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PRESENT AND FUTURE OF E-MOBILITY IN EUROPE

Presented by Silvia Vaccaro, European Commission, DG GROW



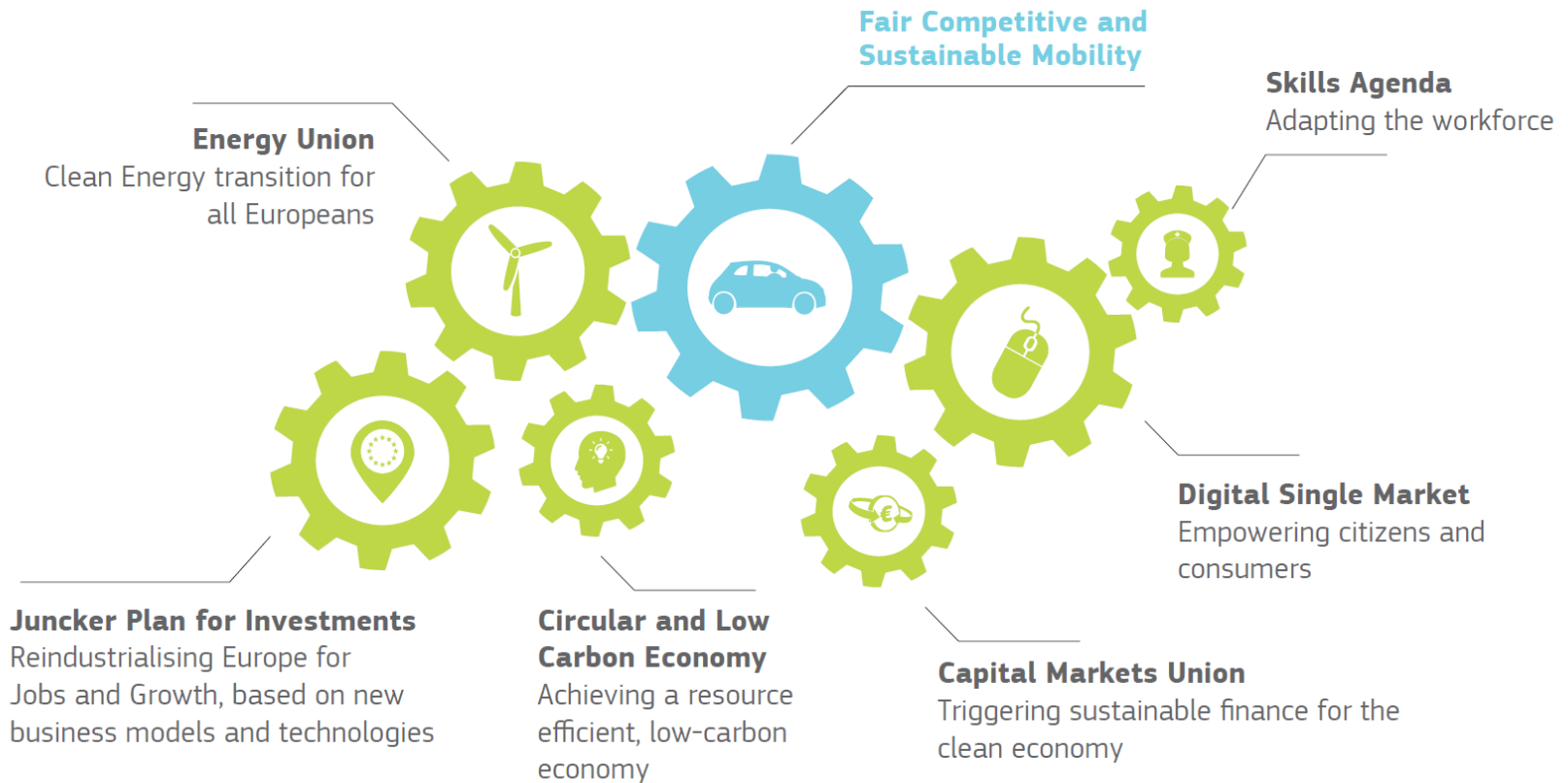
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PRESENT AND FUTURE OF E-MOBILITY IN EUROPE

- General overview of the Automotive sector in Europe
- Challenges
- European batteries?
- Increasing safety of vehicles
- The standardisation panorama



HOW E-MOBILITY FITS IN THE EUROPEAN UNION PRIORITIES





Mobility in Europe / Key facts and figures



Sector mobility: **5%**

The Mobility sector employs more than 11 million people, accounting for 5% of total employment.

