



European
Automobile
Manufacturers
Association

CARS IN THE DIGITAL FUTURE NEW POLICIES & TOOLS NEEDED ?



Future Networked Car Symposium
United Nations – ITU & UN-ECE

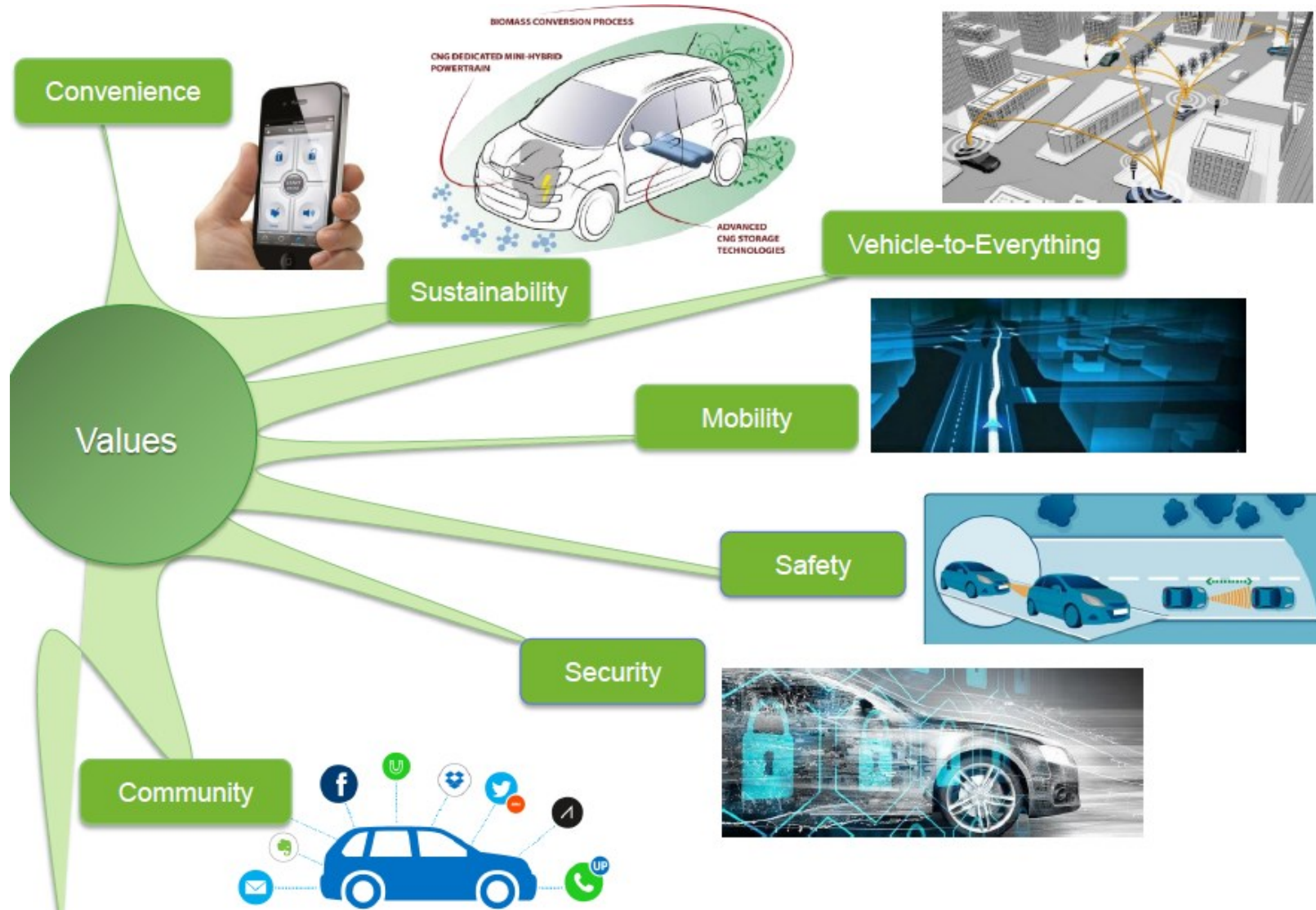
JOOST VANTOMME
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22 March 2021

