S&P Global
Mobility

The Aftermarket in the 2020s

Global trends and perspectives

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Aftermarket is a global trillion-dollar industry with a true sustainable purpose

OEM and IAM competition granting repair & maintenance choices to consumers and businesses

USD1.2T OEM and IAM sales globally in 2030[1]

Safety and proper functioning of the global vehicle Parc beyond limited OEM warranties & network capabilities

1.6B Light vehicles and on-highway trucks globally in 2021[2]

Current-value orientated prices support customer-friendly repair options, increasing longevity of cars and saving raw materials & energy

10.6 years average age of light vehicles-in-operation in at the end of 2021[2]

Well-maintained used vehicles enable invidual mobility to consumers with no access to new cars

>50M used light vehicle transactions p.a. in Europe[2]

Remanufacturing leader accounting for 36% of all reman. industry activities, up to 50% reman. share for specific components[3]

85% of CO_2 equivalent savings compared to new parts production[3]

Emerging markets increased motorization requiring new aftermarket capabilities

8.7B USD Aftermarket component sales in India[4]

Important employer ubiquitous in customer-oriented local businesses across the world

>4.7M People in US autocare industry[5]

Sources: 1: McKInsey; 2: S&P Global Mobility; 3: APRA ; 4 ACMA; 5: Autocare Factbook 2021

Automotive's transformative and disruptive trends are impacting the aftermarket

Connectivity

Car to car, car to everything. Smart city pilots and IoT ecosystems. But who owns and manages the data and how to monetise?

Autonomy

Tech players outside the industry drive innovation, reduced traffic density and accidents…but legislation, liability, and insurance will need to evolve?

Shared mobility

From owning to using, retail to fleet, will private-car ownership decline? Will new private-public business models and consolidation emerge?

Electrification

Government incentives, new products and growing infrastructure drive adoption…but when is the cost/demand tipping point? And what role does hydrogen play?

Supply chain disruption

Recent events…politics, pandemics, natural disasters…highlight the fragility of the global supply chain leading to critical shortages.

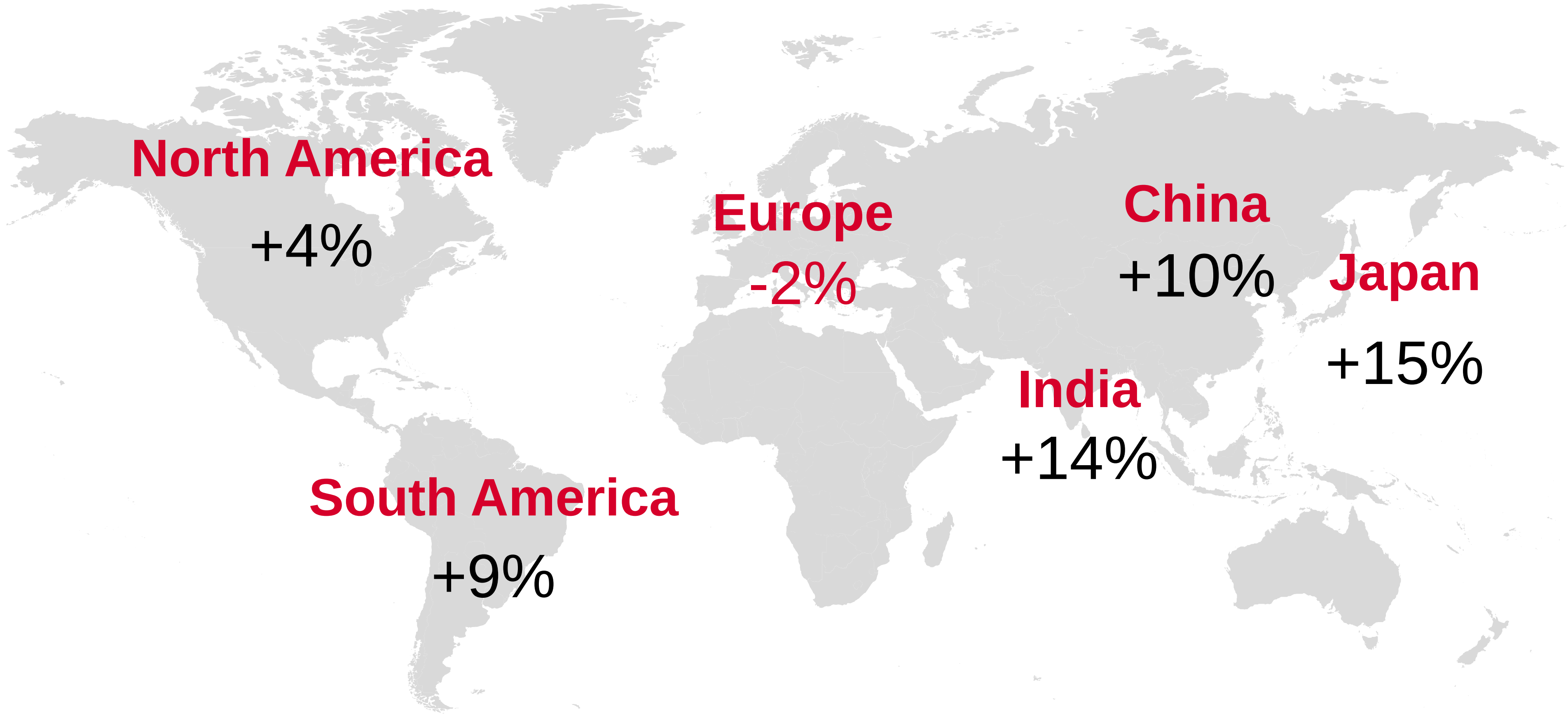
Retail and service transformation

Traditional model loses relevance. Tesla pioneers. OEM dealers must transition… smaller, online, a less service-dependent business.