Almost **50%**
of freight transport



Road transport accounts for almost half of the total freight transport activity



13%
of household
expenditure

Transport accounts for 13% of the total household expenditure

2010



+42%
→



2050



+60%
→



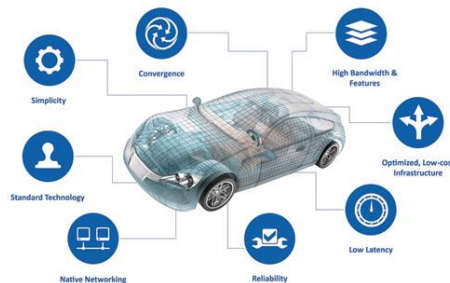
From 2010 to 2050, it is estimated that passenger transport will grow by about 42 per cent. Freight transport is expected to grow by 60 per cent

EU AUTOMOTIVE SECTOR

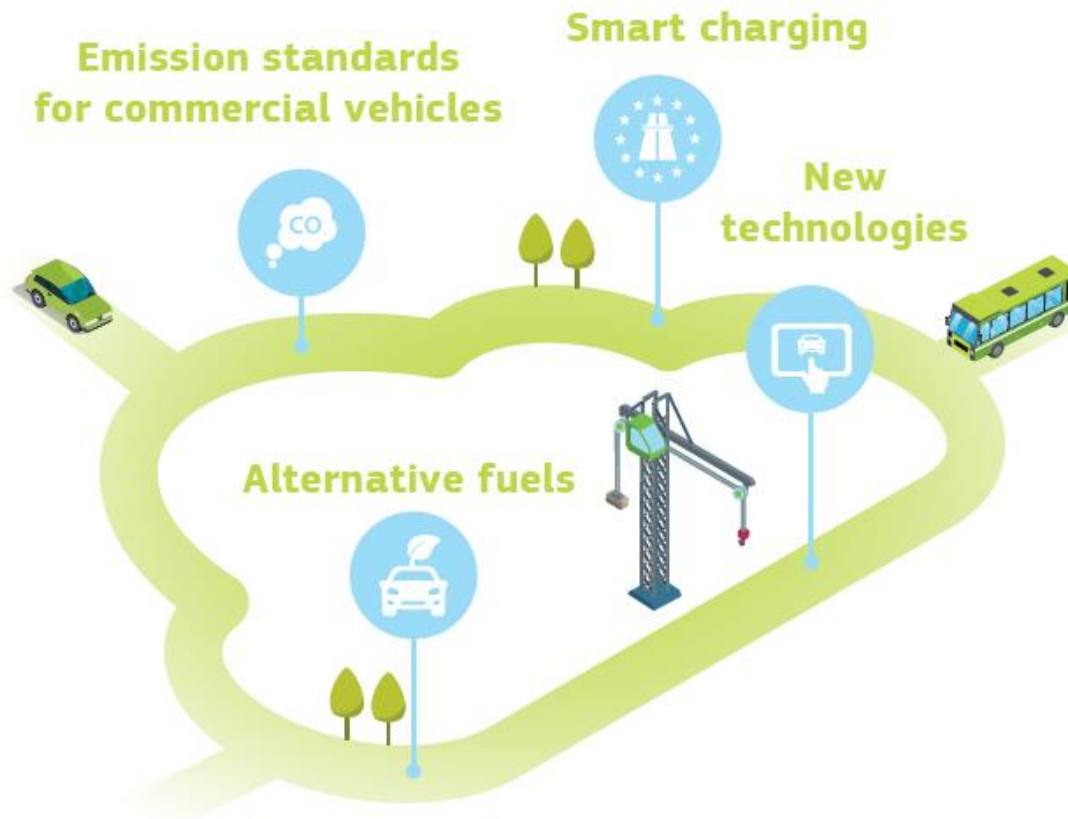
➤ The EU automotive sector is at the heart of Europe's industrial landscape:

- More than 11 million employed in automotive & mobility sectors (3.3 million in manufacturing);
- €90 billion positive trade balance; and
- €50 billion in R&D.