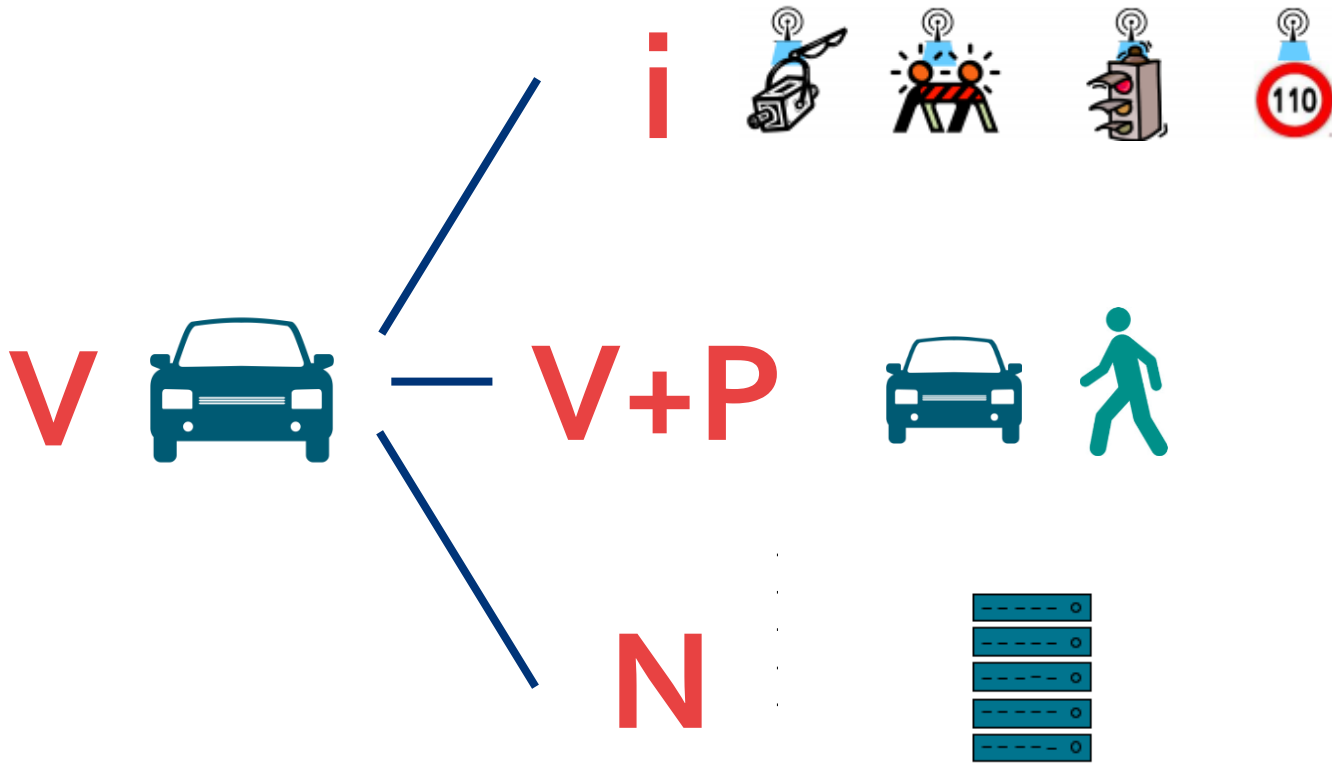


CONNECTED MOBILITY

CONNECTIVITY SERVICES



ITS: COOPERATED SYSTEMS



- **European ITS framework**
- **Under review**
- **Use cases day 1, 1 1/2, 2**
- **Critical issues:**
 - Interoperability (standards)
 - Compatibility ITS G5, LTE V2X, long range cellular
 - Interference in the ITS dedicated 5,9 GHz spectrum (CEPT/ETSI)

