



Transformation, continued

Facts and figures on what's next

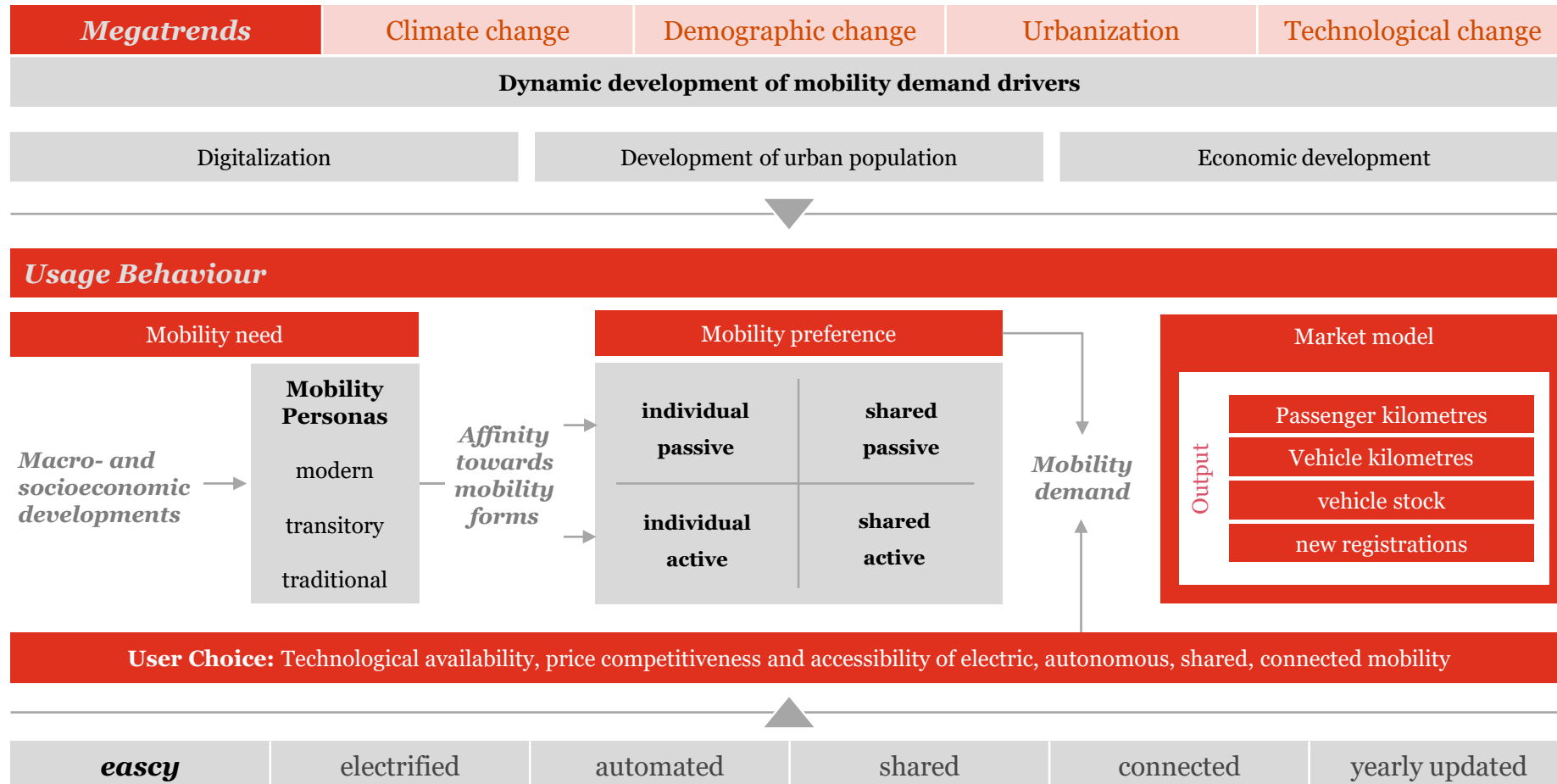
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ArgeZ-Forum Düsseldorf
