

Global Aftermarket Outlook, 2021

**Key Trends and
Opportunities that
will Shape the Growth
Pipeline of the
Aftersales Business
in 2021 and Beyond**

**Global Automotive & Transportation
Research Team at Frost & Sullivan**

*The Growth Pipeline™ Company
Powering clients towards a future shaped by growth*

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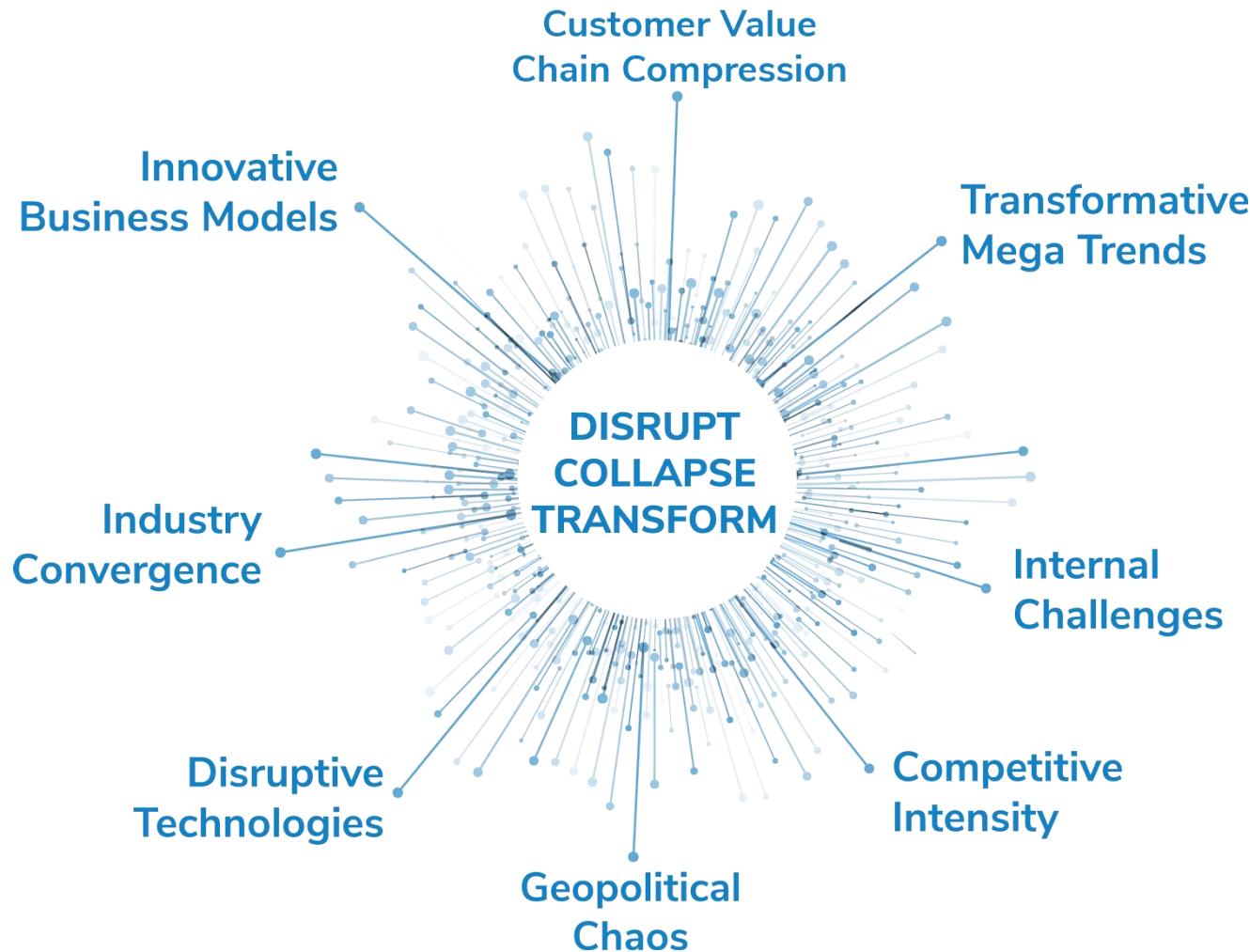
Author: Anuj Monga



Strategic Imperatives

Why is it Increasingly Difficult to Grow?

The Strategic Imperative 8™: Factors Creating Pressure on Growth



Source: Frost & Sullivan

The Strategic Imperative 8™

Innovative Business Models	Customer Value Chain Compression	Transformative Mega Trends	Internal Challenges
A new revenue model that defines how a company creates and capitalizes economic value, typically impacting its value proposition, product offering, operational strategies, and brand positioning.	Customer value chain compression as a result of advanced technologies, internet platforms, and other direct-to-consumer models that enables reduction in friction and the number of steps in customer journeys.	Global forces that define the future world with their far-reaching impact on business, societies, economies, cultures, and personal lives.	The internal organizational behaviors that prevent a company from making required changes.
Competitive Intensity	Geopolitical Chaos	Disruptive Technologies	Industry Convergence
A new wave of competition from start-ups and digital business models that challenge the standing conventions of the past, compelling established industries to re-think their competitive stance.	Chaos and disorder arising from political discord, natural calamities, pandemics, and social unrest that impact global trade, collaboration, and business security.	New, disruptive technologies that are displacing the old, and significantly altering the way consumers, industries, or businesses operate.	Collaboration between previously disparate industries to deliver on whitespace cross-industry growth opportunities.

