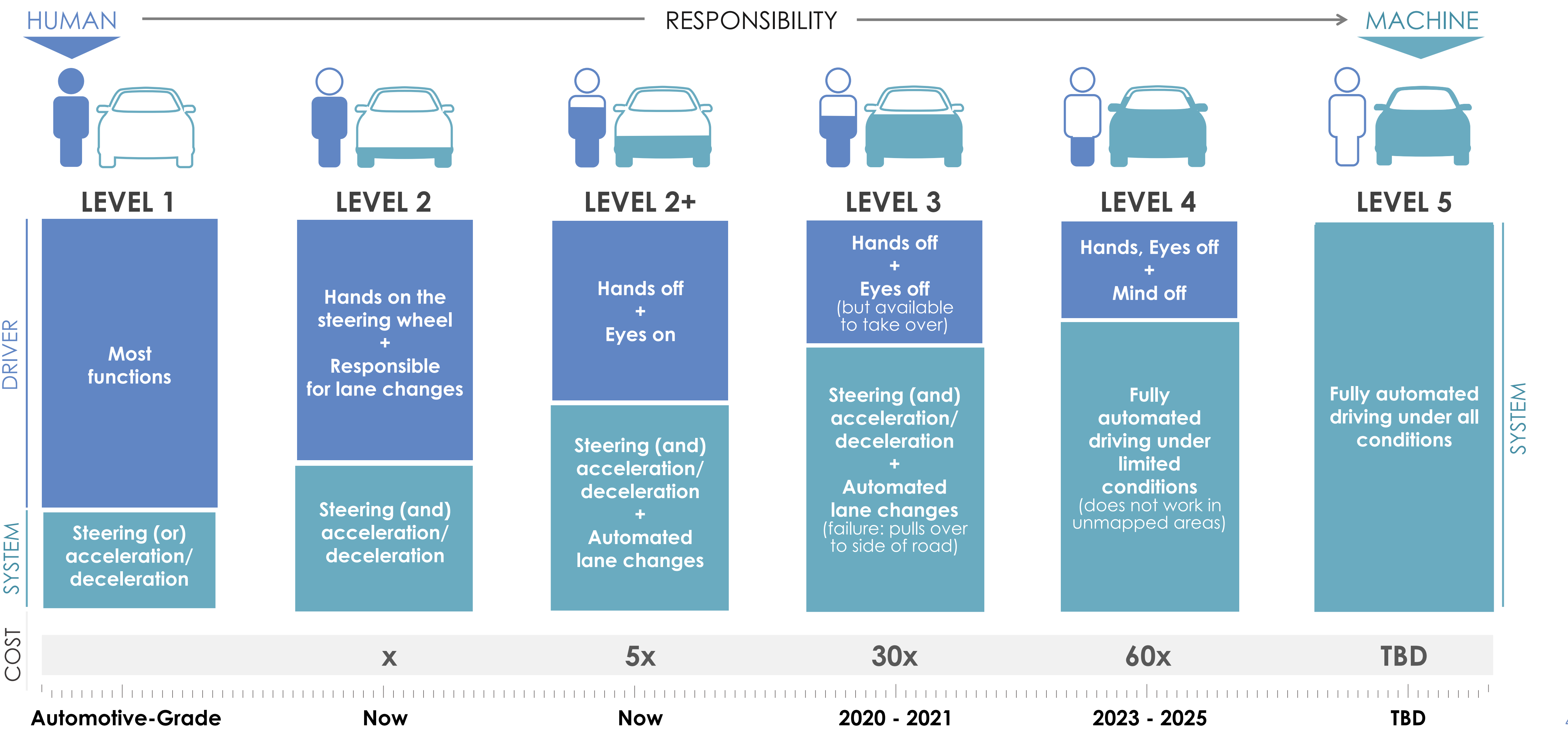
- Large ride-sharing companies spend upwards of ~70% of revenue on drivers share and incentives
- Transportation-as-a-Service (TaaS) fleets