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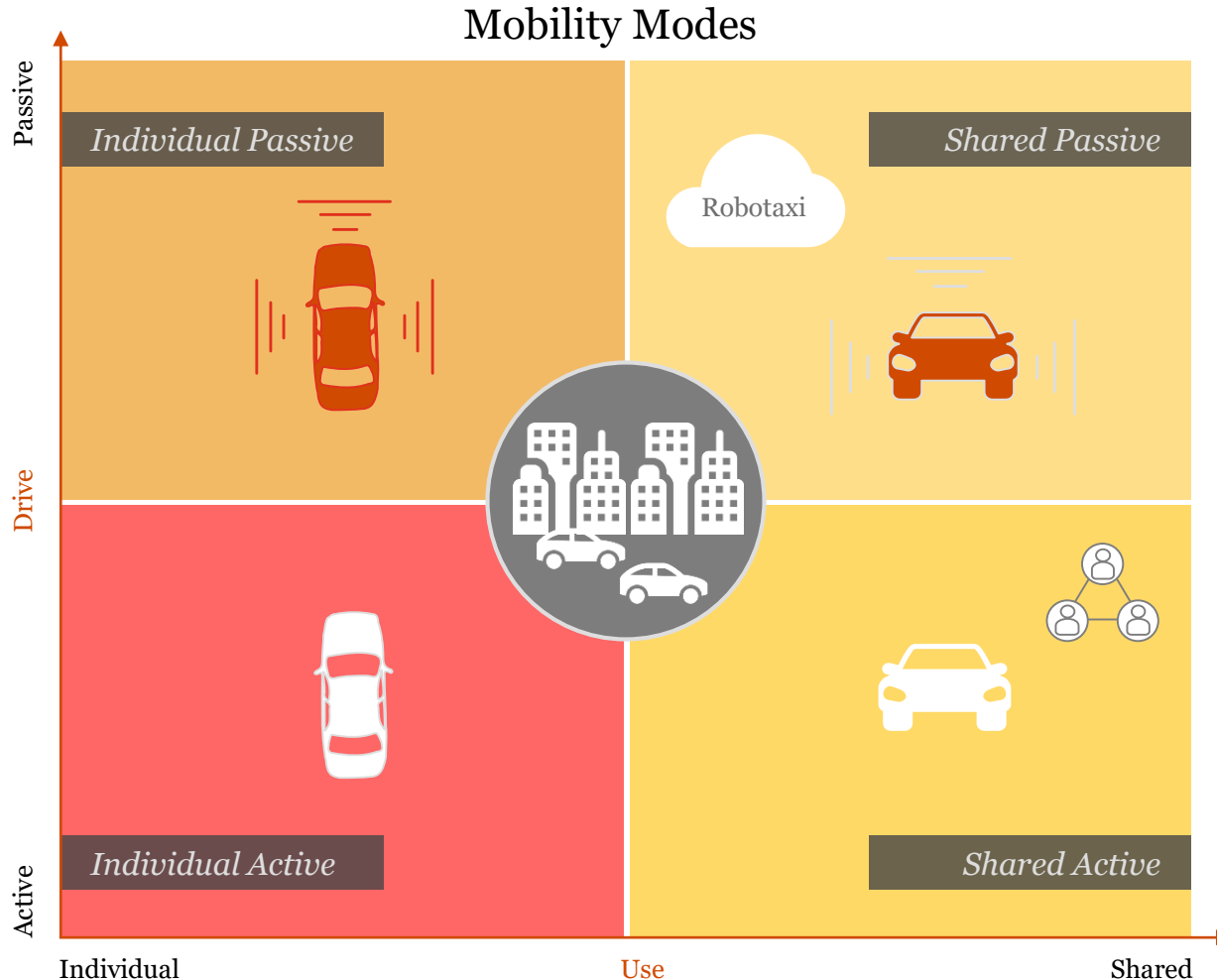
The digitisation of mobility is transforming the auto sector