Source: Frost & Sullivan

The Impact of the Top Three Strategic Imperatives on the Automotive Aftermarket

S18

Geopolitical Chaos

- The COVID-19 pandemic has brought about a shift in usual mobility patterns, which is not limited to just a drop in new vehicle sales.
- Vehicle annual mileage reduced considerably because of imposed lockdowns, digital adoption, and work from home.
- Sales of used cars saw a boom during the same period, as consumers shifted away from using public/shared transport.

Why

- As markets open up and commute increases, the demand for maintenance services will be renewed in the short term.
- The slowdown in new vehicle sales has accelerated the ageing of vehicle parc and created incremental service opportunities in the aftermarket.
- Pandemic-induced fears for safety and contamination has opened new product lines for the short-to-medium term.

When

Innovative Business Models

- As digitization pervades various aspects of customer lifestyle, new aftermarket business models are coming to the forefront.
- New-age customers are more demanding, and their expectations for the entirety of the purchase journey have increased as well.

- Digitization of parts retail presents itself as a significant opportunity; it is estimated to be \$75 billion to \$80 billion over the next 4 or 5 years.
- Business models inclusive of DIFM customer, and focused on online-to-offline integration will be vital to leveraging this customer trend.
- Similarly, service aggregators and mobile servicing options will become popular, as they ensure a higher degree of customer convenience.

Disruptive Technologies

- New vehicles have deeper electronics penetration to support diverse functionalities related to connectivity and safety.
- Telematics services provide access to vehicle data, and support and build connected applications, while ADAS sensors assist in safe driving behavior.

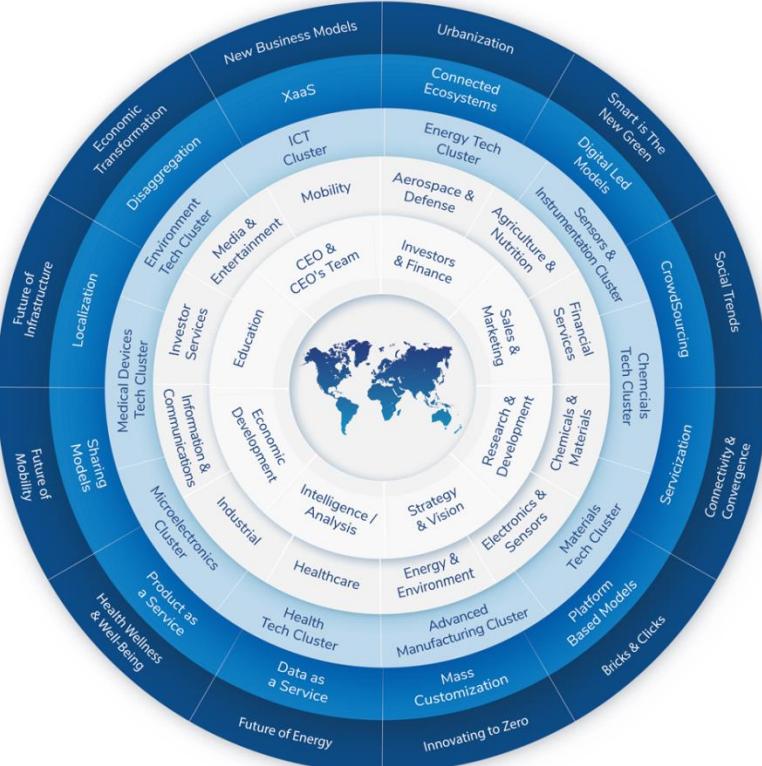
- ADAS-equipped vehicles require sensor replacement and recalibration for different events, thereby adding newer demand pockets to the aftersales business.
- Connected applications have the potential to facilitate car-as-a-marketplace solution, thereby extending customer engagement opportunity into the aftermarket. Though currently skewed toward the OE¹ channel, the IAM² is set to create a liberal regulatory environment over the next few years.