Post-COVID impact

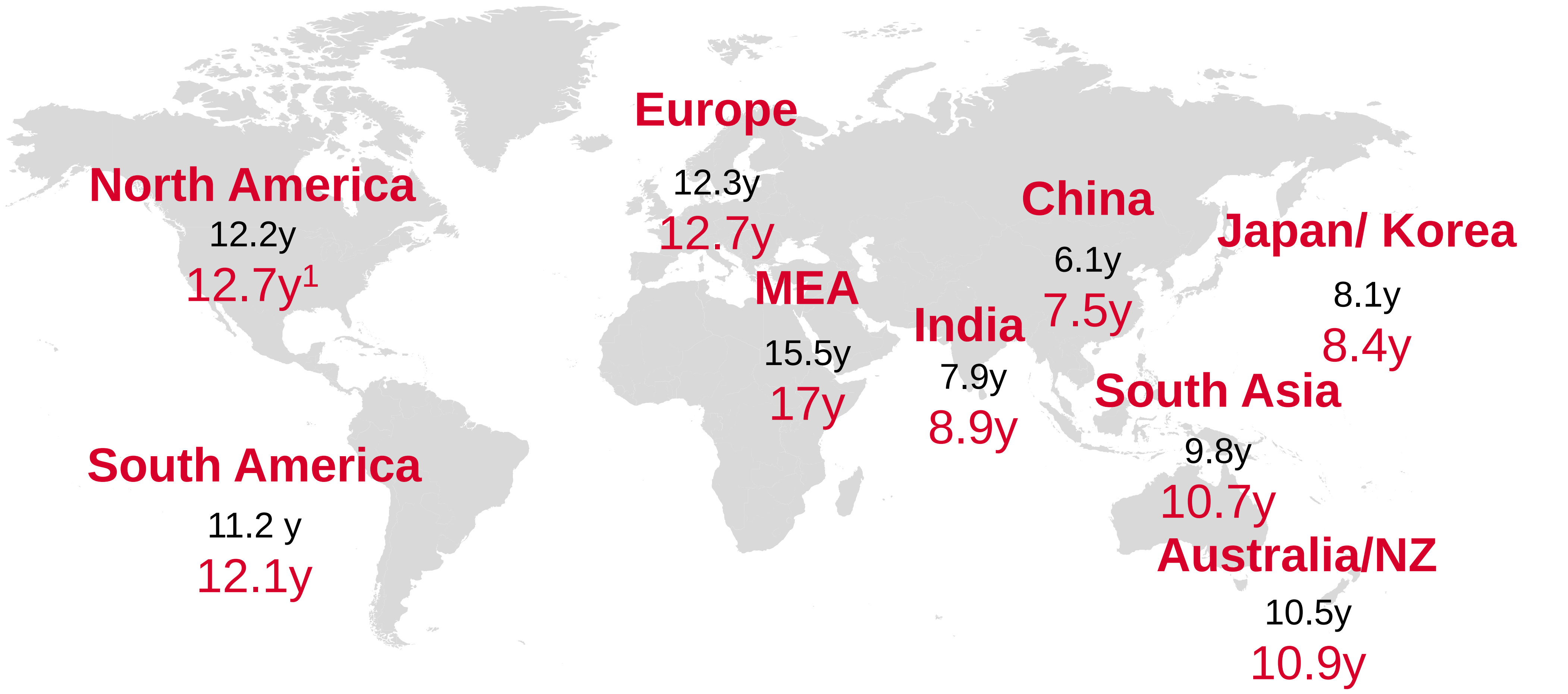
The acceleration of trends: contactless sales processes, online retail, WFH…but will shared mobility and public transport ever recover?