## CONSUMERS' DEMANDS

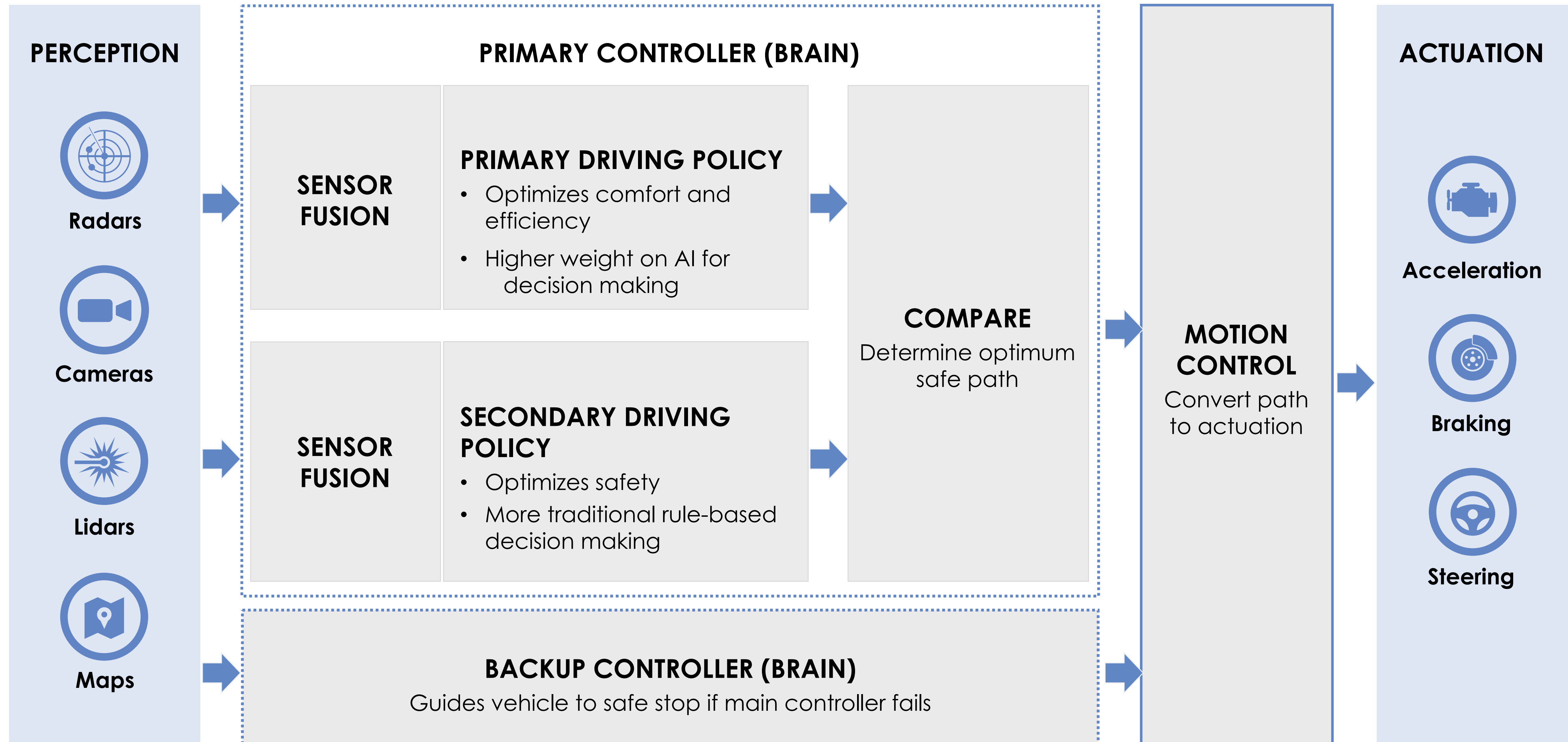
- Safety, convenience and quality time
- Vehicle able to take over an increasing number of tasks currently performed by the driver