Key: ¹Original Equipment; ²Independent Aftermarket Manufacturer

Source: Frost & Sullivan

Growth Opportunities Fuel the Growth Pipeline Engine™

The Innovation Generator™



Analytical Perspectives

The Growth Pipeline Engine™



Source: Frost & Sullivan

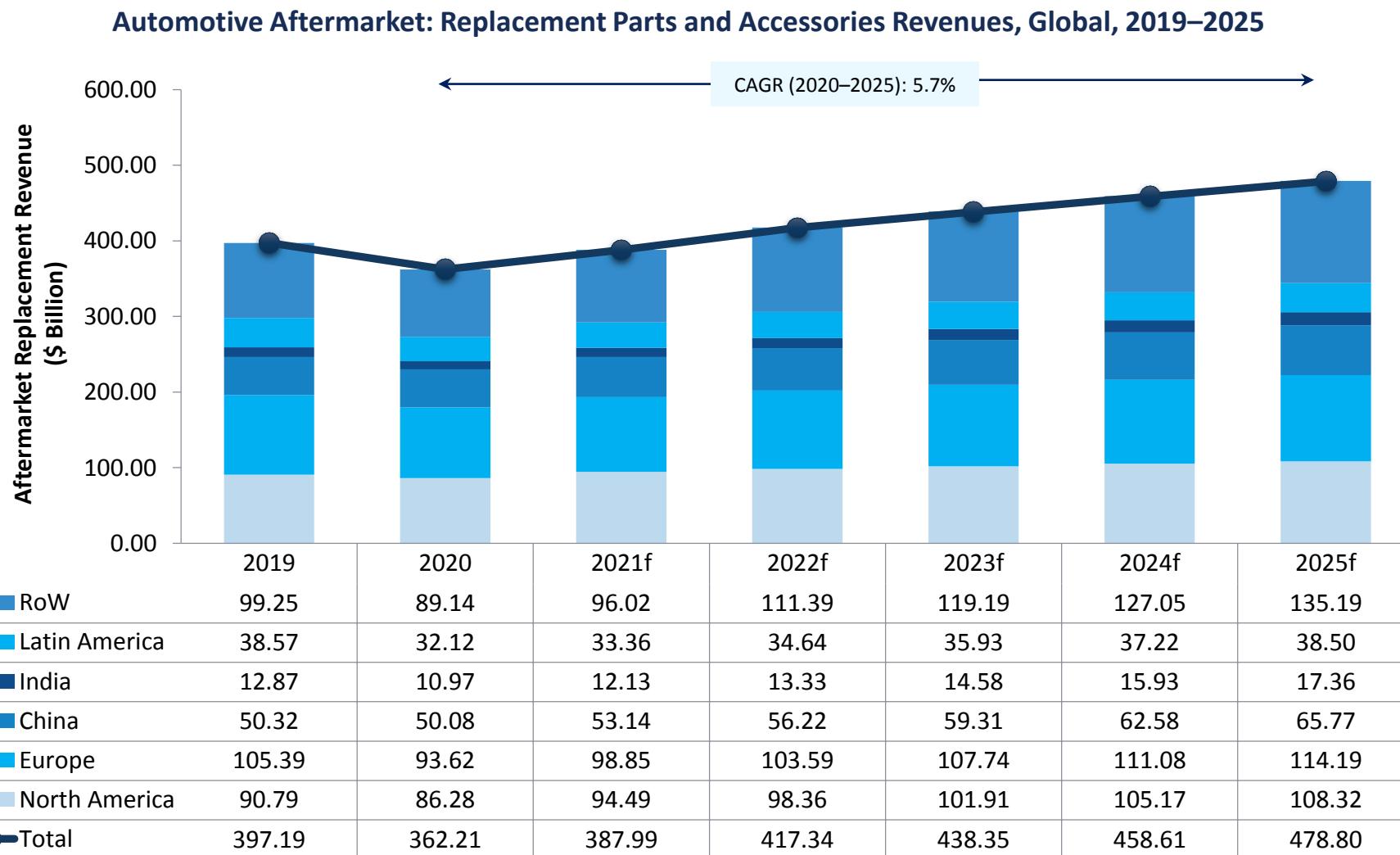
Executive Summary—2021 Global Automotive Aftermarket Outlook

2020 Global Automotive Aftermarket—Actuals vs. Forecast

5 Predictions for 2020	What Actually Happened
Projected 3.2% Global GDP growth.	Global GDP declined by 3.5% as most countries went into a recession.
New vehicles sales forecast at 90 million passenger cars and light commercial vehicles.	With reduced mobility demand and unfavorable economic conditions, new vehicle sales were recorded at 77 million in 2020 (14.4% dip from the initial projection)
Estimated 2.6% VIO expansion, with 1.36 billion vehicles in operation by end of 2020.	Slowdown in new vehicle sales meant VIO expanded to 1.37 billion vehicles and growth of 2.8% over 2019, as against 2.6% initial projections at start of 2020.
Sales of replacement parts and accessories forecast to be \$413 billion .	Reduced replacement demand due to a contraction in the average annual vehicle mileage resulted in aftermarket revenue of \$362.2 billion .
Projected sales of replacement parts and accessories for B2C online channel was \$36.8 billion .	Encouraging customer uptake of digital channel resulted in swifter growth in online sales, estimated at \$40.2 billion .
Other Highlights of 2020	<ul style="list-style-type: none">Until 2020, shared mobility services were considered emerging demand enablers in the aftermarket. Since the pandemic, concerns about safety and contamination in a shared vehicle have dampened the demand for shared mobility.Local restrictions led to lower annual mileage, consequently dampening IAM demand for maintenance and repair.