Post-COVID impact on VMT (vehicle miles traveled) 2022 vs. 2021



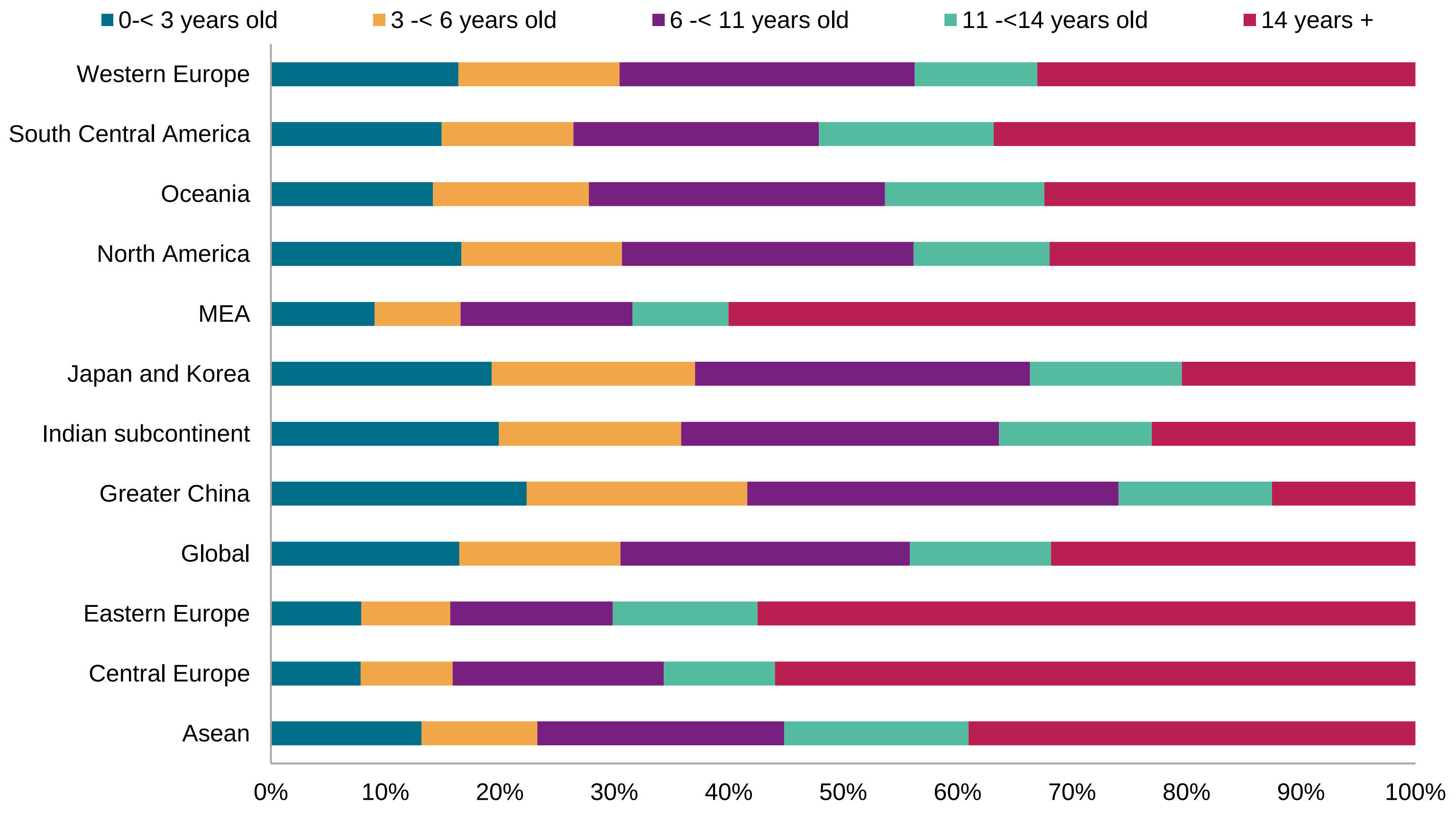
S&P Global weighted total annual mileage estimate, based on Q1 data for 21 countries

Supply chain disruption – new vehicle sales drop impacts Ø LV age 2025 vs. 2020



Supply chain disruption – VIO age class distribution 2025

VIO Age classes, LV 2025



The reduction in new vehicle sales will impact the VIO age segmentation as well:

- At the end of 2025, 32% of all LV will be at least 14 years old.
- In the Greater China region, the share of this age segment will make the biggest jump, from 7% at the end of 2021 to 13%, but it will still be relatively small compared to Middle East Africa, Central and Eastern Europe, where more than half of the VIO fall into this age category
- Of all regions, China will still have the largest VIO share for the youngest age segment of 0-3 years old vehicles, which will be at 22%.
- The closest to the global average will be Western Europe and North America.

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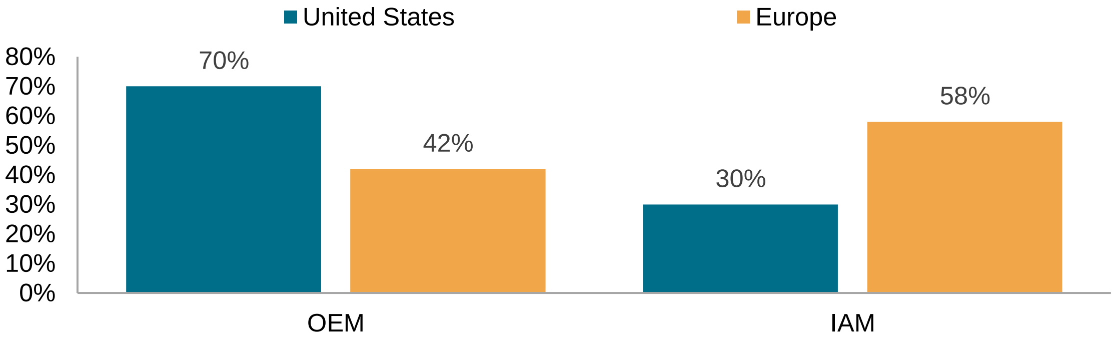
Retail and service transformation