# AUTONOMOUS DRIVING

Level of Automation, Cost, Timing



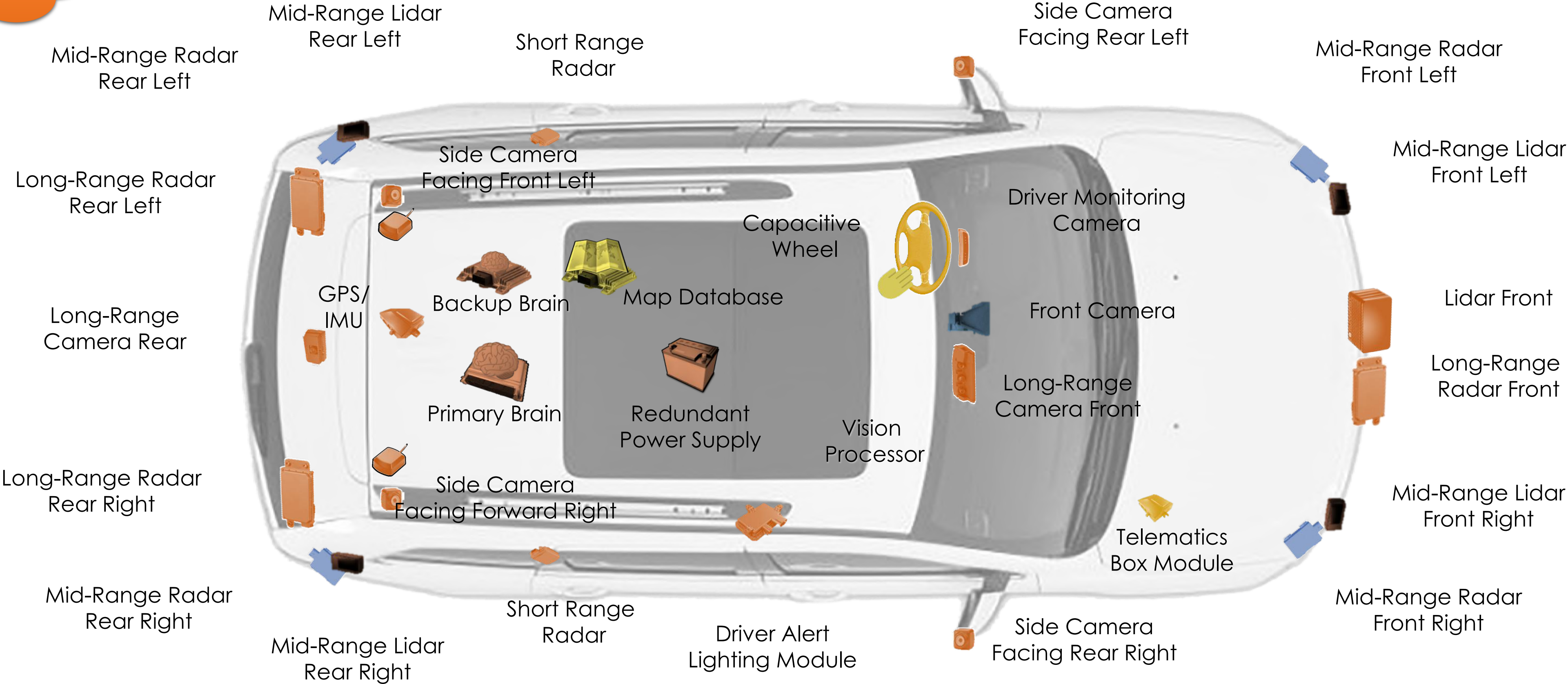
# AD SYSTEM - ARCHITECTURE



# AUTONOMOUS DRIVING

## Hardware at Level 4

Cloud  
Connectivity





# DIGITAL-AGE MOBILITY

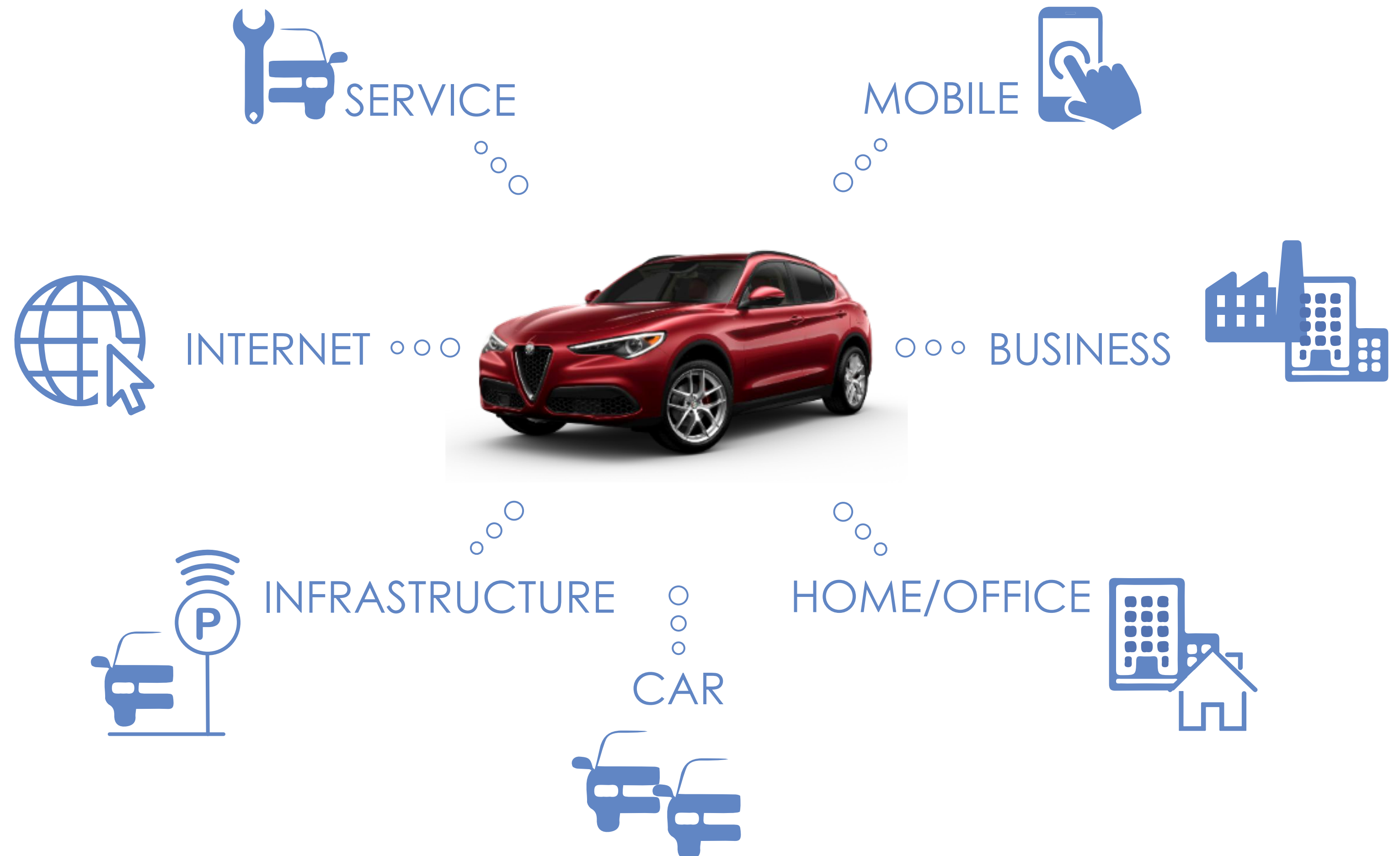
Connectivity is essential and enables the driver and passengers to interact with the car and the world around them



# ECOSYSTEM

## CONNECTED CARS

- Retrieve and manage in-vehicle and environmental data through the Cloud
- Predict maintenance
- Offer services and information
- Create an engaging experience of Brand-related ownership
- Keep the customer connected to their home and office