Source: Frost & Sullivan

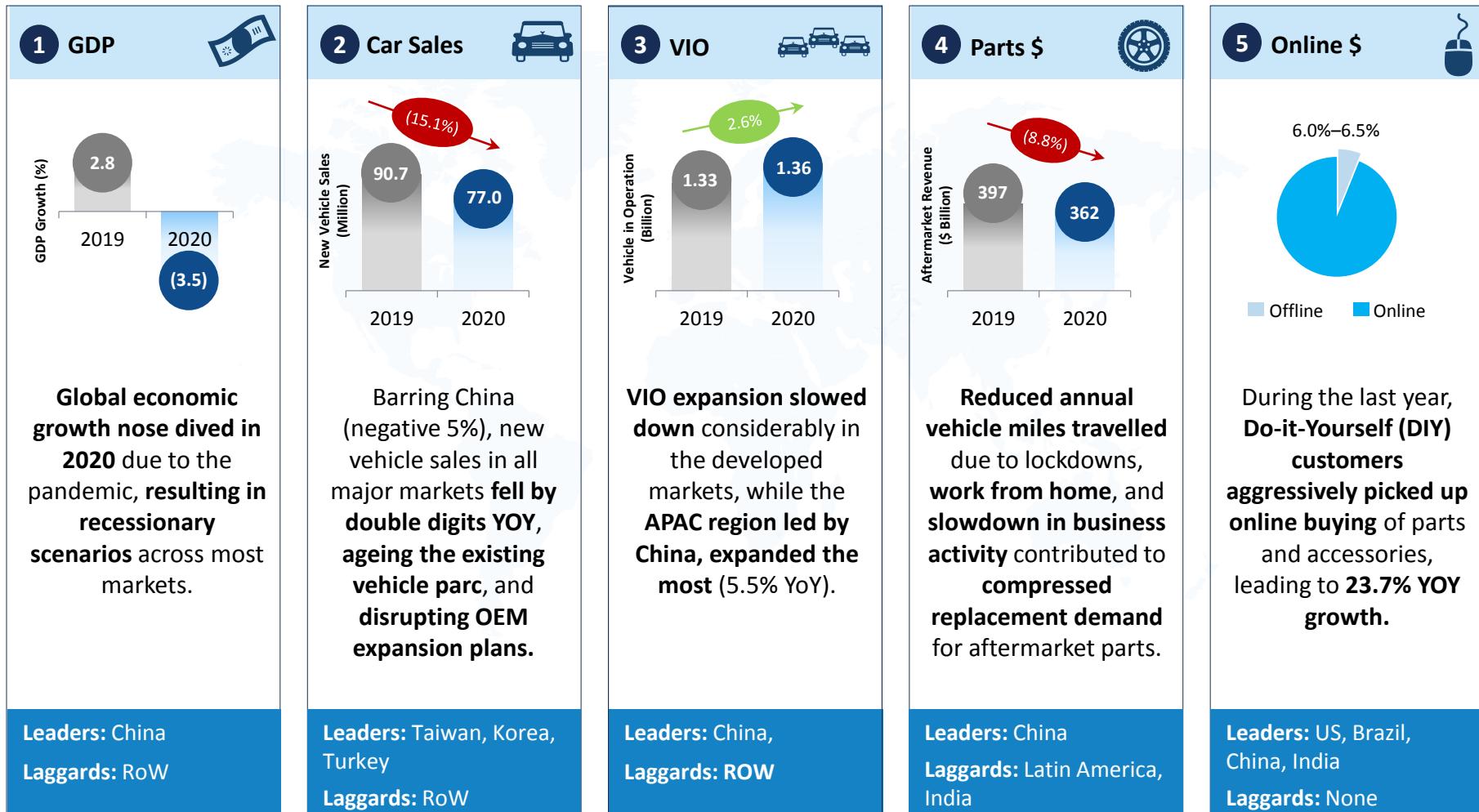
Global Automotive Aftermarket Replacement Revenue Forecast for Parts and Accessories, 2019–2025



Key: Replacement revenue estimates for select markets have been revised and updated from 2019 onward. Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

2020 in Numbers

Automotive Aftermarket: Key Highlights in Numbers, Global, 2019–2020



Source: IMF; World Bank; Frost & Sullivan

2020 in Trends

Automotive Aftermarket: Key Highlights in Trends, Global, 2020

1 Lower Average Annual Miles Driven



Global **per vehicle average annual miles driven fell by 10% to 15%** due to the pandemic. Effects of this fall could also possibly be **seen in maintenance- and tire-related demand** in 2021.

Hotspots: Global

2 Stakeholder Financial Distress



Most of the automotive suppliers were affected by **low demand and piling inventory costs**, pushing many companies to the edge and, in some cases, **bankruptcy**.

Hotspots: Global

3 Rapid Adoption of Digital Models



On the flipside, the pandemic advanced the **adoption of digital retail channels for parts and services by several years**, thereby creating platforms for **further expansions** in the next 2 or 3 years.

Hotspots: Global

4 Growth in Penetration of Electric Vehicles



Worldwide EV sales showed a **promising growth even as overall car sales declined**, further validating the promise of **investments in related service infrastructure**.

