

WMF 2019



***Autonomous Vehicule***  
***The automotive industry's roadmap***

**PSA**  
GROUPE

*Maxime Picat*



CO2  
READY

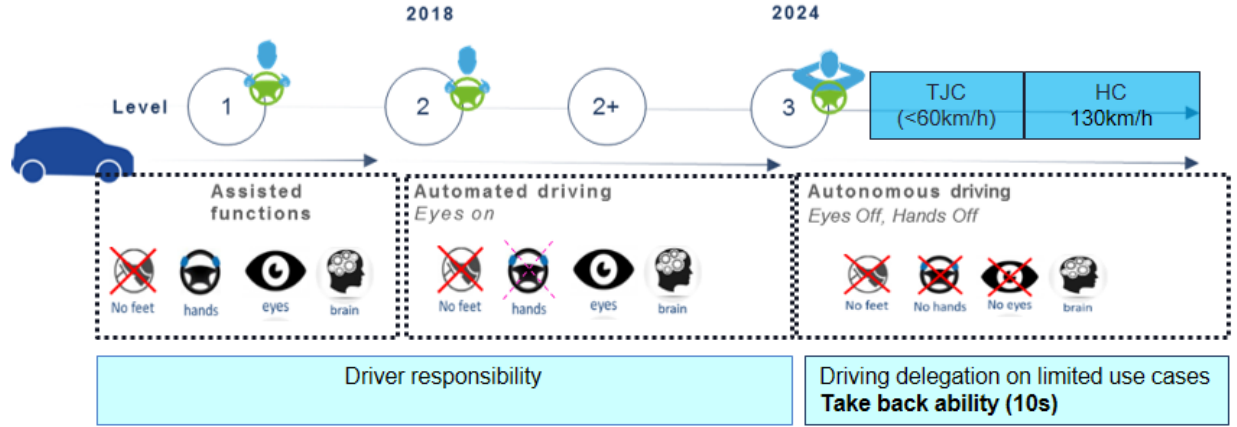


ADAS  
READY

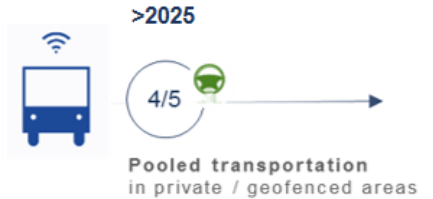


CONNECTED  
READY

# AUTONOMOUS DRIVING ROADMAP



TJC : Traffic Jam Chauffeur  
 HC : Highway Chauffeur

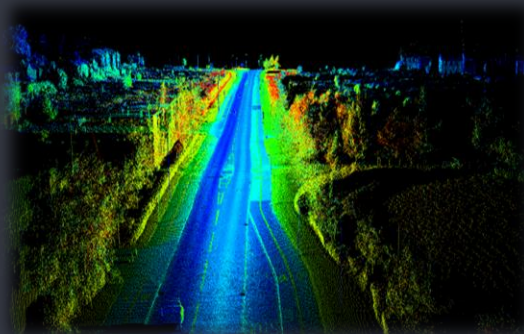


Driverless within an environment  
 Mobility services ( goods , people)

# Autonomous Mobility challenges

**Safety & Security**

**WW Regulations  
& standards**



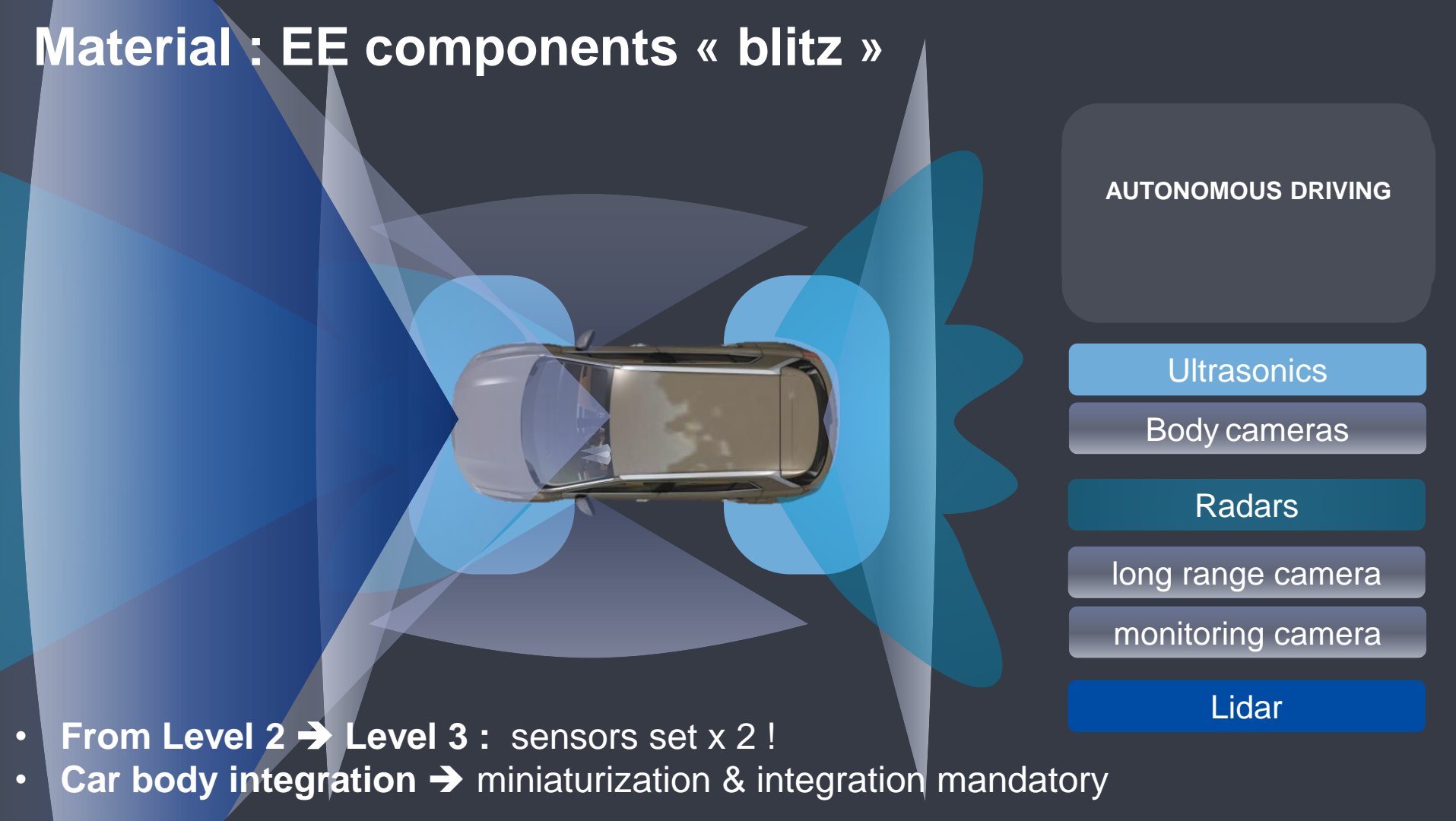
**Simulations & validation  
(data revolution management)**