Instead of focusing on new car buyers only, the mobility ecosystem entails all users



New technologies enable new individual mobility modes

Profitable business models are required to propel the transformation

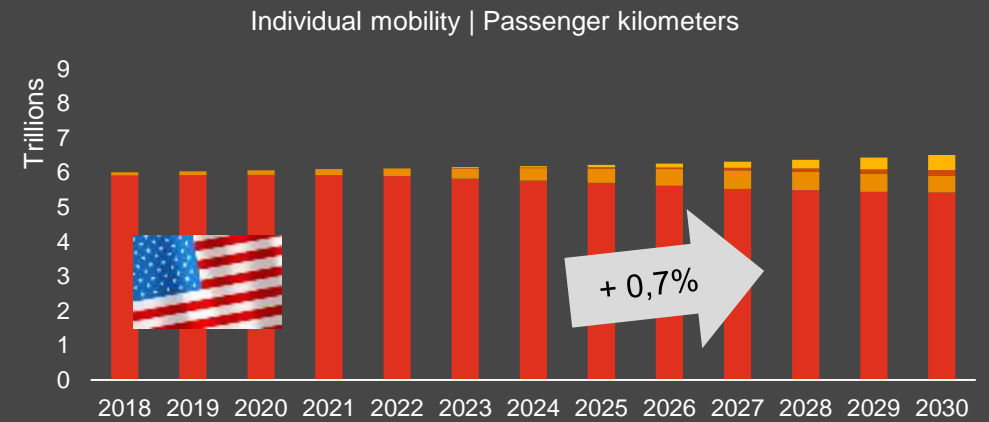
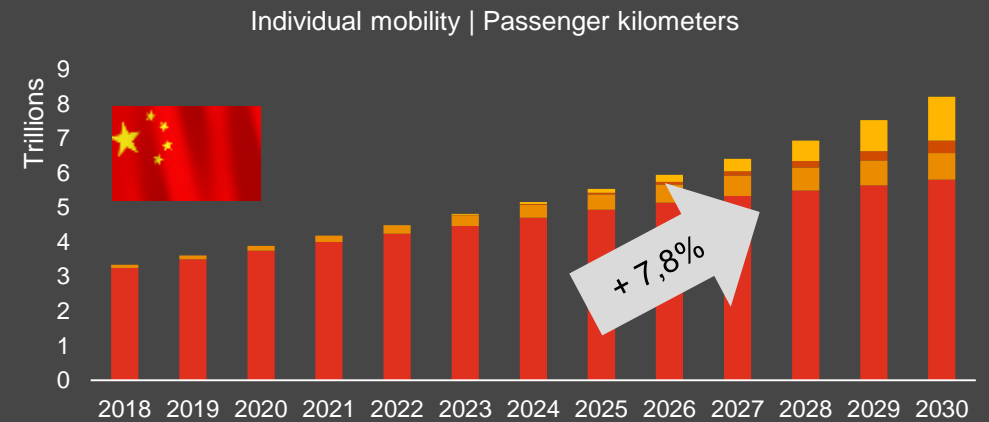
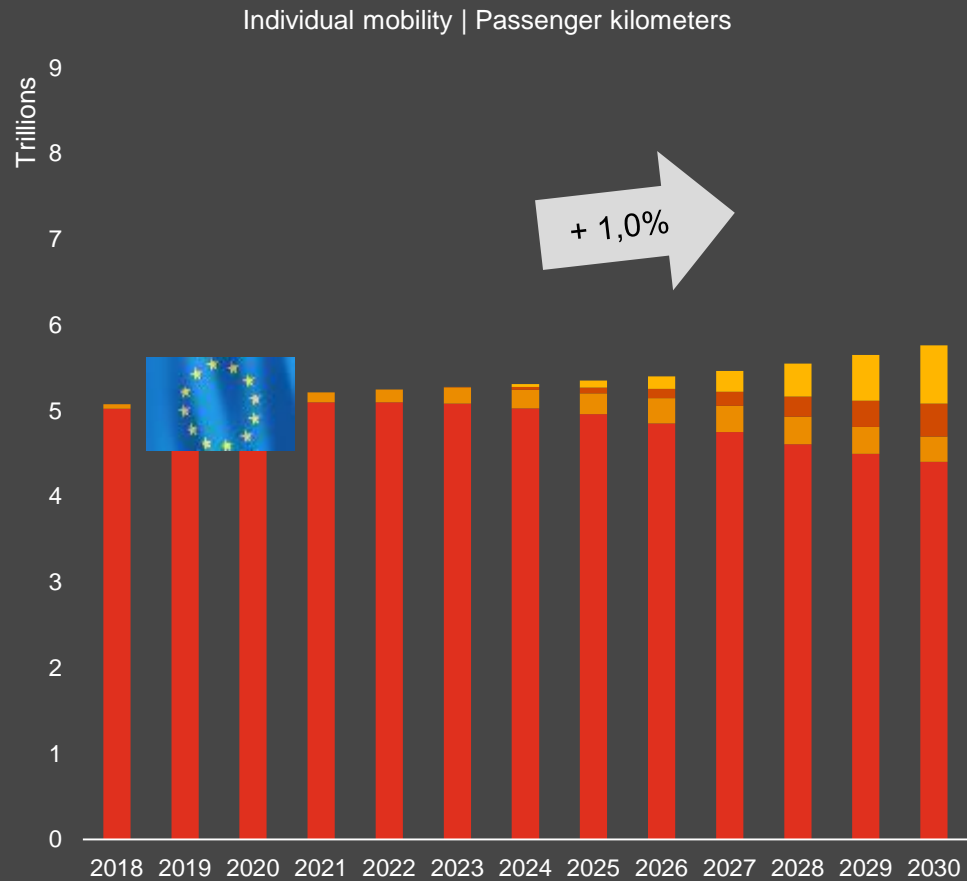


Passive mobility modes imply automated driving

- **Individual Active Mobility:**
Use of individual-owned car with active driving (private car, family car/ Microsharing, personal company car, ride sharing)
- **Shared Active Mobility:**
Using all forms of Shared Mobility with an active driver (Rental, Car-Sharing, Ride-Hailing, Ride Pooling, Taxi, etc.)
- **Individual Passive Mobility:**
Delivered by Cars with capability to drive automated, without driver intervention (Private car, family car/ Microsharing, personal company car, ride sharing, etc.)
- **Shared Passive Mobility:**
Provided by all forms of Shared Mobility with a fully automated vehicle (Ride Hailing, Automated Taxi, “Robotaxi”, “People Mover”)