Hotspots: China, US, Europe

5 Downstream Engagement on the Rise



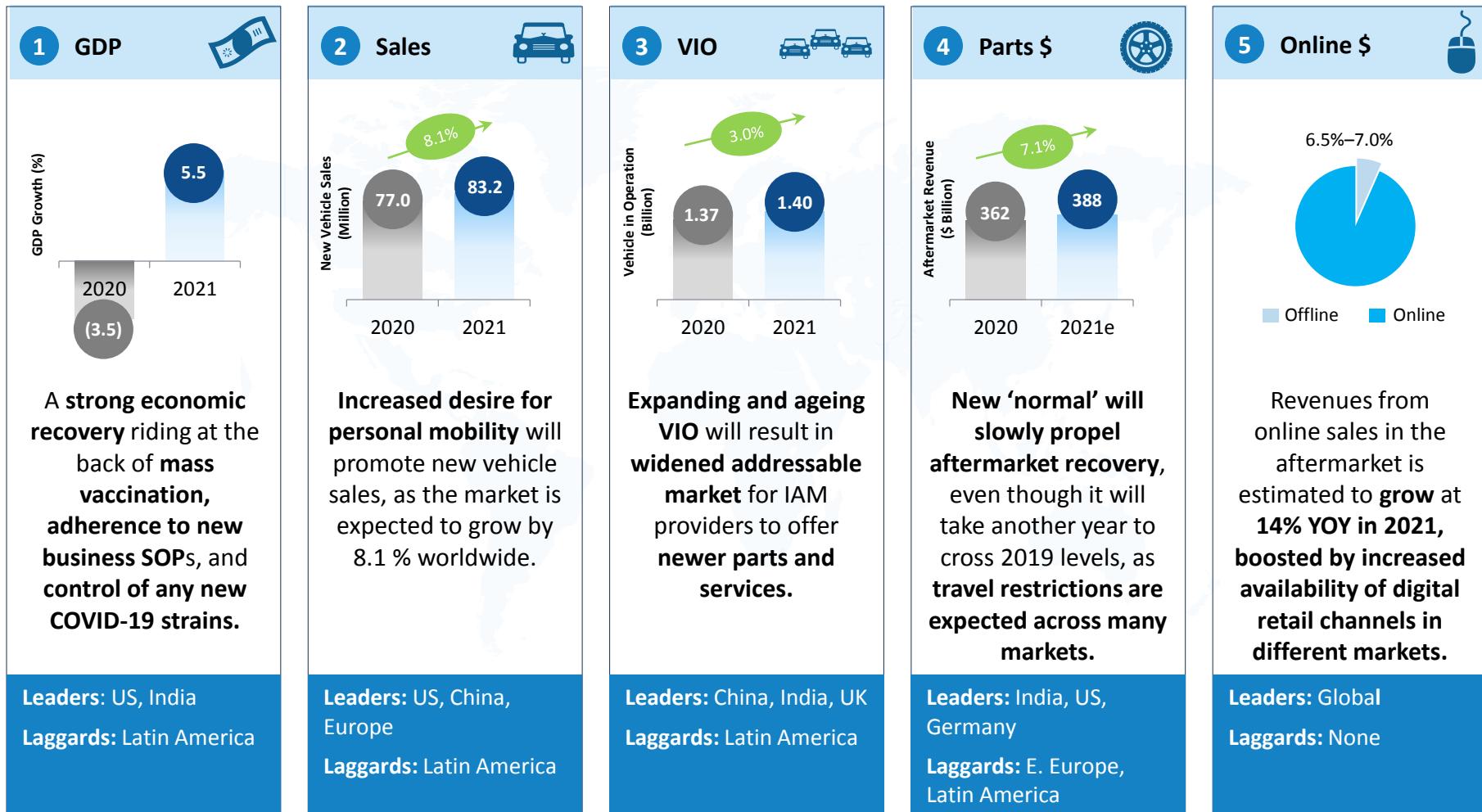
Extended partnerships with IAM service providers for **product promotions and wider reach** (e.g., on demand service providers, distributor consolidation, white labeling).

Hotspots: US, India, China, Europe, Brazil, Mexico

Source: Frost & Sullivan

2021 in Numbers

Automotive Aftermarket: Key Predictions in Numbers, Global, 2021



Source: IMF; World Bank; Frost & Sullivan

2021 in Trends

Automotive Aftermarket: Key Predictions in Trends, Global, 2021

1 Online-to-offline Integration



While online sales were **largely promoted up by DIYers in 2020**, targeting DIFM customers with O2O will promote eCommerce to emerge as a mainstream distribution channel.

Hotspots: US, Europe, China

2 EV Service Opportunities in Mainstream Focus



Dedicated digital platforms built on **offline networks** offering standardized quality services for variety of vehicle types especially in **company and retail fleets** is an opportunity waiting to be explored.

Hotspots: US, Europe

3 Digitization of Customer Journey



Investments in digitizing the search, purchase and fulfillment of aftersales parts and services in order to ride on the online adoption push from 2020.

Hotspots: Global

4 Circular Economy in Aftermarket to Gain Momentum



With the momentum induced by COVID-19, demand for newer products, services, and particularly **remanufactured/used parts programs** are expected to be bolstered.

Hotspots: China, US

5 Popularity of Sub-compact and Compact SUVs



Not limited to a particular market, general preference for SUV segment vehicles was seen as **pushing suppliers and channel partners to revamp their portfolio to cater to a specific segment**.