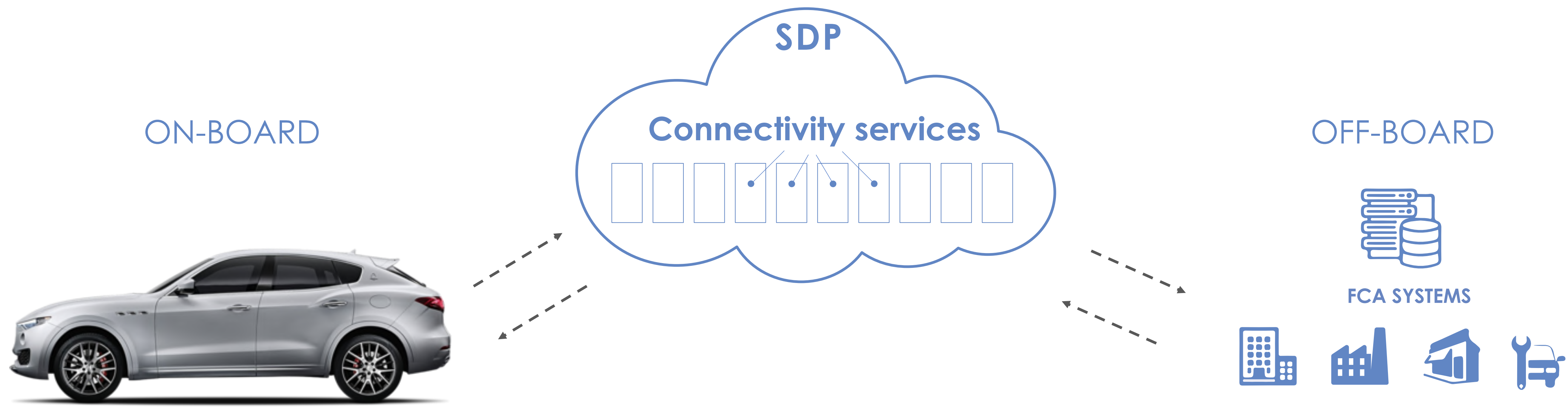




# SYSTEM ARCHITECTURE

## CONNECTIVITY SYSTEM LAYOUT AND ARCHITECTURE

ON-BOARD **TELEMATIC BOX MODULE (TBM)** CONNECTING THE VEHICLE WITH INTERNET AND FCA SERVICE DELIVERY PLATFORM (SDP)