➤ This sector is essential to Europe's economic future



THE IDEAL FUTURE



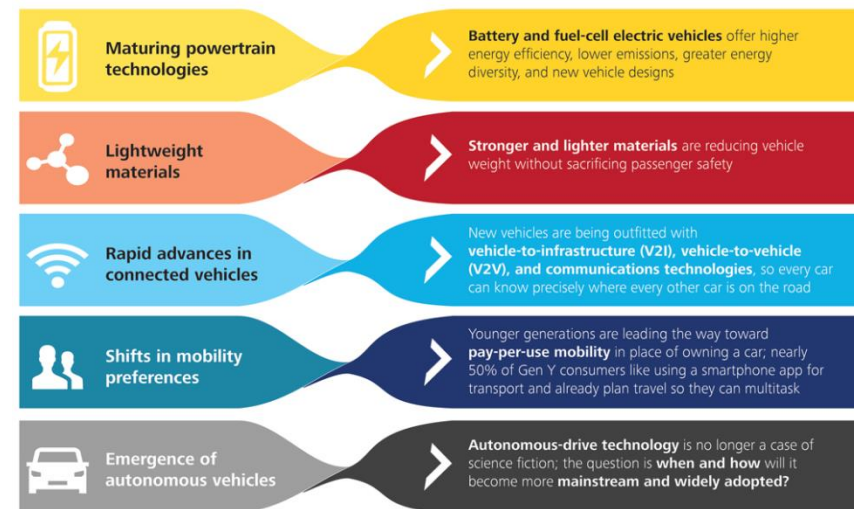
CHALLENGES



Five key challenges:

- **New technologies & business models;**
- **Climate, environment and health;**
- **Societal changes;**
- **Globalisation; and**
- **Structural Change.**

Figure 1. Converging forces transforming the future evolution of automotive transportation and mobility

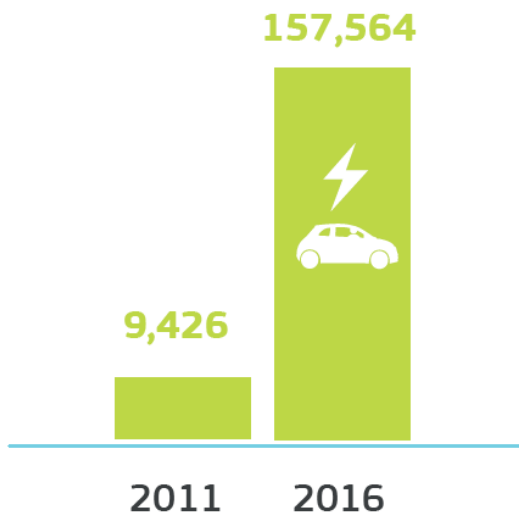


Graphic: Deloitte University Press | DUPress.com

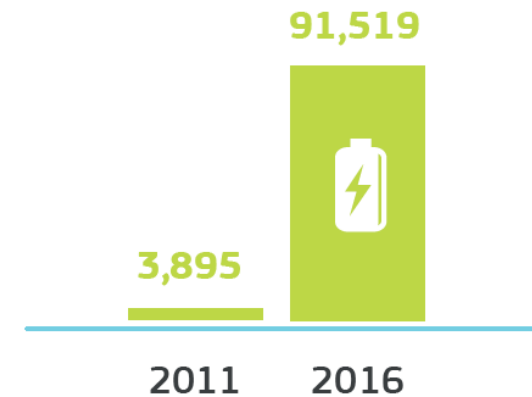


Development of electric vehicles and charging points in Europe

New registrations of plug-in electric passenger cars:



Number of publicly accessible electric charging positions



BATTERIES



Challenges:

Shift towards e-mobility expected to create exponential growth in demand for batteries:

- By 2025, 3 to 7 times the current volumes
- Demand for automotive Li-ion battery cells by European OEMs alone will be in the range of 15-28 GWh in 2021 and could potentially reach as high as 117 GWh by 2025 (JRC).
- European OEMs have announced ambitious electrification strategies.

By 2025 Europe could have a new market of around €250 billion pa (InnoEnergy).

BATTERY ALLIANCE



European Battery Alliance – launched on 11 October 2017 by EC VP Sefcovic. Its objectives are two-fold:

- 1) to support a competitive and innovative **battery cells manufacturing base** in Europe; and
- 2) to establish an innovative, sustainable and competitive **full value chain** in the EU.



Automotive safety

The existing Framework



- **Framework Directive 2007/46/EC** – approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, soon to be replaced with new and improved **Type-Approval Framework Regulation** (after diesel-gate).
- Prescribes mandatory rules for vehicles including **vehicle safety requirements contained in the General Safety Regulation (GSR) of 2009**



Main achievements

- GSR introduced more advanced features such as **stability control, safety belt reminder, electric shock protection, ...**
- Also Advanced Emergency Braking and Lane Departure Warning on all new trucks and buses
- Measures still being phased in until 2023 (tyres noise, rolling resistance, etc).
- PSR introduced child/adult head impacts on **bonnet**, legs impact on **front bumper**, mandatory **Brake Assist System (BAS)**.