Hotspots: Global

Source: Frost & Sullivan

Challenges Faced by the Global Aftermarket Industry Due to COVID-19 in 2020



Healthcare Crisis which Triggered Economic Recession



Supply Chain Disruptions from Imposed Lockdowns



Large Share of Workforce Working from Home



Popularity of Last-mile Micromobility Solutions



Reduced Footfall at Retail Storefronts



Slowdown in New Vehicle Sales

Source: Frost & Sullivan

Growth Environment and Scope— Global Automotive Aftermarket

Research Scope

Base Year	2020 (with some historic information presented)
Study Period	2019–2025
Forecast Period	2021–2025
Vehicle Type	Light vehicles (with GVWR of up to 6 MT) comprises: Passenger vehicles (includes sedans, hatchbacks, SUVs, MPVs, vans) and light commercial vehicles (includes pick-up trucks)
Geographical Scope	Global, separate discussion is given only for the following regions: North America: Canada, US Europe China India Latin America RoW*

*RoW is not separately discussed.

Source: Frost & Sullivan

Vehicle Segmentation

Vehicle Type	Description	Global Traditional Segment	Representative Models
Sedan/ Hatchback	A-Basic	Basic	Citroen C1, Fiat 500, Renault Twingo, VW Up!, Smart Fortwo
	B-Small	Sub-compact	Renault Sandero, Honda Fit, Ford Fiesta, Nissan March, Toyota Yaris
	C-Lower Medium	Compact	Volvo V40, Subaru Impreza, VW Golf, Ford Focus, Mercedes-Benz A-Class
	D-Upper Medium	Mid-size	Cadillac ATS, Toyota Camry, Ford Mondeo, Mercedes C-Class, VW Passat
	E-Large	Large	Lincoln Continental, BMW 5 Series, Audi A6, Mercedes-Benz E-Class
	F-Luxury	Large-plus	BMW 7 Series, Mercedes-Benz S-Class, Audi A8, Lexus LS
Van	Multi-purpose Vehicle (MPV)	MPV	VW Sharan, Toyota Innova, Toyota Sienna, Baojun 730
	Sports Utility Vehicle (SUV)	SUV	Audi Q5, BMW X3 and X6, Ford Explorer, Chevrolet Tahoe
	Van	Van	Citroen Berlingo, Ford Transit, Mercedes-Benz Sprinter, Toyota Commuter
Pick-up	Pick-up	Pick-up	Toyota Hilux, Nissan Frontier, Chevrolet Silverado, Ford F-150