**New Shared mobility  
models**

**Technology & material  
challenges**

Sensors  
Connectivity, Software ...

# Material : EE components « blitz »



- From Level 2 → Level 3 : sensors set x 2 !
- Car body integration → miniaturization & integration mandatory

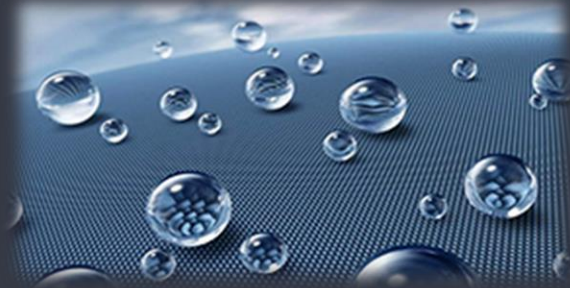


# Cockpit at the core of material challenges

- A « drissenger » experience : more intelligent & interactive surfaces/materials



- More than x2 cockpit interactive surfaces, in short term for AV cars



- Shared mobility will increase customer expectations for « clean interiors »
  - Self healing
  - Self cleaning
  - High technicity

# Self healing and cleaning materials

- On polymers, some solutions for healing & cleaning :
  - Processes with new additive components:
    - With antimicrobials agents for health issues
    - With permanent antistatic agents for cleanliness
  - Processes with nanotechnologies spreading (films)



- **Context under pressure :**

- **Environment** : Circular economy policies and regulation compliance (green material, LCA impact)
- **Economics** : affordable automotive material even if inspired from other sector

# Massive increase of computing power

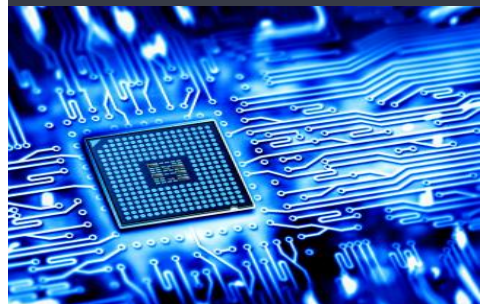
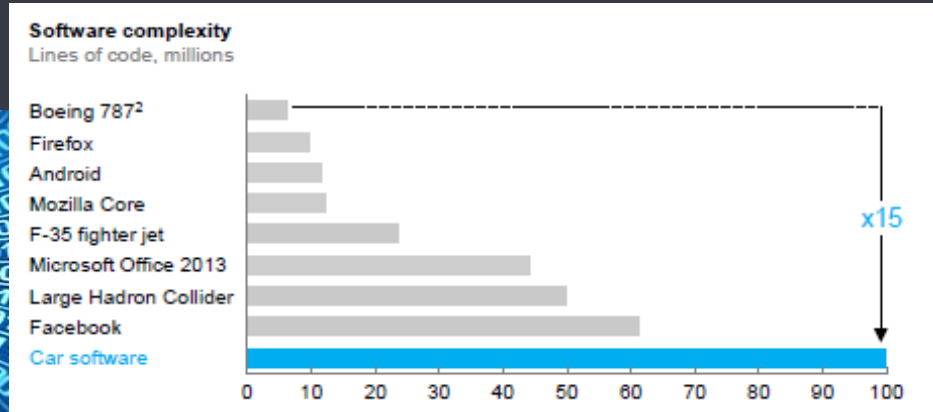


## MASSIVE COMPUTING

- Software world transition
- Energy Consumption
- Increased calculation power

## DATA MASS PROCESSING

- Mass storage
- Machine learning / IA

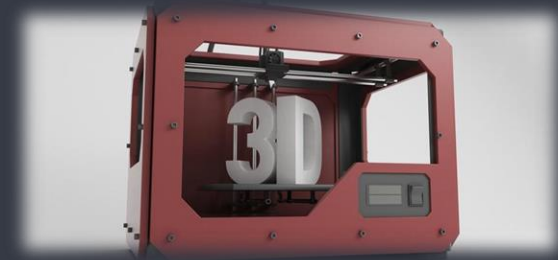




# One last challenge : affordability of new materials



- Need material competitiveness for deploying L2- L3 functions on PC
- On Autonomous Mobility services :
  - Additive Manufacturing as a potential game changer



Path to autonomous driving is engaged