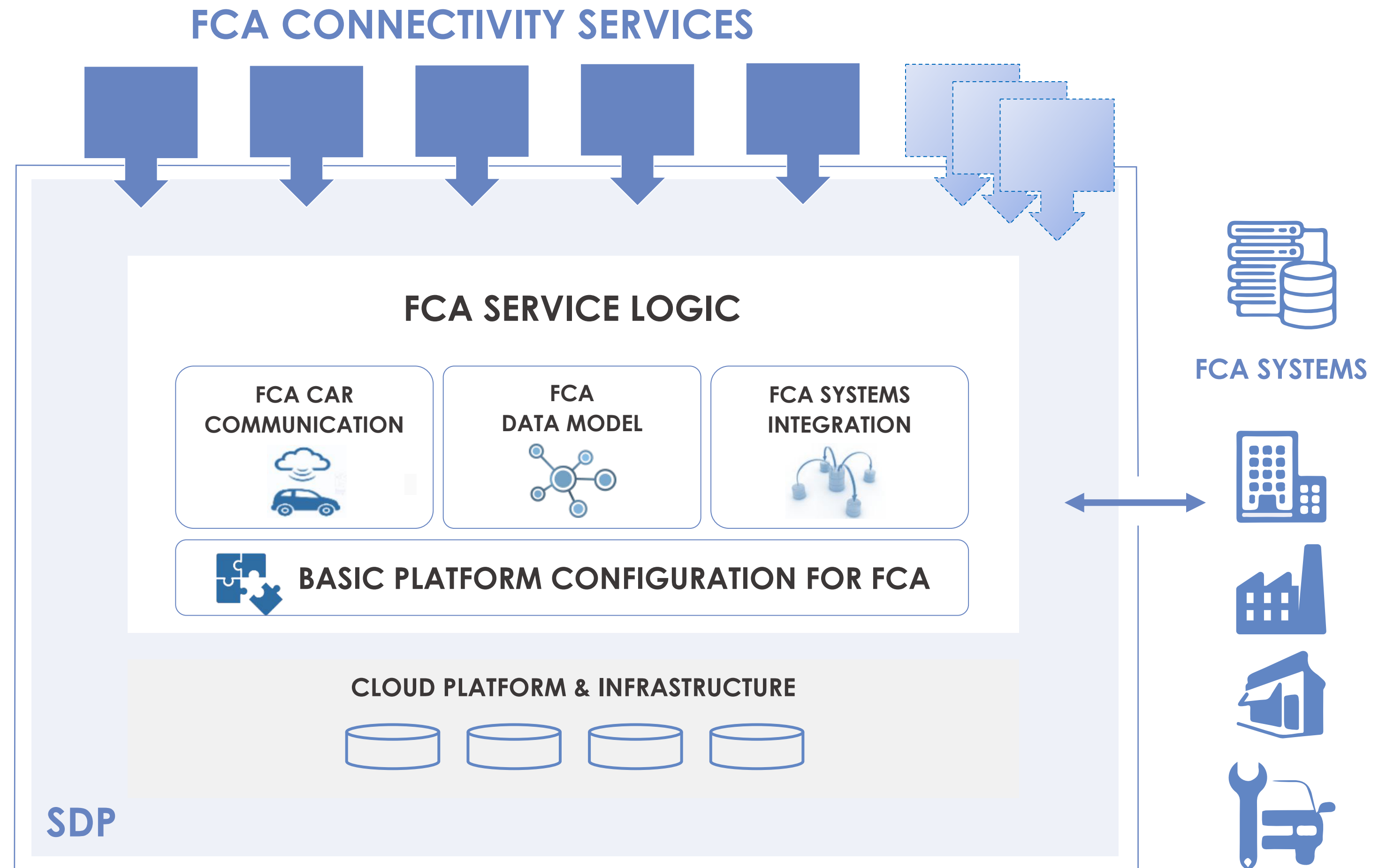




# OFF-BOARD CONNECTIVITY

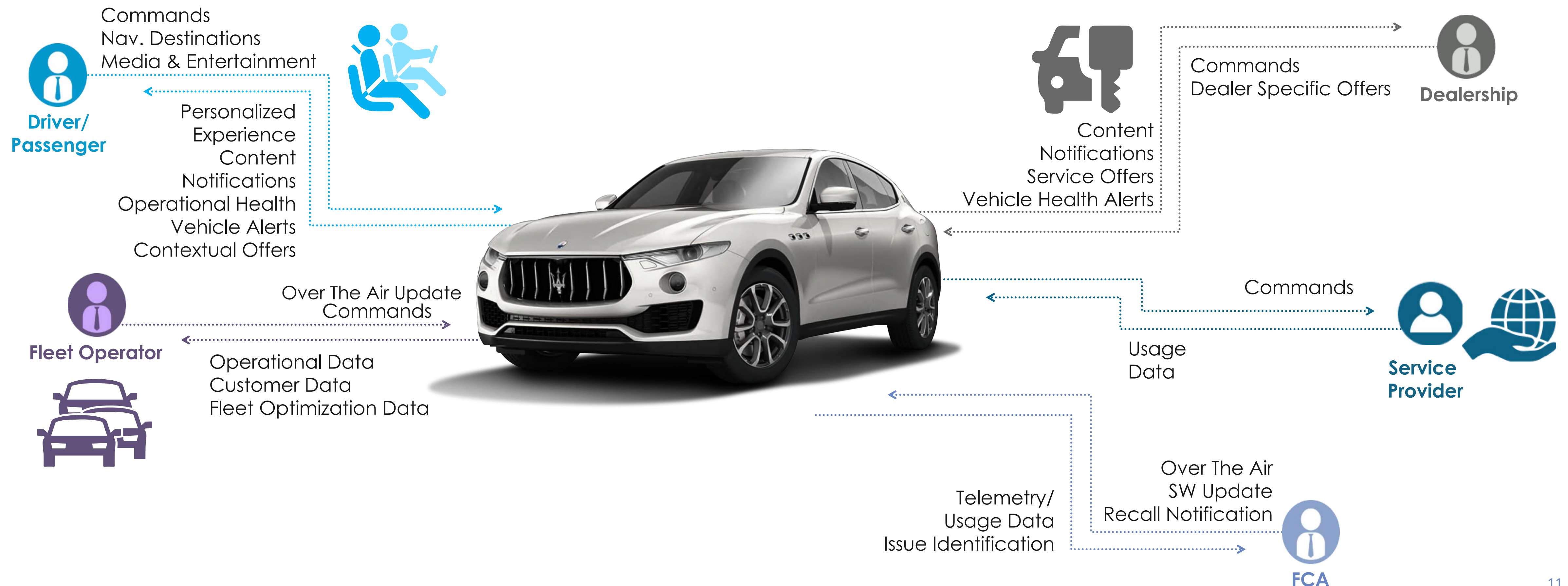
The Service Delivery Platform is a cloud based open architecture:

- Scalable and flexible to support services and technology evolution
- Maximum cybersecurity
- Easy to integrate and interface with any service provider