Individual mobility is set to continue to increase

Passenger kilometers are the basic units of mobility

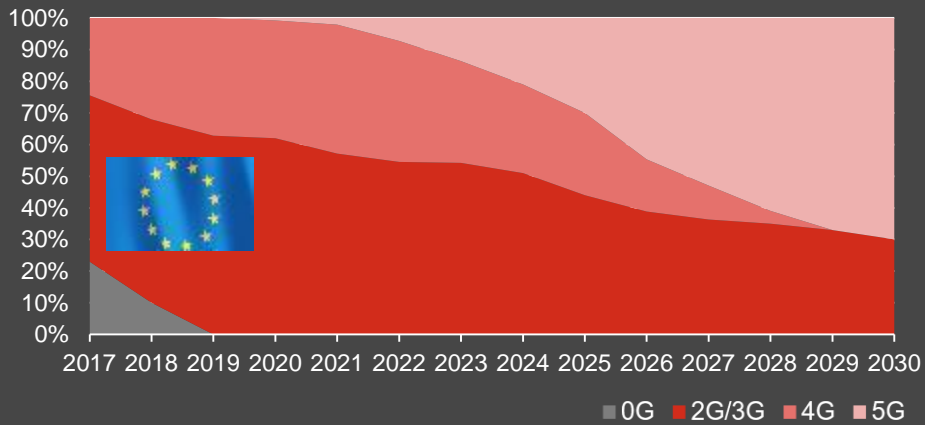


Connectivity is the prerequisite for safer and smarter cars

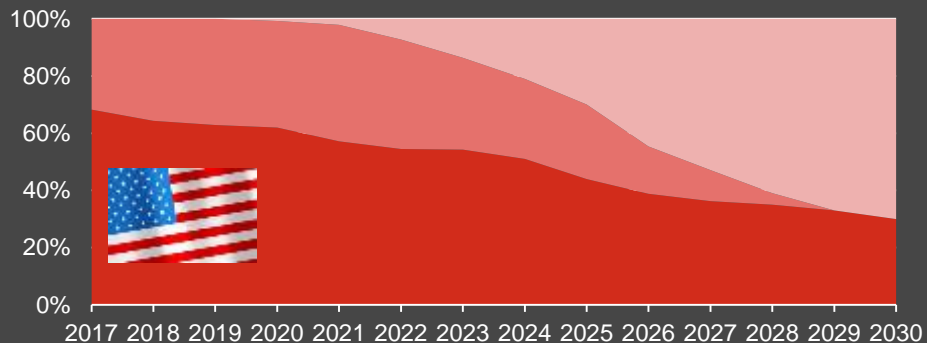
In EU and USA, vehicle connectivity is already mandatory