Aftermarket to find new sources of revenue

- The automakers have embarked on a journey towards direct selling their products to end users and fleet clients, reducing dealership networks further. This will potentially open new opportunities to grow the share of IAM, particularly in Europe and other regions where OEMs are still strong today.
- The concept of the software-defined vehicle, which means that the functionality of an existing vehicle can be maintained or even improved by updating its software with better versions, can revolutionize the market, and more than compensate potential losses from traditional parts and repair businesses.
- An interesting analysis was done by BBE Automotive based on the historical DAT surveys:
  - In Germany, annual passenger car repair effort per vehicle shrunk by 40% between 2007 and 2021, and the maintenance work per vehicle per vehicle increased by only 5%
  - However, due to higher prices and moderate growth of VIO, the overall market revenue grew by about 12% at 2007 price levels.

Shares of OEM and IAM in total repair & maintenance business[1 & 2]



Reduction of OEM dealerships
- Opens new opportunities for IAM

New digital services
- SDVs can provide new revenues to all players with access to data

IAM M&As
- Help scaling businesses in a market that remains very fragmented

Source: [1]Autocare, 2021; [2]ADI, 2022

Connectivity

Direct access to data and software is key

350 million

Vehicles on the road globally will have over-the-air (OTA) update capabilities by 2025

26%

Of new vehicles sold globally in 2025 will offer 5G built-in connectivity

Access to car-generated data

Vital for all players subject to the fierce battle between OEM and IAM

New data-driven solutions are linked to vehicle connectivity – the Internet of things makes them possible.

More than a quarter of the VIO at the end of 2025 will have OTA software update and diagnostic capabilities

Those with access can offer remote assistance from central vehicle support centers. A recommendation can be given if it is sensible to continue the drive to the next workshop or not. In the workshop, diagnostic applications running on a central backend can enhance today's diagnostic testers.

Access to data doesn‘t mean everything, but without access, there will be no profitable aftermarket business.

Therefore, the technical, commercial and legal aspects of connectivity are at the center of discussions between OEM and the IAM organizations and lobby groups.

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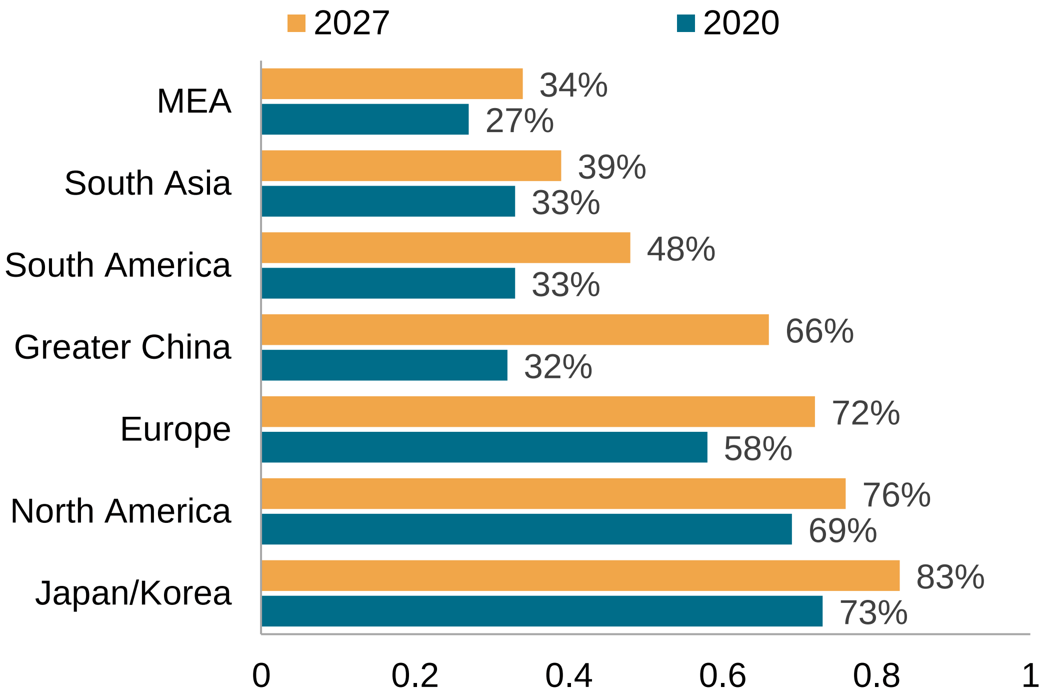
Autonomous driving and rising ADAS penetration

Double-edged sword for the aftermarket

- The trend towards autonomous driving manifests itself by the higher share of ADAS adaptation
  - We expect the biggest growth in Greater China, while the three mature regions North America, Europe and Japan/ Korea will extend their lead.
- For the aftermarket, this is likely to lead to a further reduction in demand for collision repair on the one hand
  - On the other hand, the market for calibration and repair of the related components will further grow.
- The increasing connectivity is subject to yet another conflict between OEMs and IAM
  - OEM responsibilities for driver security butting against consumers' right-to-repair choices.
  - Clear standards and categorization of security relevant components might be the solution, and legislators are once more called to create a level playing field.