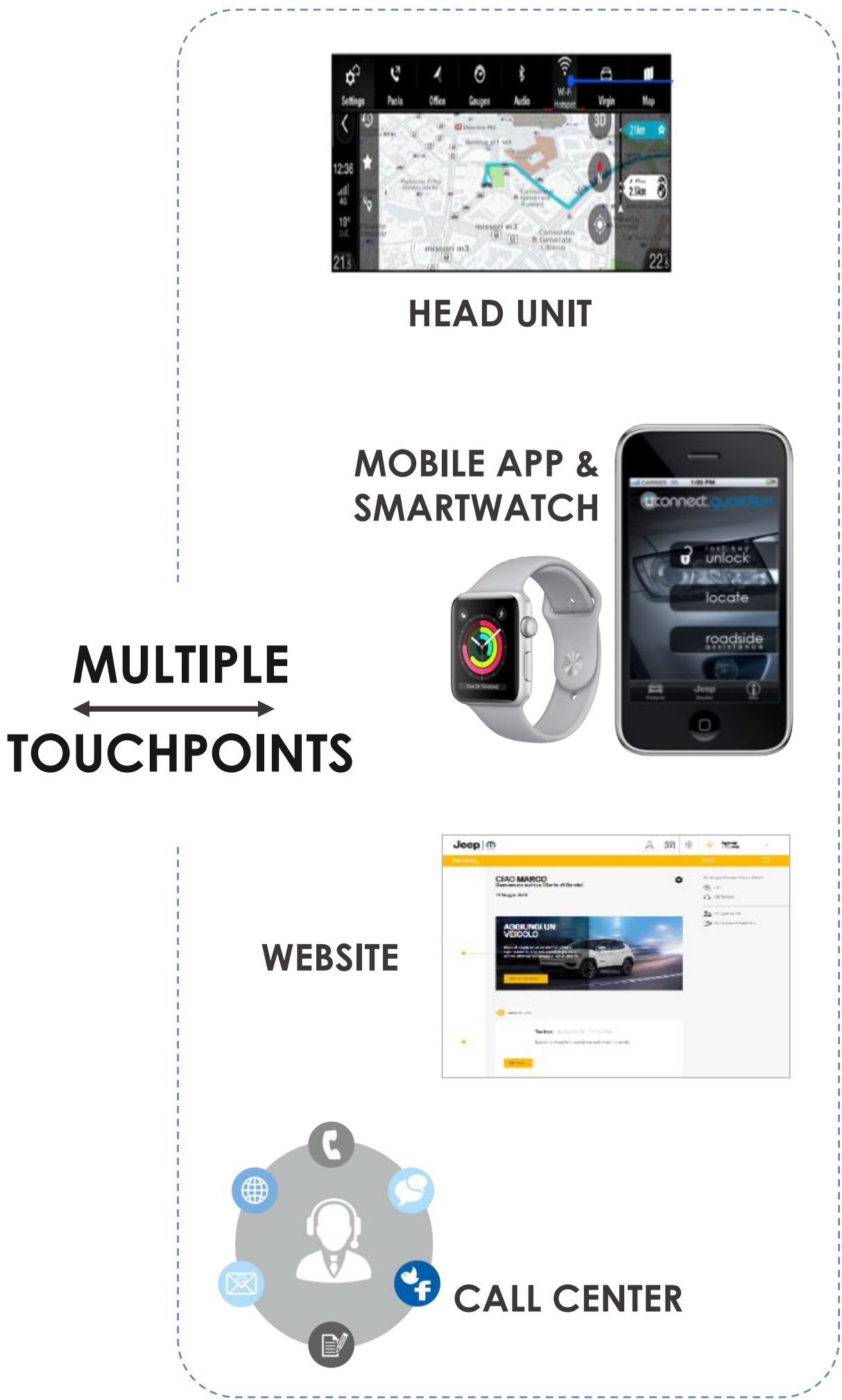
# STAKEHOLDERS

## CONNECTIVITY GENERATES EXTENSIVE BENEFITS TO MULTIPLE STAKEHOLDERS IN THE ECOSYSTEM





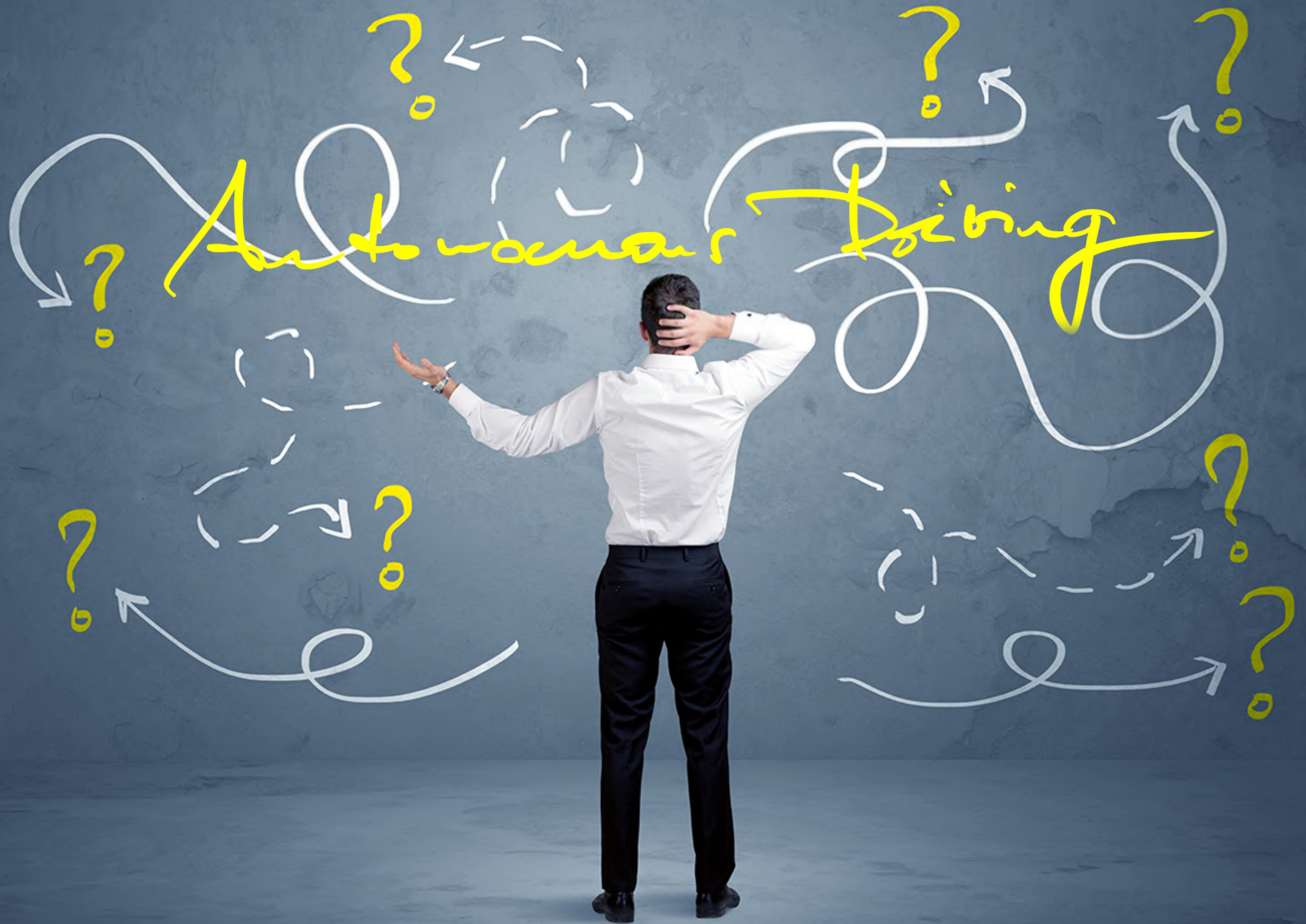
# SERVICES



# OUR DEPLOYMENT PLAN





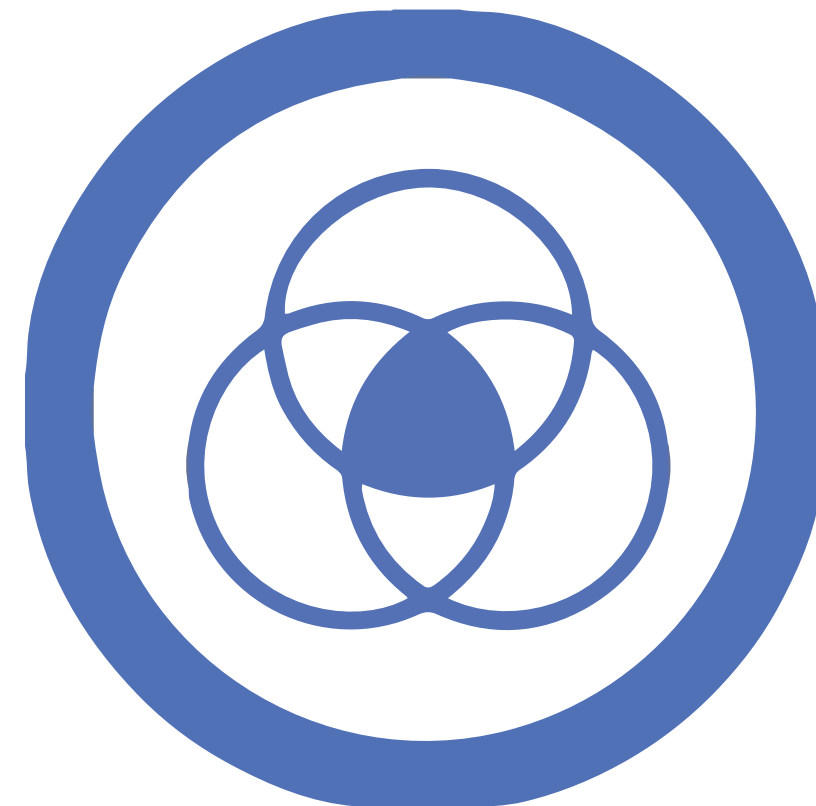




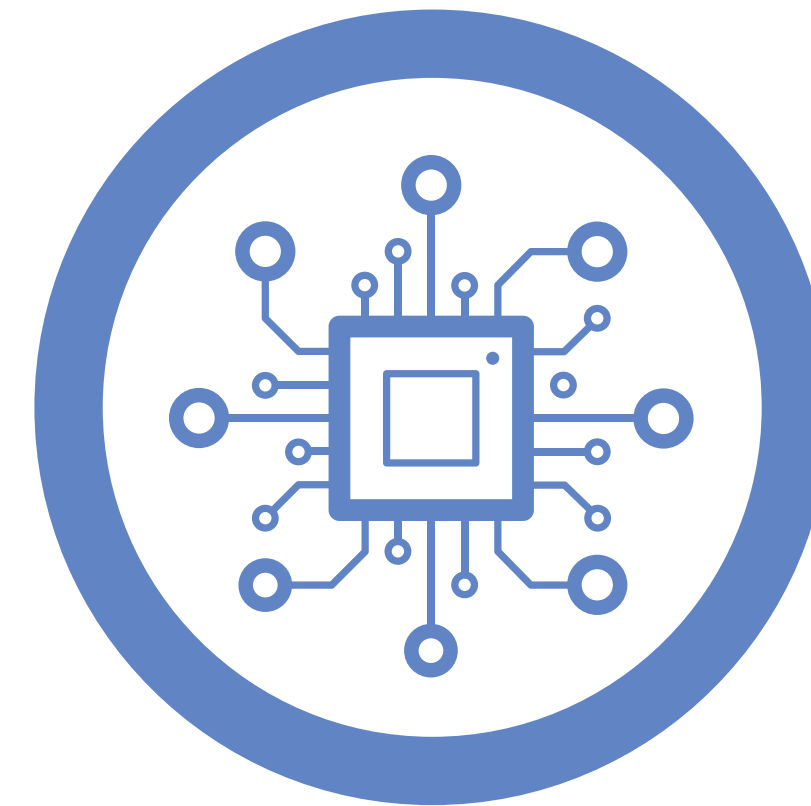
# CORE TECHNOLOGIES FOR AD



**HIGH-SPEED  
COMPUTING**



**COMPUTER-VISION &  
IMAGE-PROCESSING**



**EXTENSIVE SOFTWARE  
DEVELOPMENT  
INCLUDING AI**



**SENSOR & SENSING  
TECHNOLOGY**

# OPTIONALITY AND CHOICES

## DO...

- ✓ **BE PRESENT AND CLOSE TO AD DEVELOPMENTS**
- ✓ **DIVERSIFY APPROACH IN AREAS WITH HIGHEST PROBABILITY OF SUCCESS**
- ✓ **ACCESS POOL OF TECHNOLOGIES THROUGH COLLABORATIONS**
- ✓ **BECOME BENEFICIARIES OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

## DON'T...

- ✗ **PAY HEAVILY FOR THE EXPERIMENTATION**
- ✗ **MAKE BOLD CHOICES WHICH LIMITS FREEDOM AND ENTAILS HIGH RISK**
- ✗ **PLACE DEPENDENCY FOR SUCCESS ON A SINGLE PLAN OR PATH**
- ✗ **PRESUME NOVICES CAN BE PRESCRIBERS**

# MARKETS

Potential opportunities and needs

## TRANSPORT-AS-A-SERVICE (LEVEL 4 AND 5)

### FINANCIAL TIMES

*"...global revenues from self-driving technology by 2030 will be up to \$2.8tn, with Alphabet's Waymo potential global leader in the MoD area..."*