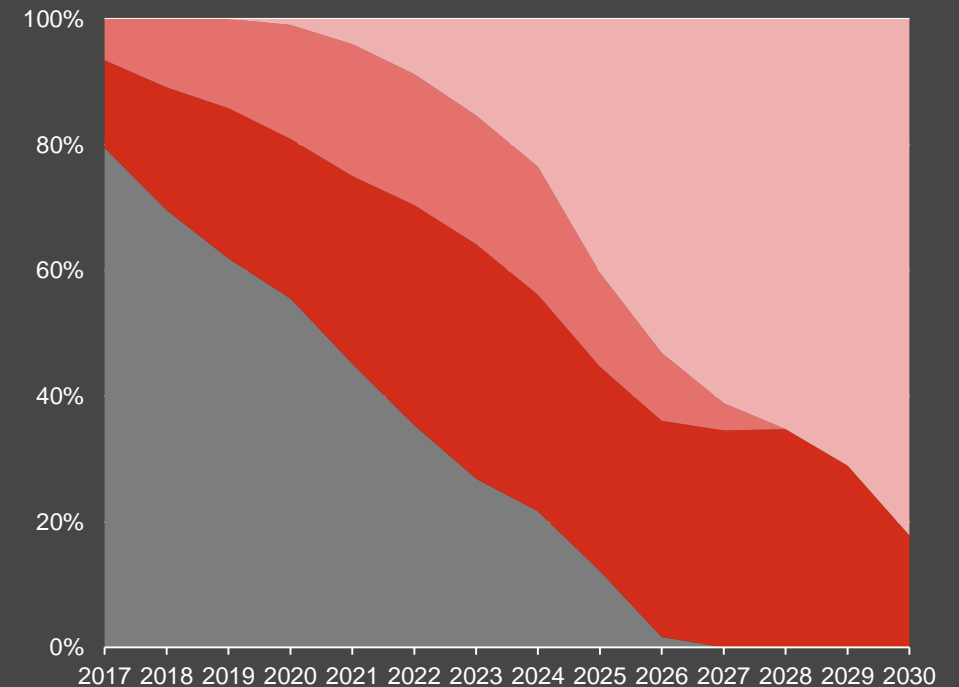
Connectivity | New LV sales



Connectivity | New LV sales

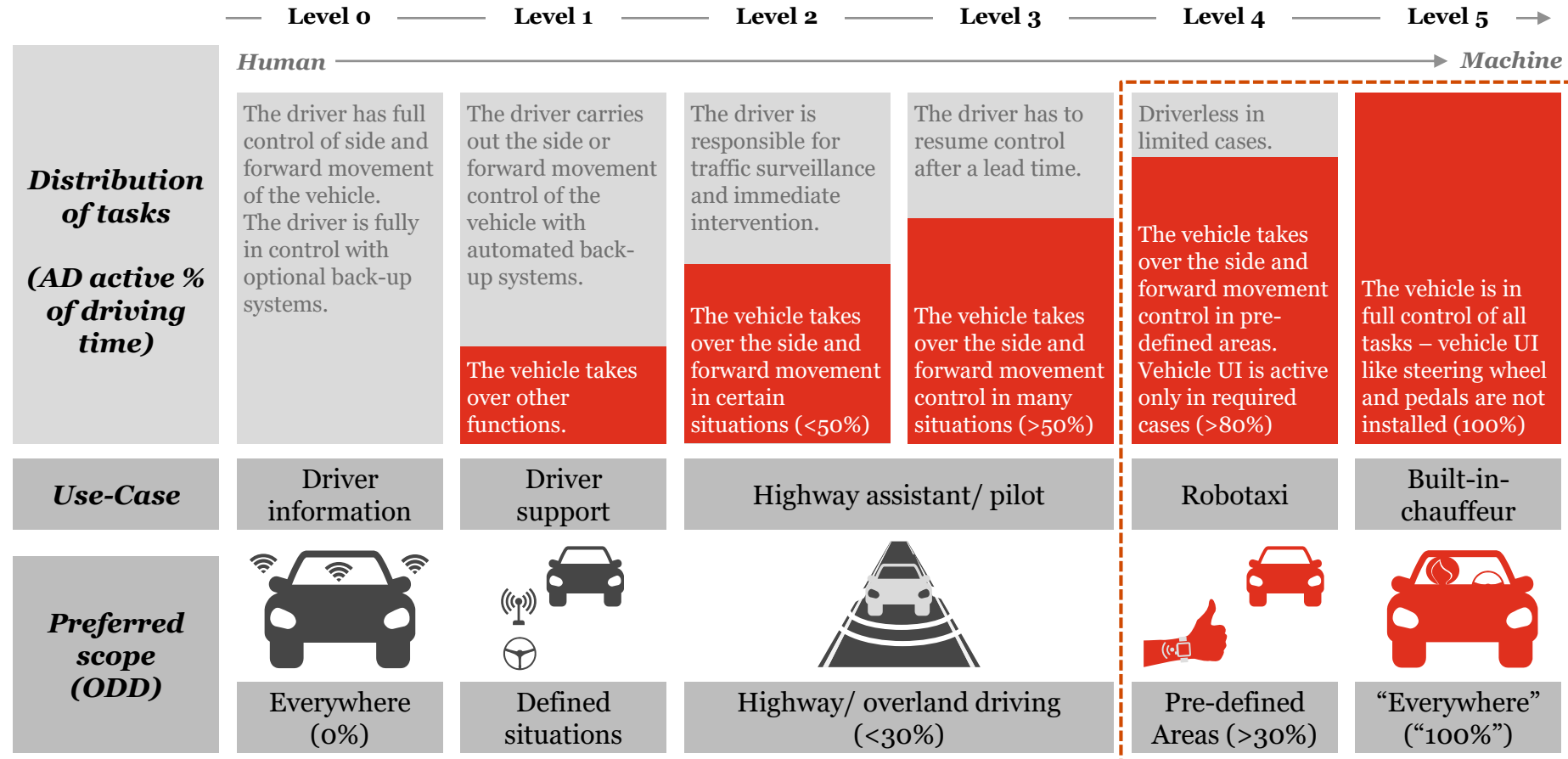


Connectivity | New LV sales