5G DEPLOYMENT FOR CAD

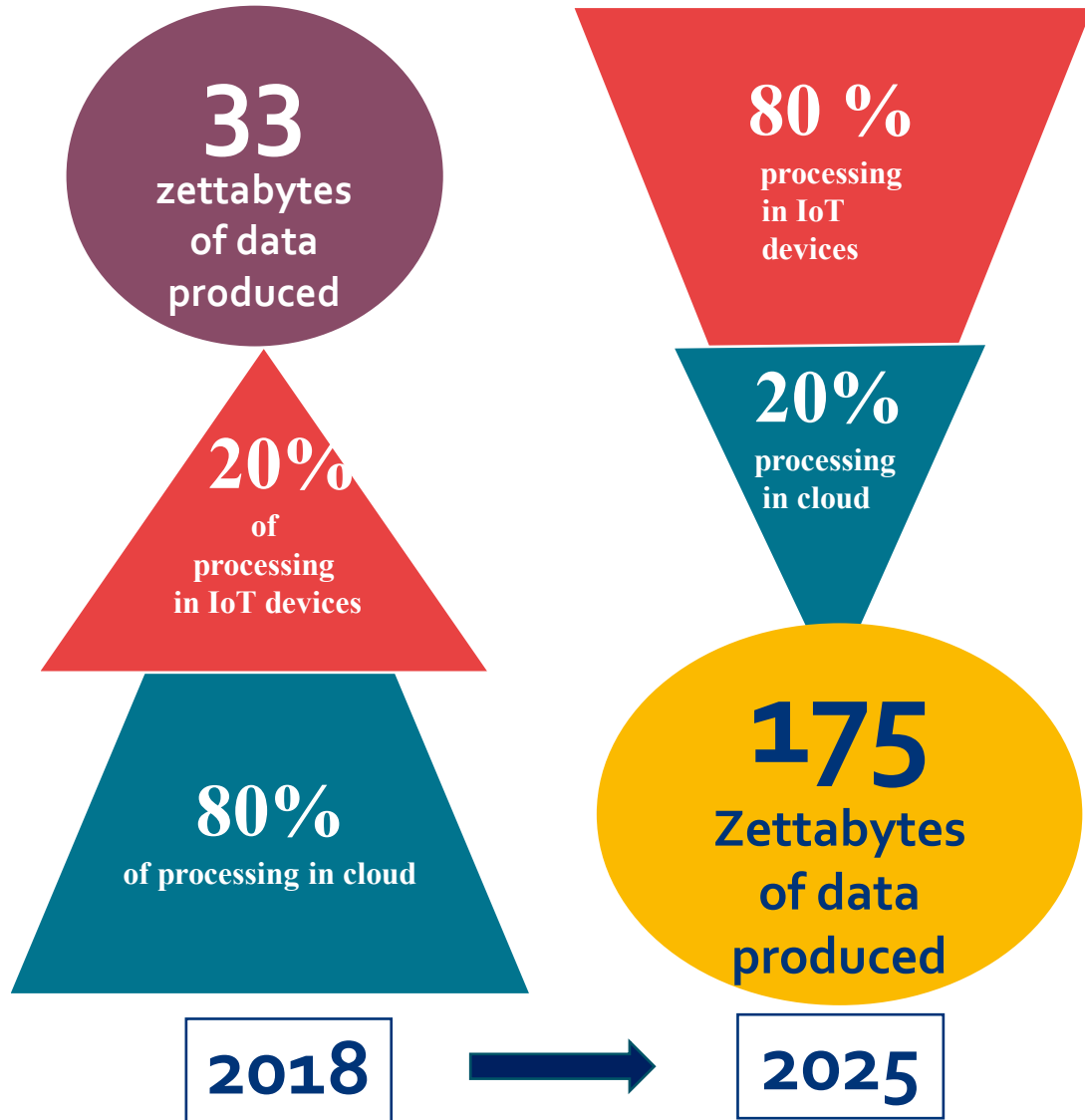
- Testing and pre-deployment
- Large-scale deployment
- - - Submarine cablenetworks



- 5G cross-border corridors
- Large scale testing
- EU 2030 Digital Compass
- CEF-2 Digital 2021-2027

- <https://5gobservatory.eu/>
- <https://digital-strategy.ec.europa.eu/en/policies/cam>

EUROPEAN DIGITAL & DATA STRATEGY



- Cross-sectorial new data framework
- Internal market data flows
- Build European data spaces
- B2B, B2G, G2B
- In-vehicle data sharing
- Edge computing
- Artificial intelligence new framework
- Framework for cybersecurity

VEHICLE MANUFACTURERS SHARE DATA

- **OEMs are making data available:**

- Process is gradual based on vehicle types, available data, use-cases
- There is no standard vehicle: differences in electronic/electrical architecture
- **A car is NOT a smartphone or a business platform online**
- Roll-out of the ISO **Extended Vehicle** standards as a safe and secure sharing mechanism
- Involvement of neutral servers