Share of light vehicle production with autonomy level >SAE Level 0

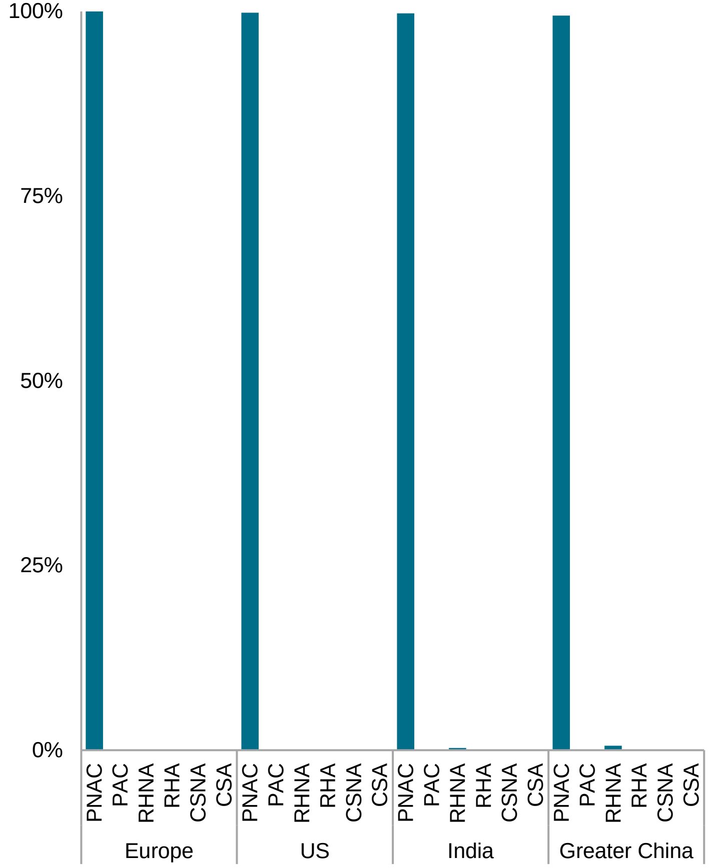


Data compiled July 2023.
Source: S&P Global Mobility.

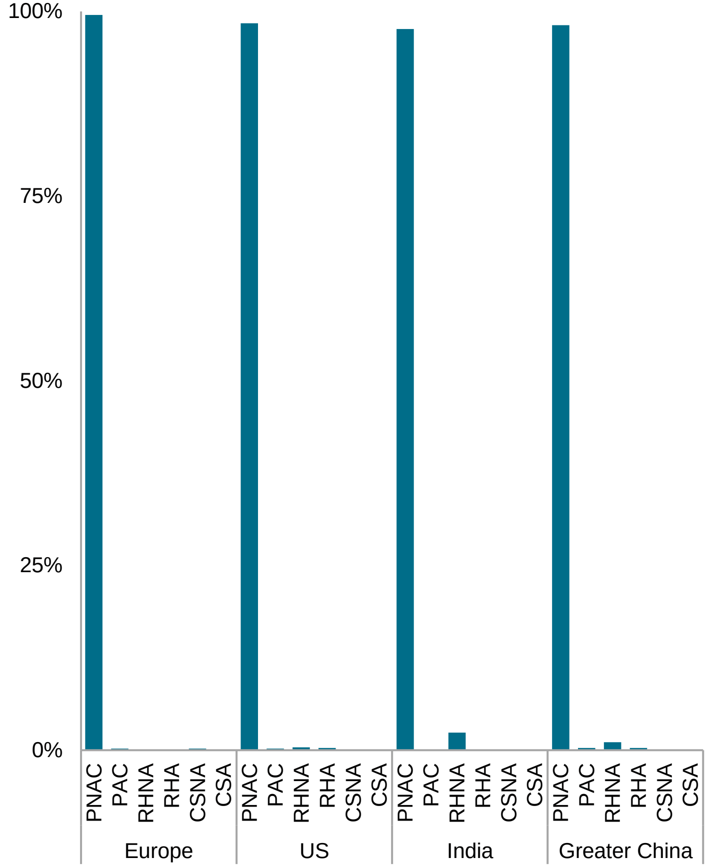
Shared mobility a slow-burning factor in VIO