Forecast 05/2018

## PRIVATE RETAIL (LEVEL 2+ TO 3)

**LEVEL 2+/3 NEEDED FOR  
COMPETIVENESS**

**IN MARKETS 2019-2021**

**TRUE AUTONOMY AS OF 2023**





# FCA TO PURSUE MULTIPLE PATHS

Autonomous Driving

FCA TO PARTNER WITH THREE OF THE MAJOR TECHNOLOGY PLAYERS  
IN AUTONOMOUS DRIVING AND ARTIFICIAL INTELLIGENCE



**GOOGLE'S SELF-DRIVING  
TECHNOLOGY COMPANY**



**PREMIUM  
OEM**



**TIER 1  
IN AD**

# PARTNERSHIP WITH WAYMO

The clear leader in Level 4 technology



Up to 62,000 Pacifica Hybrids  
over the next three years



62,600  
Units



600  
Units

+62,000  
Units

2018

2021



FIAT CHRYSLER AUTOMOBILES

INCREASING  
CUSTOMIZATION

GREATER  
INTEGRATION



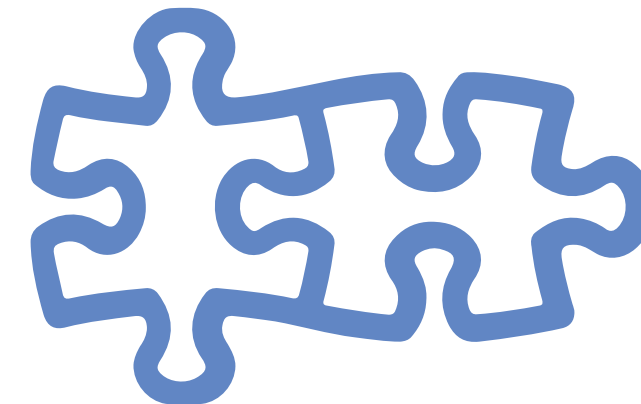
FCA AND WAYMO BEGINNING DISCUSSIONS  
ON DEVELOPING A WAYMO-EQUIPPED  
FULLY SELF-DRIVING VEHICLE  
FOR FCA RETAIL CUSTOMERS

# PARTNERSHIP WITH BMW

Level 3 system for highway application



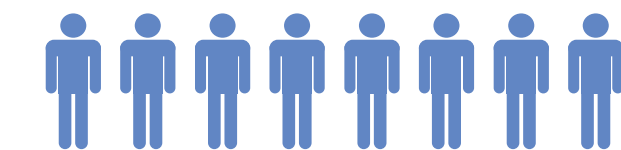
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## FURTHER DEFINED PARTNERSHIP STRUCTURE



## DEVELOP AUTONOMOUS TECHNOLOGY FOCUSED ON LEVEL 3



FCA Engineers embedded  
with BMW Teams  
at BMW's AD campus  
near Munich

SHARE RESOURCES INCLUDING DATA FOR  
VALIDATION & RELIABILITY TESTING

SHARE UNDERLYING INVESTMENTS

# PARTNERSHIP WITH APTIV

The most advanced Tier 1 in L2+ systems

**EXPANDING COLLABORATION**  
OF *AUTONOMOUS TECHNOLOGY*  
STUDIES AND DEVELOPMENT PROJECTS

• **APTIV** •

• **APTIV** •



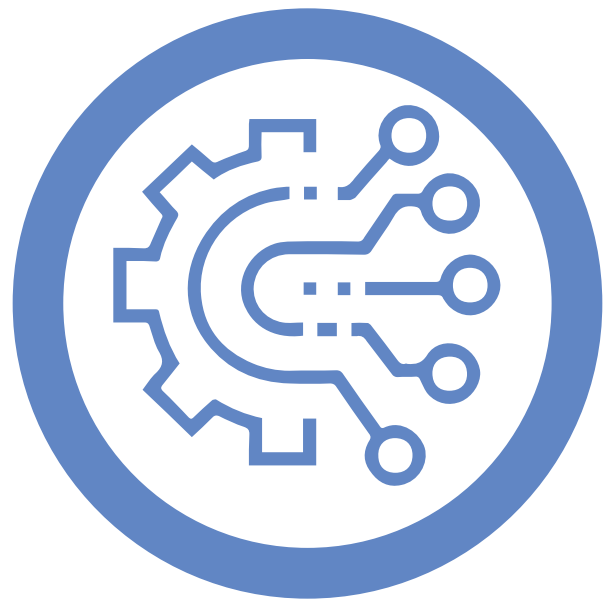
L2+ SYSTEMS TO BE  
**INTRODUCED IN FCA 2020CY**  
LAUNCHES



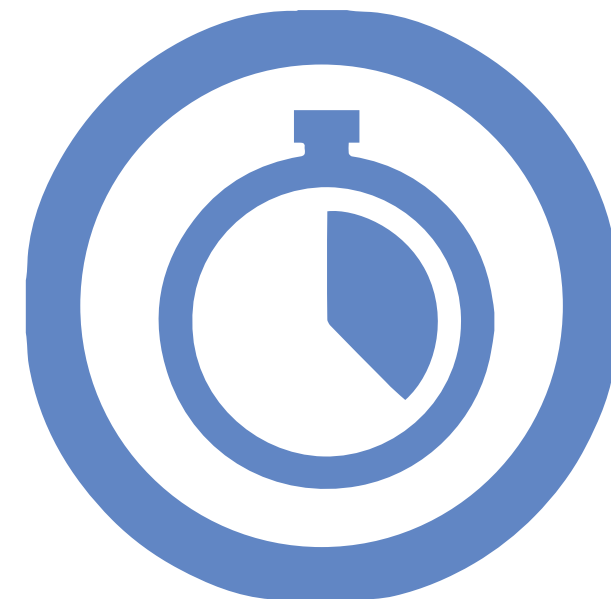


## FCA'S MULTI-PRONGED APPROACH:

**BROAD ACCESS  
TO A RANGE OF  
TECHNOLOGY**



**DELIVER  
NEAR-TERM  
ADVANCEMENTS**



**PARTICIPATE IN THE  
MoD/TaaS  
REVENUE STREAMS**



**AMONG THE FIRST  
OEMS TO RETAIL  
MARKET**