The way forward (1)



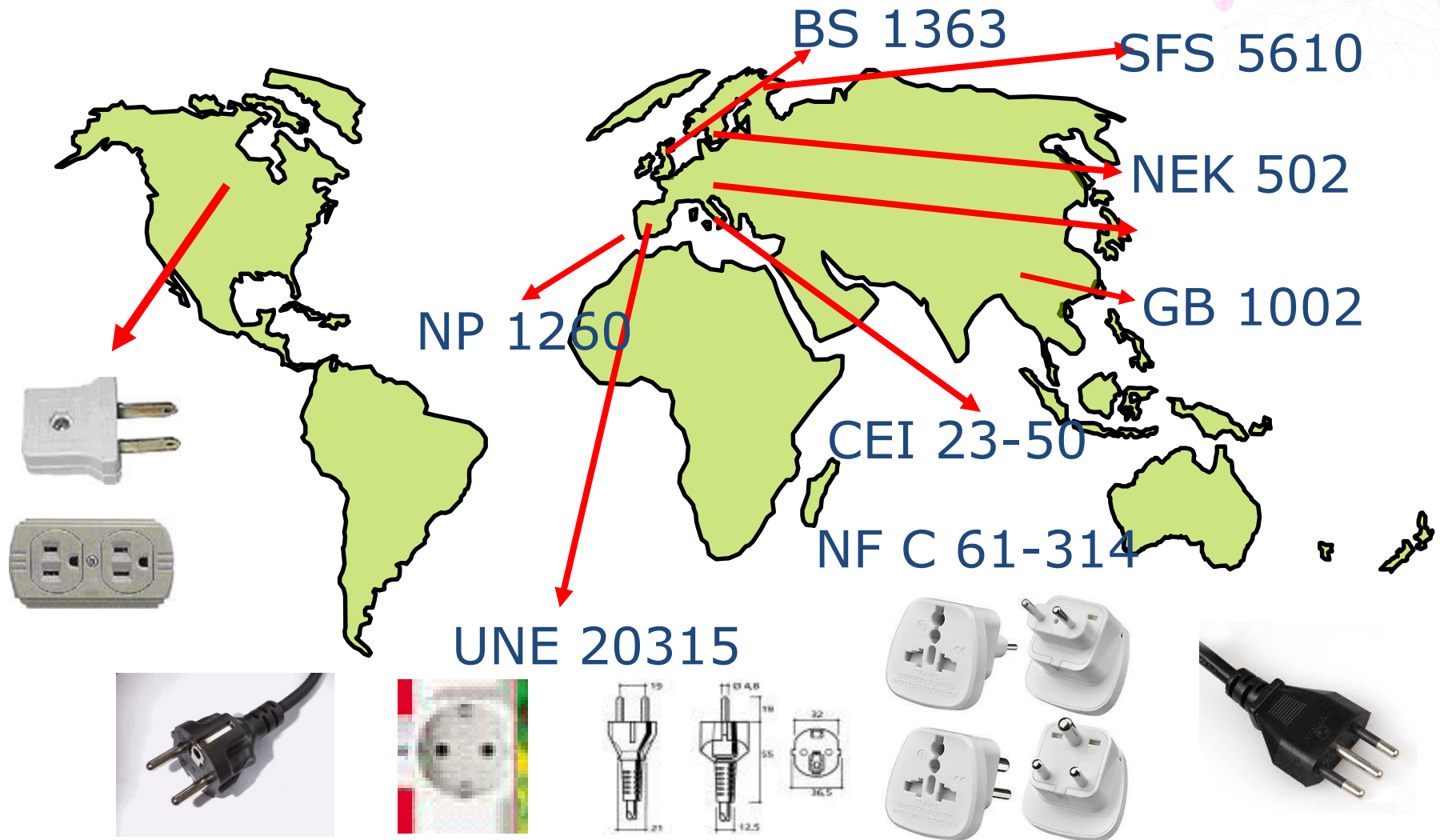
- **New Commission proposal on General Vehicle Safety** to be adopted as part of the **3rd Mobility Package on 16 May 2018**.
- **Focus on new accident avoidance systems and improved active and passive safety measures, both for Occupant protection as well as for pedestrian and cyclist protection** in frontal, side and rear impacts.
- **All details available after adoption on 16 May.**