- **Key principles:**

- Safety, security, vehicle integrity and liability
- Customer choice
- Fair competition
- Privacy and data protection
- Return on investment

-> All info: www.cardatafacts.eu



AUTOMATED DRIVING: *Quo vadis ?*

DATA FOR AUTOMATED DRIVING

Automated vehicles

are equipped with technology that enables them to:



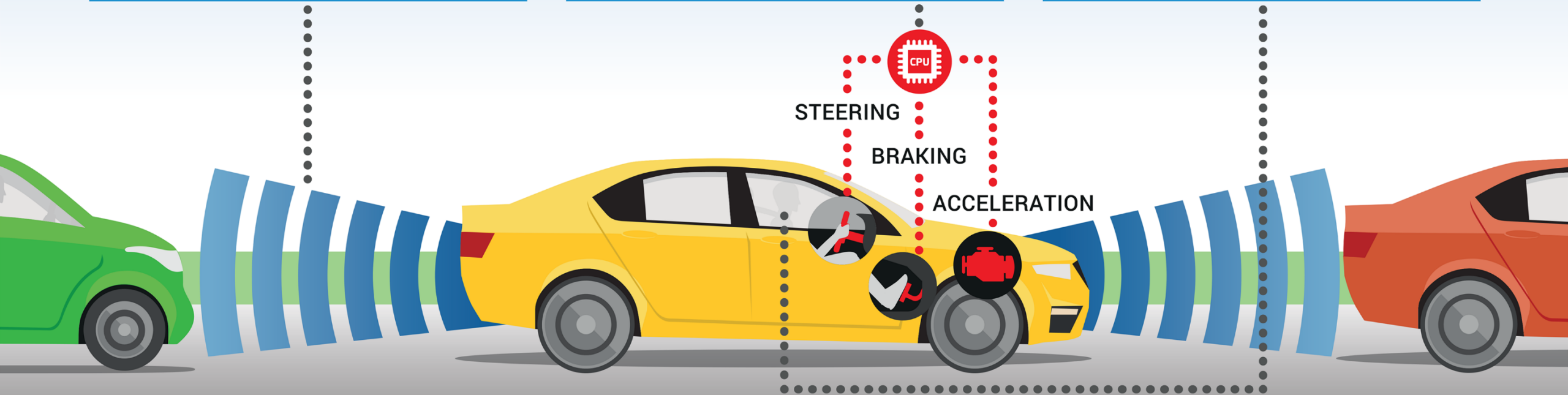
Sense and interpret their environment



Make vehicle control decisions



React without relying on the human driver



WHERE IS THE GAP ?

- **MOVE CURRENT REGULATIONS AHEAD**

- UN-ECE ALKS R157 major milestone but not enough
- Speed limitation at 60 KMPH to increase & allow lane change
- Adaptation of UN-ECE R79 (ACSF): hands-off warnings
- Tasks of the driver: cope with unintended use, level of trust and acceptance, appropriate driver state

- **TRAFFIC RULES**

- What are the permissible tasks in higher levels of AD
- Synchronisation of rules across-countries please !
- Digital twins for HD maps
- Offences to traffic rules by the automated vehicle

WHERE IS THE GAP ?

- **THE ROAD INFRASTRUCTURE**

- Recognition of lane markings, road signs, speed limits, ...
- Need for digital twins of physical road attributes
- Consistency between on-board vehicle capabilities, physical infrastructure characteristics and support from the digital infrastructure is needed
- Specific focus also for urban mobility

- **THE USER**

- The consumer versus the professional user
- Skills
- Trust
- Driving license

WHERE IS THE GAP ?

- **VALIDATION & CERTIFICATION**

- Object and Event Detection and Response (OEDR): when does the driver needs to react within and outside the ODD ?
- Validation & certification of safety functions: harmonisation of the assessment and test methods
- Multi-pillar approach that combines the use of a scenario catalogue with four validation methodologies (simulation/virtual testing, track testing, real-world testing, audit/assessment) and in-service monitoring and reporting
- Work ongoing at EU & UN-ECE

CONCLUSIONS

- **OEM's:** Vehicles were stand-alone products, not anymore stand-alone today: integrated in the digital and automated era
- **Digital infra:** network coverage, bandwidth and continuity
- **Physical infra:** readability of road attributes
- **Legislators & regulators:** adequacy between industry led approach and legislation
- **Users:** demystification of what CCAM is and what not



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