Source: Frost & Sullivan

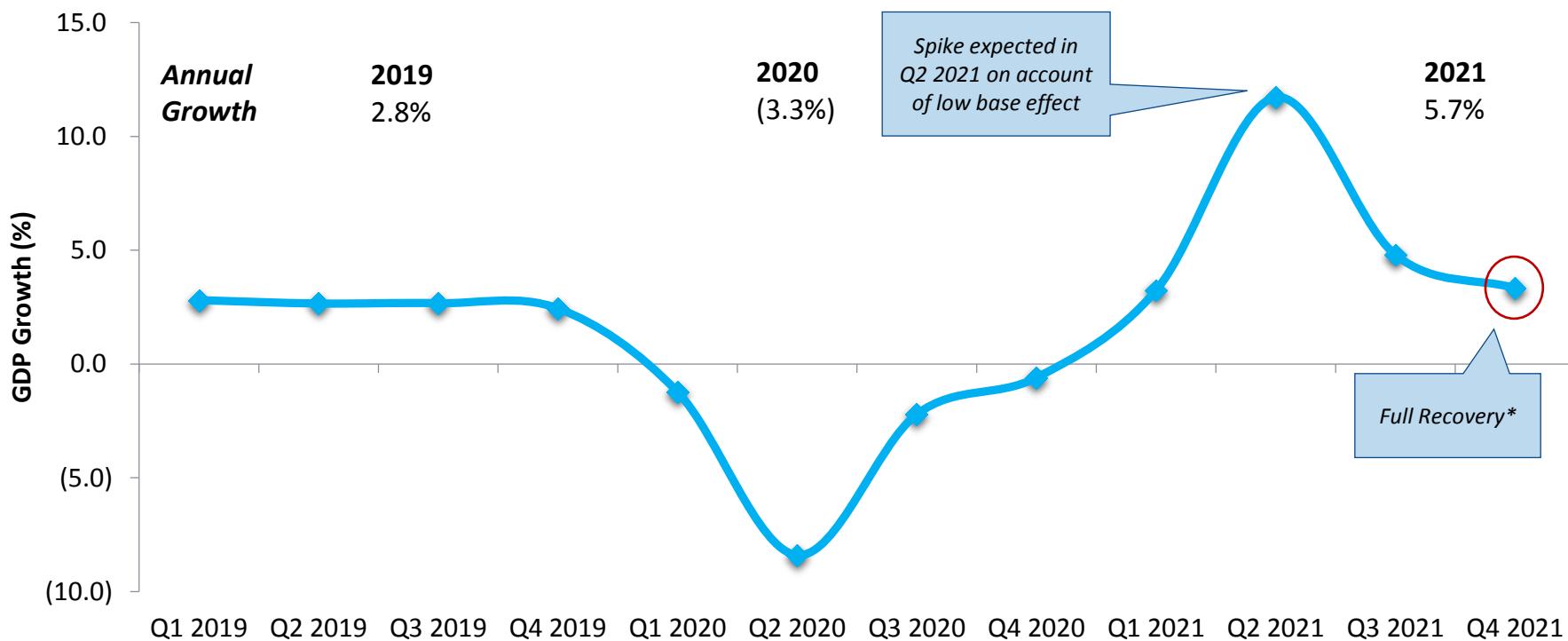


Macroeconomic Factors Impacting Global Automotive Aftermarket, 2021

COVID-19 Impact on World GDP Growth

Growth will accelerate to 5.7% in 2021, driven by the strong release of demand by mid-2021, extended fiscal support measures, steady deployment of vaccines, and easing restrictions in the second half of the year. The rise is also partially supported by a low GDP base from 2020.

Quarterly GDP Growth—Baseline Scenario, Global, Q1 2019–Q4 2021



*A full recovery refers to GDP surpassing pre-pandemic GDP (Q4 2019 GDP) in constant prices.

- The data and analysis on this slide stands updated as of 20 April 2021.
- Data is subject to change based on real-time updates.
- Quarterly GDP growth is calculated based on the same quarter of the previous year.
- Data for Q4 2020 onward are estimates.

Source: IMF; World Bank; Frost & Sullivan

Global Growth Scenario Analysis—Assumptions

Growth scenarios have been developed taking into consideration factors such as vaccine coverage, employment conditions, disease spread, and stimulus support.

Assumptions for Growth Scenarios, Global, Q2 2021–Q4 2022

Scenario	Vaccine Coverage	COVID-19 Cases	Government Support Measures	Recovery
Baseline	<ul style="list-style-type: none"> Advanced economies: 80% of population* to be covered by December 2021 Major emerging and developing economies: 50%–60% Other economies: 30% 	New waves of cases in some countries in H1 2021, leading to partial lockdown measures, with some countries to see falling cases and easing restrictions	Continuation of support measures until Q4 2021 in the form of grants to small businesses, wage subsidies, loan guarantee programs, and so on	<ul style="list-style-type: none"> Delay in the full recovery of manufacturing until Q4 2021, with countries that eased restrictions seeing faster manufacturing recovery; delay in the full recovery of the services sector until Q1 2022 Increase in both workforce participation and employment, with 2021 unemployment rate (8.7%) similar to that of 2020 levels (9.2%)
Optimistic	<ul style="list-style-type: none"> Advanced economies: 85% of population* to be covered by September 2021 Major emerging and developing economies: more than 60% Other economies: more than 30% 	Continuous decline in the number of active cases beyond H1 2021	Ceasing of several support measures by Q3 2021, in tandem with the stronger economic revival	<ul style="list-style-type: none"> Manufacturing sector full recovery by H1 2021; services sector full recovery in H2 2021 Gains in job creation to overshoot workforce participation, leading to unemployment rate reduction
Pessimistic	Delayed vaccine administration, compared to baseline scenario, leading to weaker population coverage by the end of 2021	Economies continue to suffer from frequent outbreaks throughout 2021, leading to extension of restrictions and partial lockdowns beyond H1 2021	Extension of support measures throughout 2021, thereby putting pressure on fiscal health, with the implications of prolonged economic weakness and a heavy debt burden	<ul style="list-style-type: none"> Manufacturing to remain constrained by extended lockdowns; service sector recovery to be delayed until mid 2022 Unemployment rate to rise further and to be affected by business closures

*Only considers population willing to take the vaccine.

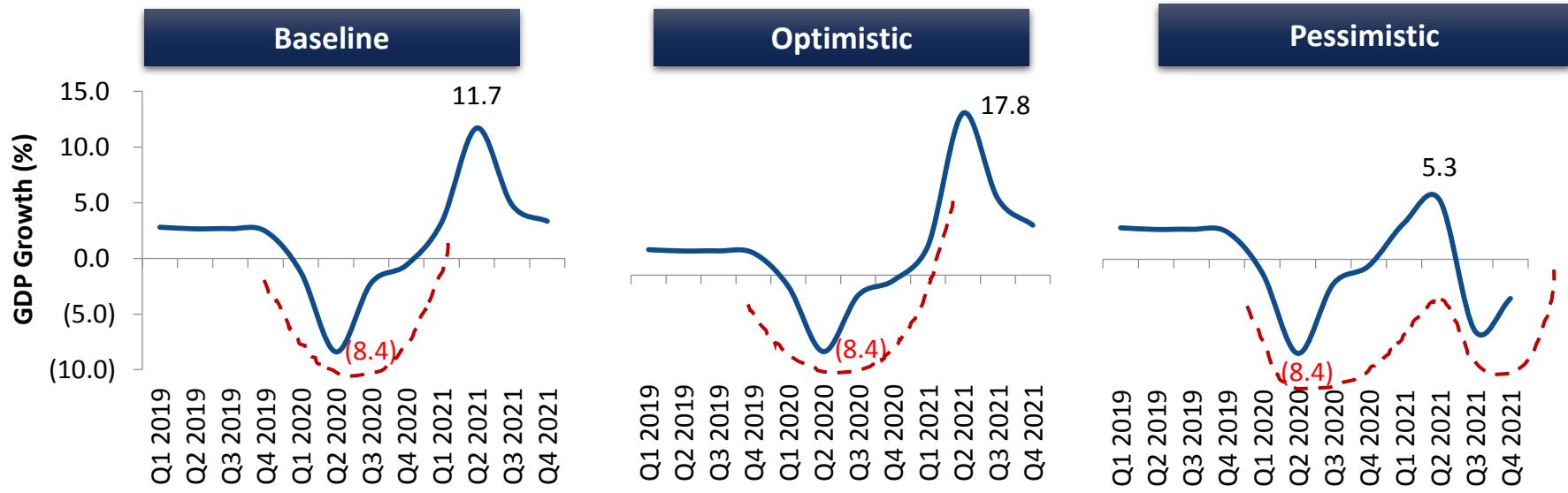
Key: Scenario analysis updated as of 21 April 2021.