Autonomy set to be a greater factor in Greater China, Europe and US

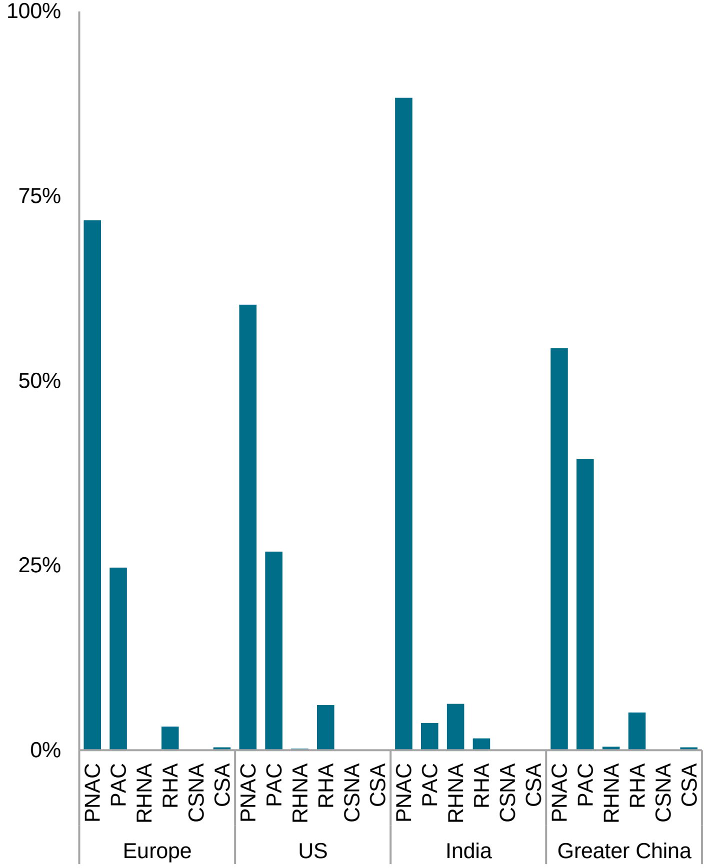
VIO by mobility mode in 2021



VIO by mobility mode in 2030



VIO by mobility mode in 2050



Source: Mobility and Energy Future: United States, China, Europe, and India New Mobility Deep Dive, “Green rules” scenario August 2021

Notes: PNAC=personally-owned, non-autonomous car; PAC=personally-owned, autonomous car; RHNA=rid-hailing, non-autonomous; RHA=ride-hailing, autonomous; CSNA=car-sharing non-autonomous; CSA=car-sharing, autonomous

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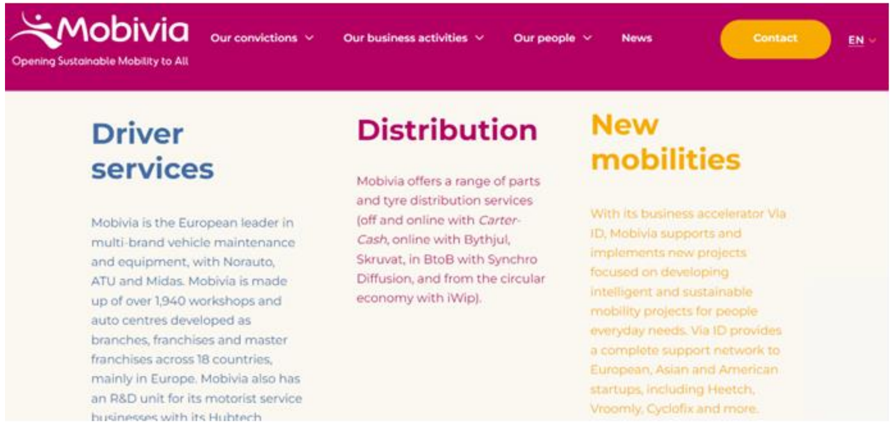
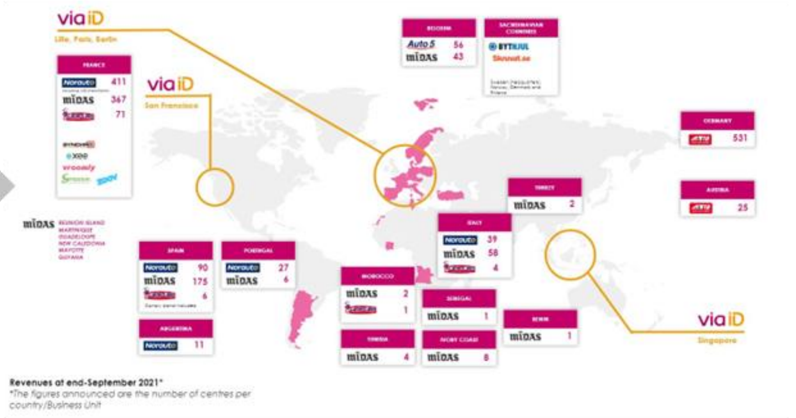
Shared-sustainable mobility bringing new opportunities for the aftermarket

Despite long-term implications companies already making their moves

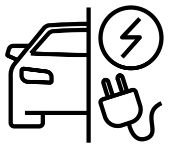


Mobivia has created ViaID, a business accelerator, which is involved in 20 start-ups that develop innovative solutions including car sharing, connected vehicles, new services for drivers, bicycles, parking and multi-service platforms.