The Way Forward (2)

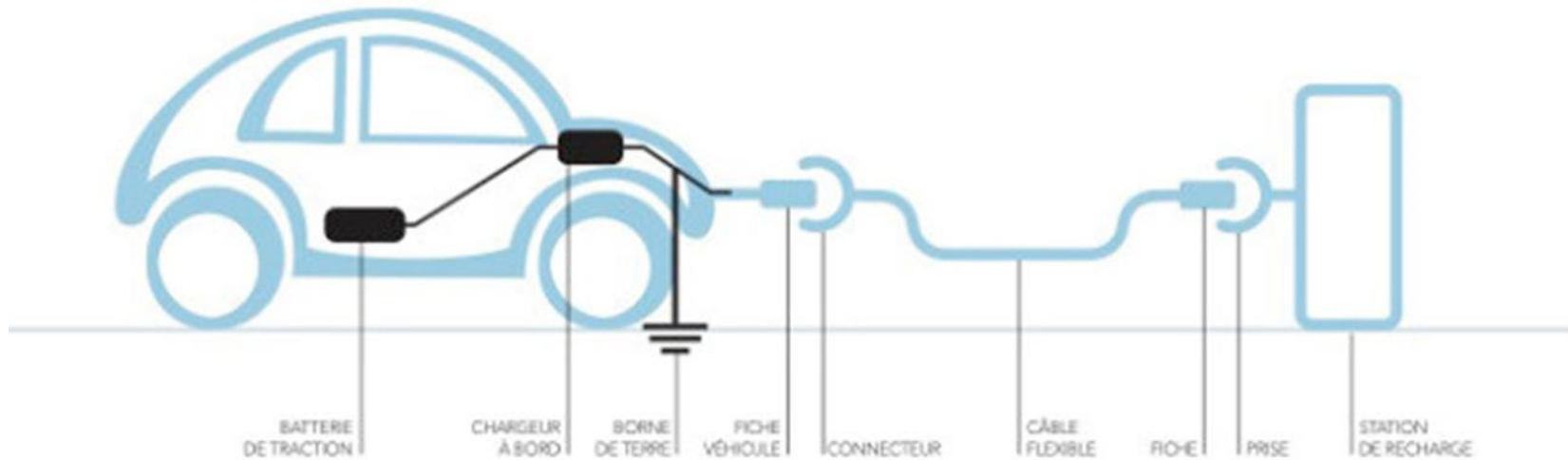


- An ambitious strategy that will cover **all categories of vehicles**.
- A proposal that will pave the way to Connected and Automated Driving and **focus on the human factor**
- Part of the **Safe System approach** (Road and Tunnel safety)
- Simplification by combining current separate legislation on GSR, PSR and Hydrogen vehicle safety

What happens if there are no common standards? (i.e. plugs and sockets)