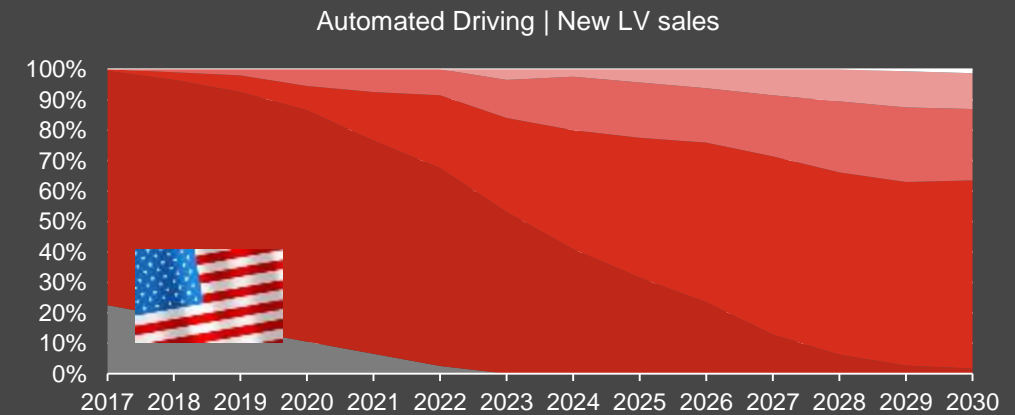
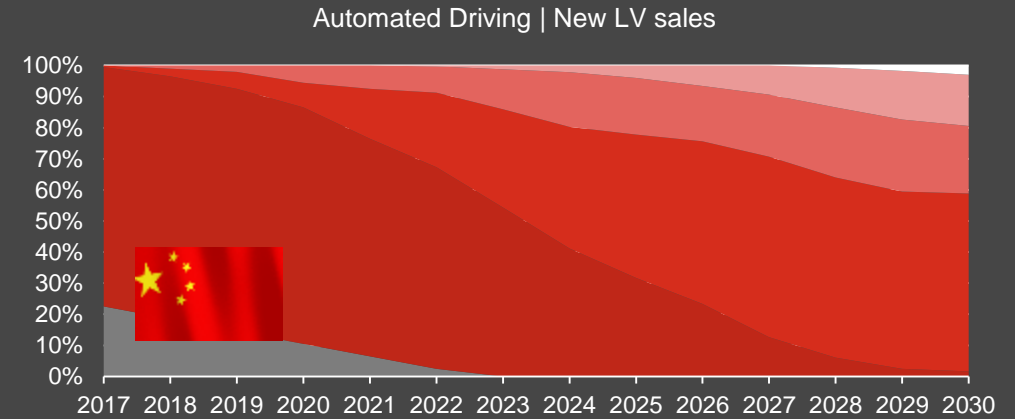
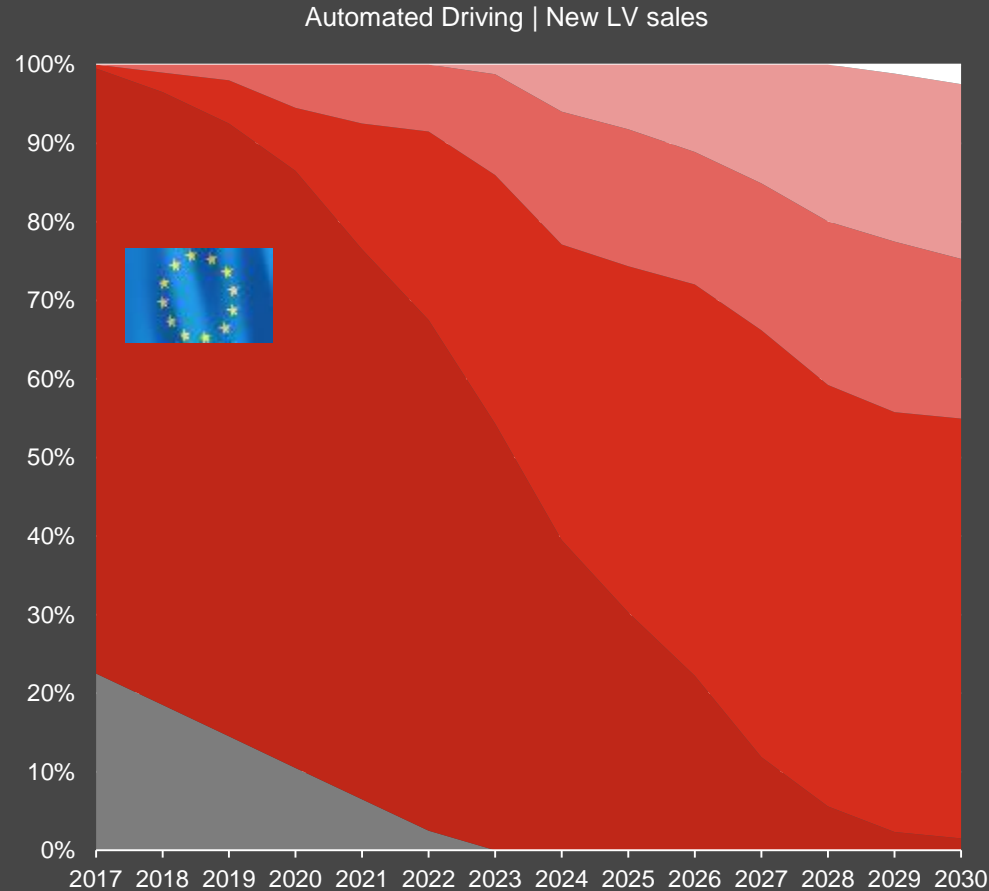
Automated driving is the new vision for car use