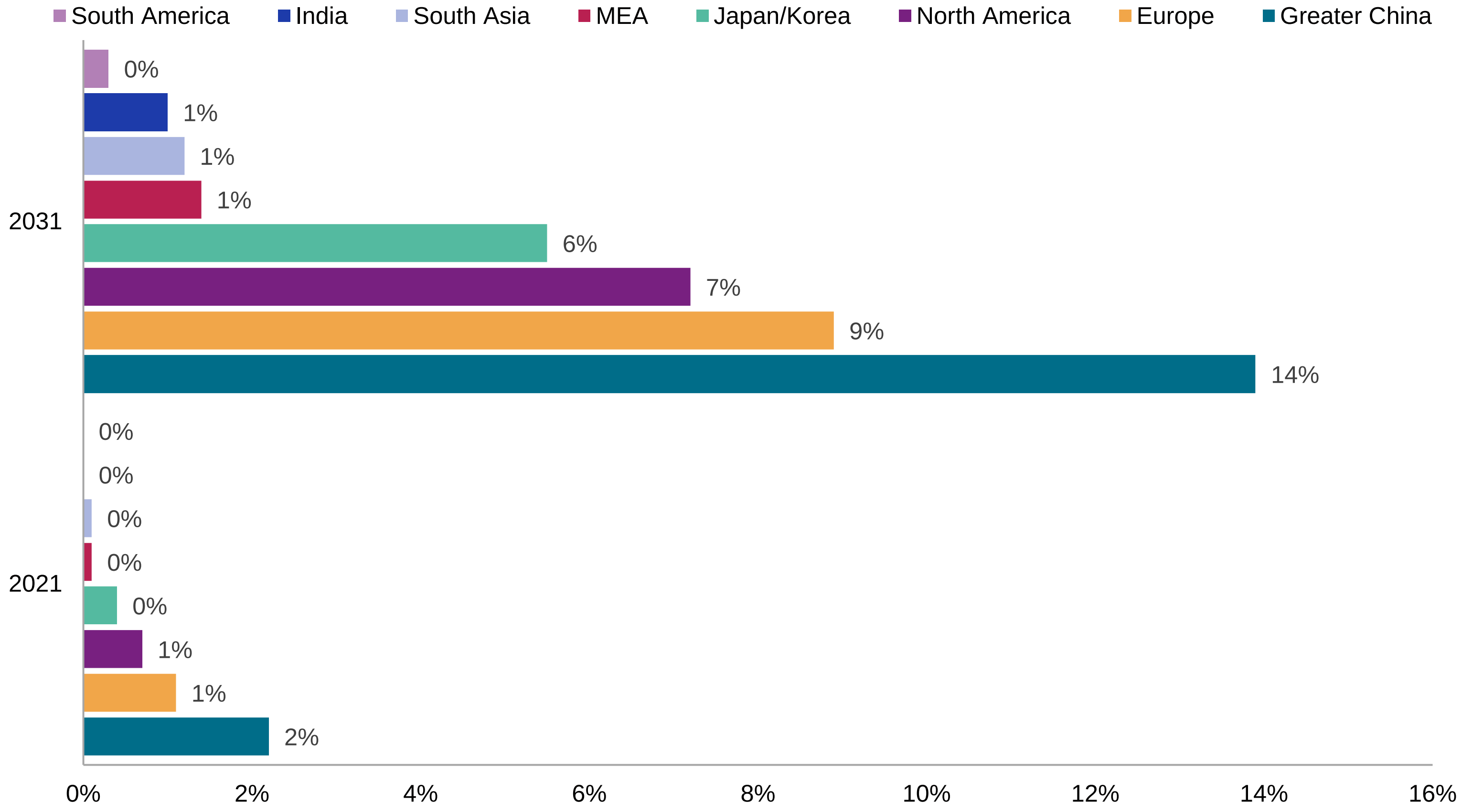
Acquisition of the MTS group by the German parts distributor WM SE, better known as Wessels Mueller. Among other brands, MTS owns the German bicycle, e-bike and e-scooter manufacturer Fischer.

Electrification the biggest changed vector for the aftermarket



Potential for the changes to be greater than forecast if innovation accelerates

Electrification - current and forecast share of VIO



The most revolutionary trend in terms of service and repair is by far the electrification of the global vehicle parc.

In spite of the current disruptions, we see a tenfold increase in joint BEV and PHEV VIO shares, nurtured by a growing offer, decreasing battery costs and a broad range of government incentives.

Depending on further innovations – faster loading, more attractive vehicle prices etc. – this might still be a conservative scenario.