The 3 standardisation domains

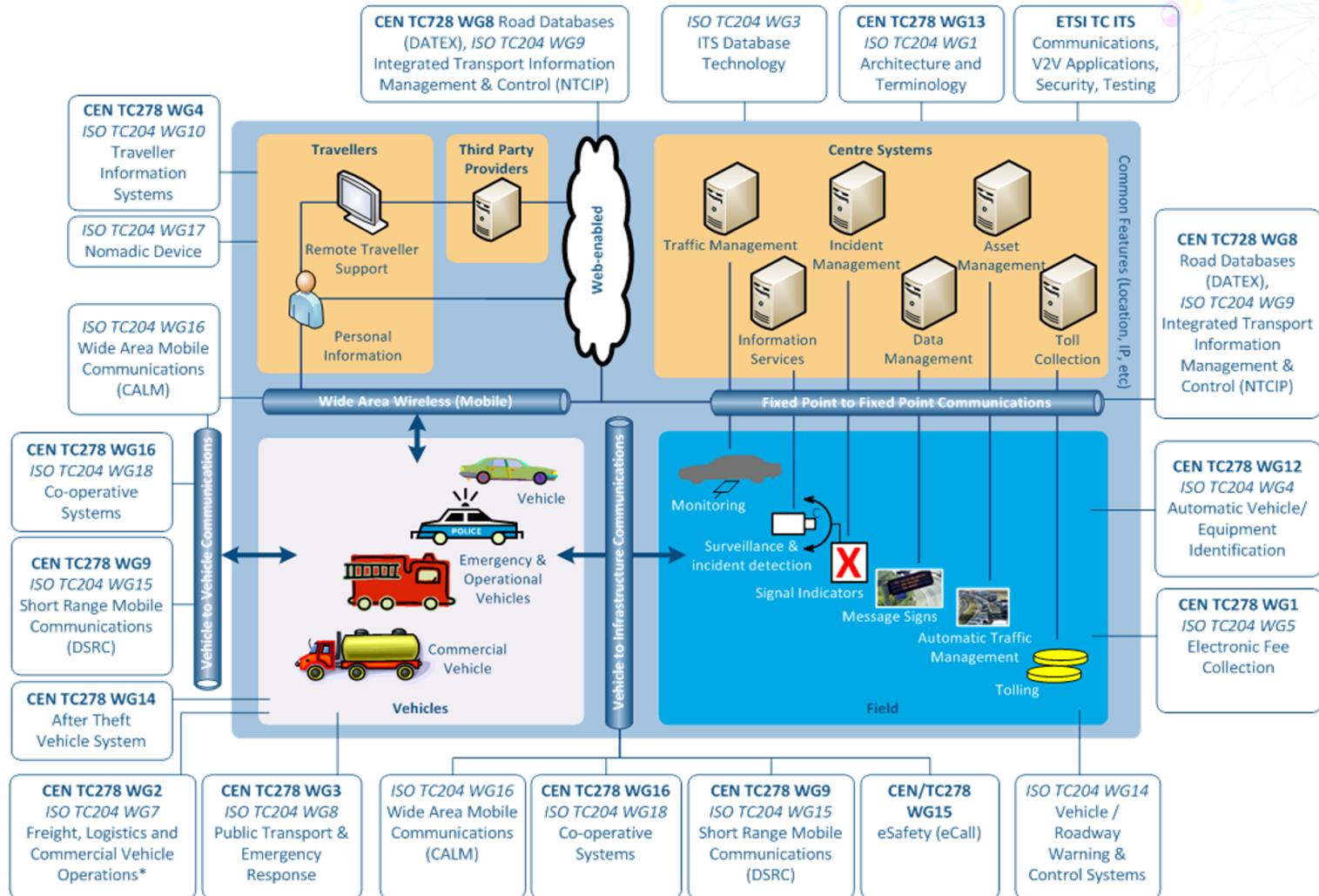


1] Vehicle

2] Cables & Connectors

3] Charging infrastructure

Standardisation?



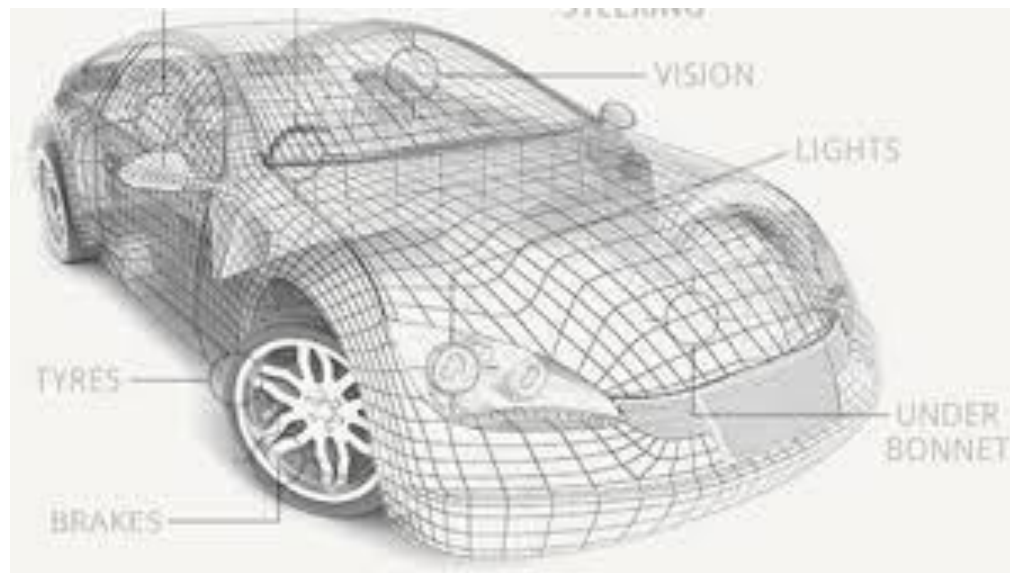
By courtesy of the Highways Agency - Based on a design concept of AustRoads, 2010

For further info

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