While introduction is determined by regulation, the uptake is driven by business



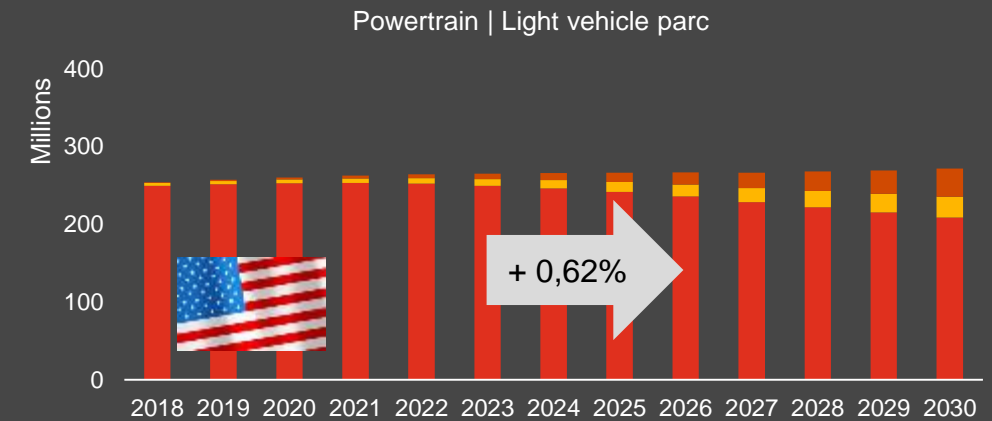
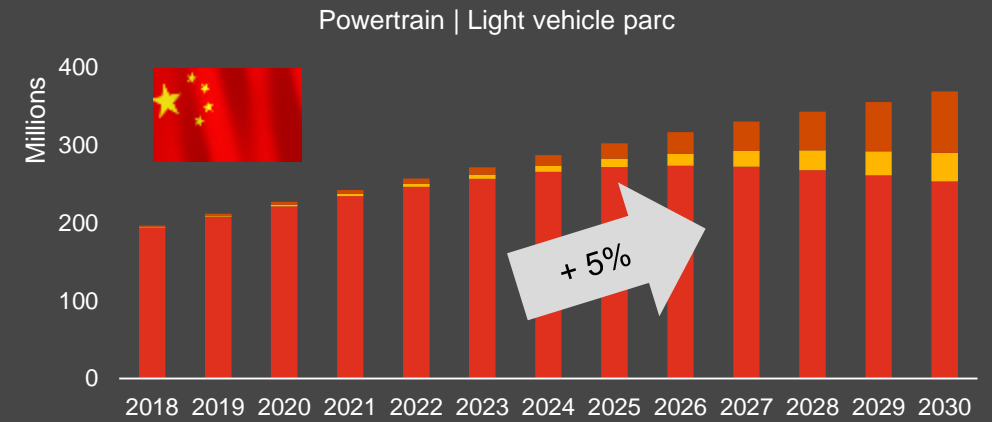
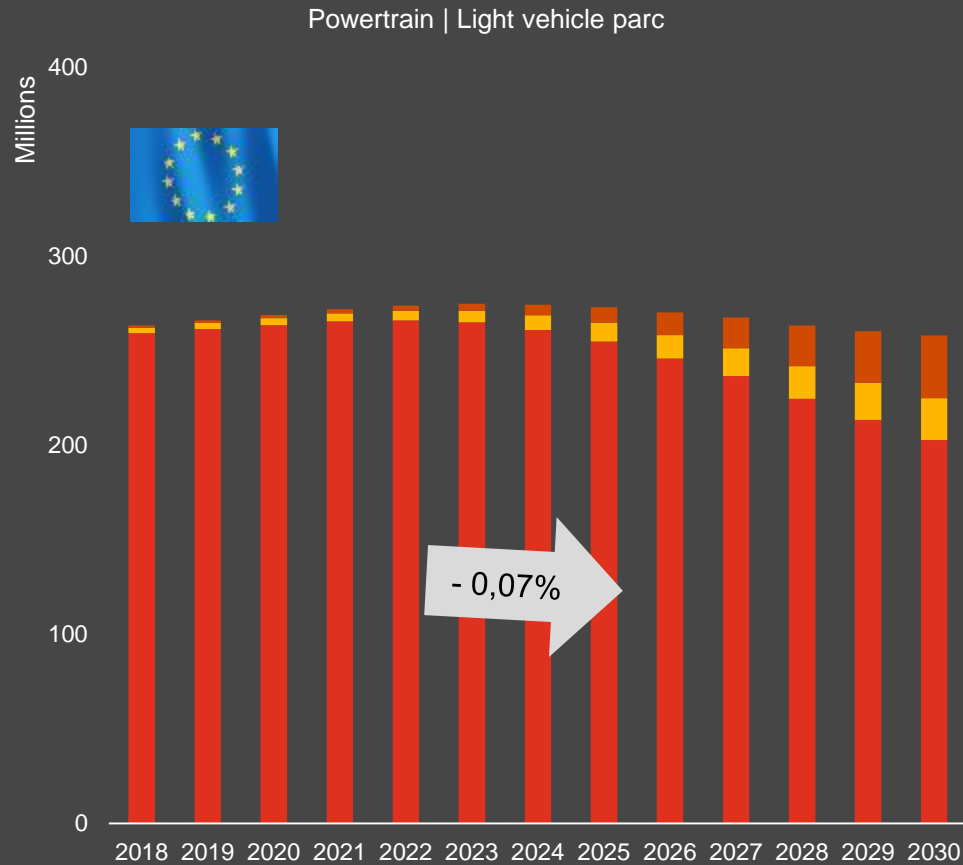
Technology availability and TOC drive market adoption