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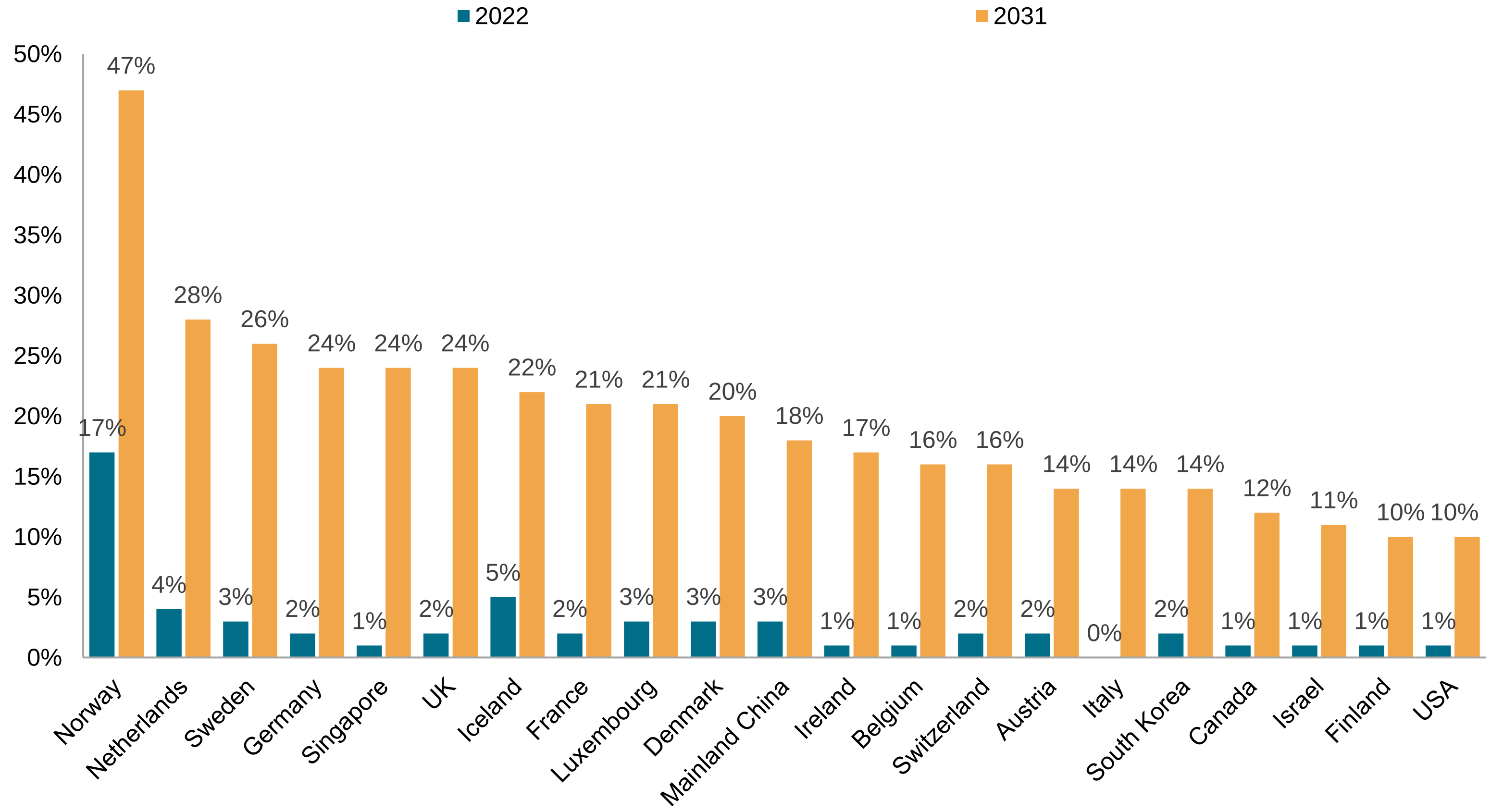
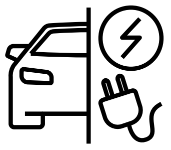
BEV opportunity is expanding beyond early front runners

By 2031, some 21 countries will have over 10% of their VIO all-electric

Countries/territories where BEV share over 10% of VIO in 2031 versus 2022



Source: S&P Global Mobility Tech VIO forecast



A view of the most electrified vehicle populations in 2031 shows that by then not only relatively small markets like Norway and Iceland, who have been the leaders so far, but also bigger countries like the UK and Germany will have almost one-quarter of their VIO electrified.

Mainland China with more than 40 million and the United States with more than 20 million units in operation will be by far the biggest markets for BEV parts and services.

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Summary

Fleet channel mix changing
Fleet market has a much higher importance as a buyer. Very likely consolidation of AM orders with fewer players who have more negotiation leverage. Risk but also opportunity!

Increasing vehicle age
Opportunity in the short run but electrification is likely to stop the trend after 2030.

Electrification
AM players to adapt phasing-out strategies for ICE-only parts. Garages need to invest in equipment and people.

Electricity provision and charging play a key role for further growth and is likely to be closer to aftermarket services than ICE fueling.

Parts

AM Value Chain			
Manufacturing	Distribution	Service	Final customer
Large OE	OEM/ Franchised	OEM/ Franchised	Private Individuals
Small players	Independent	Fast-fit	Business
	Online	Small players	Fleet
	Buying groups		Insurance, etc

Services

Profit pool shift in the Value Chain

Demand in emerging markets
Supply chain disruptions, increased transportation costs and geo-political tensions require re-adjustment of globalization strategies

Service, retail and distribution
Further concentration can help scale the businesses for the necessary investments in electrification, and growing e-commerce shares can reinforce the customer relationship

Prognostics / Connected Car SW
Many OEMs are fitting sensors to parts to feed their connected car platforms and ensure maintenance is not performed at a certain mileage but upon event (thus driving more revenue extraction from captive customers)

Connected Car HW Opportunity
Aftermarket telematics fitment remains a solid opportunity

thanks to UBI (Usage-based Insurance) use cases. Revenue associated with this is expected to rise.

Autonomy HW Downside
The crash-related part of the aftermarket business will be severely impacted by ADAS fitment and increasing levels of autonomy. Understanding its impact is imperative (alongside electrification)

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