Business opportunities for automated driving are best in Europe



The demand for mobility determines total car parc

Efficient new mobility models limit the growth of global car fleets

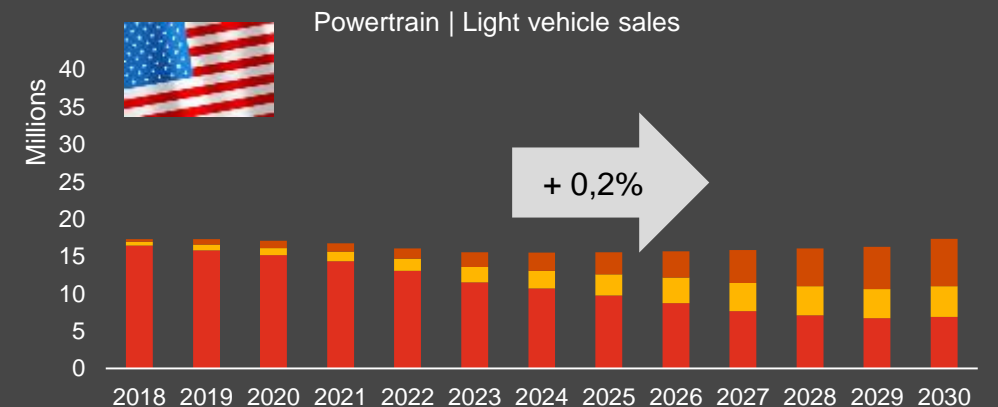
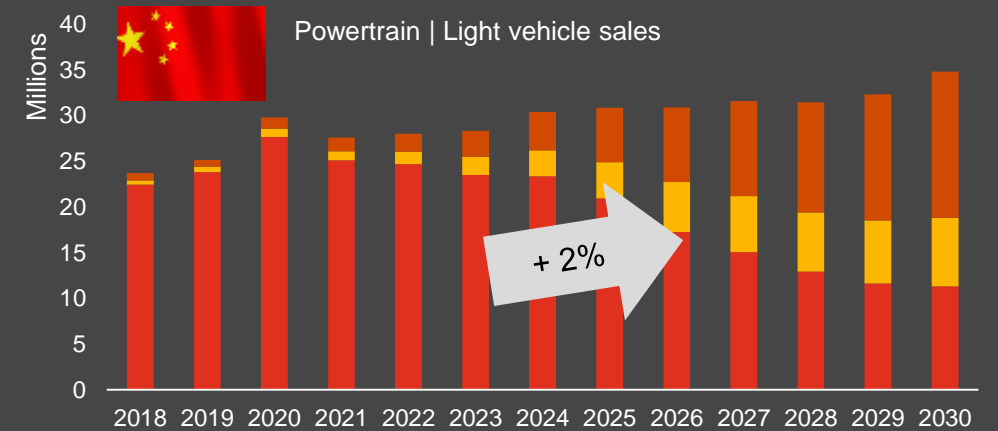
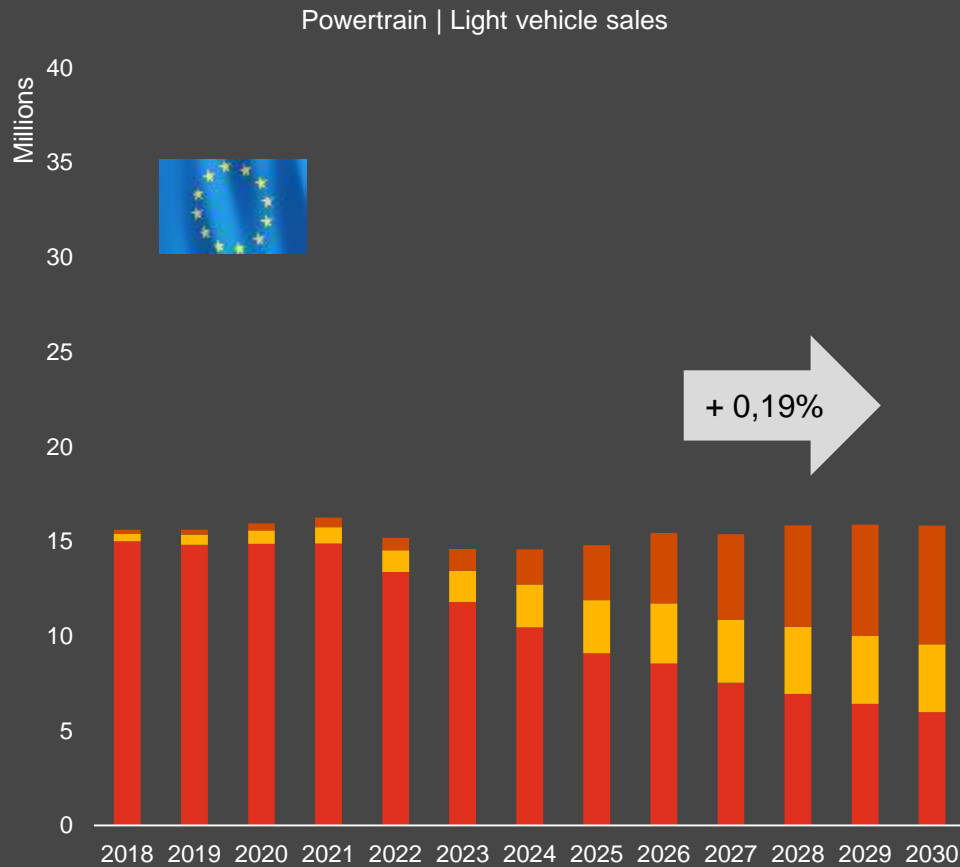


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■ Combustion ■ Hybrid ■ Electric

Electric vehicles are set to conquer global markets

Total efficiency and synergies with energy sector favour BEV



“It’s gonna be so easy” – 5 steps to shape the future

The 5 dimensions of transformation apply digitization to the automotive value chain

electrify

Electrification of the drivetrain has become a one-way street, with industrial dynamics and infrastructure investments heading in the same direction. The race is now about finding ways to afford the rapid build-up of production capacity and smart charging grids



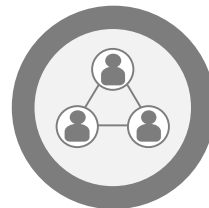
automate

The industry is waking up from the dream of free-roaming driverless cars, and is looking for the “least viable product” to offer users a useful autonomous experience – which they will actually pay for. This is where entrepreneurial creativity will be most needed



Share

The transformation to shared mobility is coming up later than expected because the costs today are still too high compared to individual mobility. Sub-critical attempts to steal the market have failed and are paving the way for scale players willing to invest into the entire ecosystem



Connect

A connected car is already the new normal, as regulators have come to appreciate the safety and security advantages of real-time online communication. More embedded features will both require and enable more connectivity, independent of user-held devices



update **y**early

New and digital technologies such as electric batteries and drivetrains, automated driving functions and digital user interfaces will face short technology cycles and rapid system obsolescence – therefore heading towards yearly updates of both new and in-use products



Thank you – questions welcome!



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