Source: Frost & Sullivan

World GDP Growth Under Differing Scenarios

Accelerated vaccine deployment in 2021, strong rebound in consumer demand, and partial recovery of the services sector could enable full GDP recovery by Q3 2021 (optimistic scenario). Full recovery will be pushed out to mid-2022 in the case of multiple new COVID-19 waves, extended lockdowns, and delayed vaccine administration (pessimistic scenario).

Quarterly GDP Growth by Scenarios, Global, Q1 2019–Q4 2021



Key: Analysis stands updated as on 20 April 2021. Estimates start from Q4 2020.

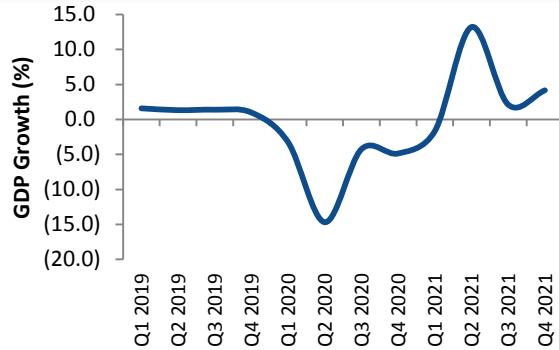
Source: IMF; World Bank; Frost & Sullivan

COVID-19 Impact on Key Regions

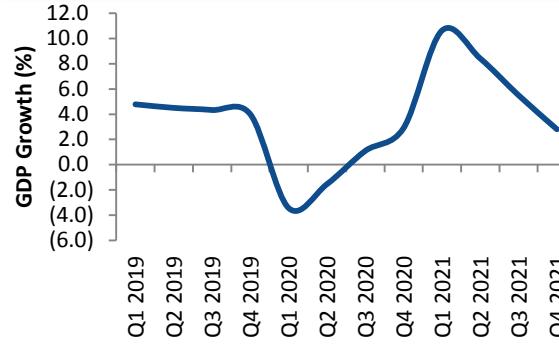
Eurozone appears to have contracted for the fifth consecutive quarter in Q1 2021. Deeper oil production cuts in Saudi Arabia will weigh on Middle East growth recovery. COVID-19 resurgence in India will act as a drag on the South Asian GDP outlook. The recession across other regions is expected to be less pronounced.

Quarterly GDP Growth—Baseline Scenario, Select Regions, Q1 2019–Q4 2021

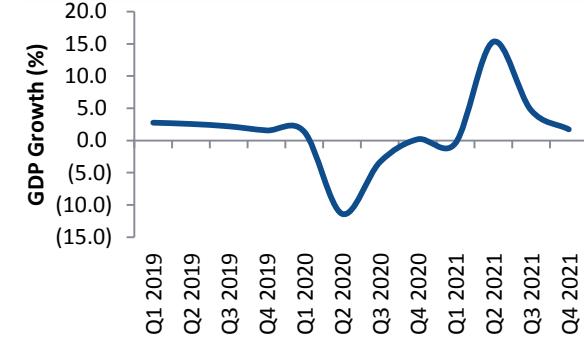
Eurozone



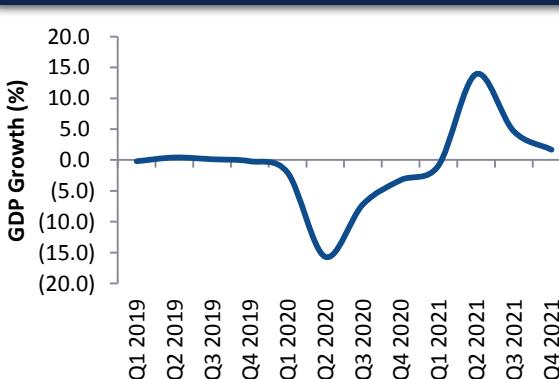
Asia-Pacific



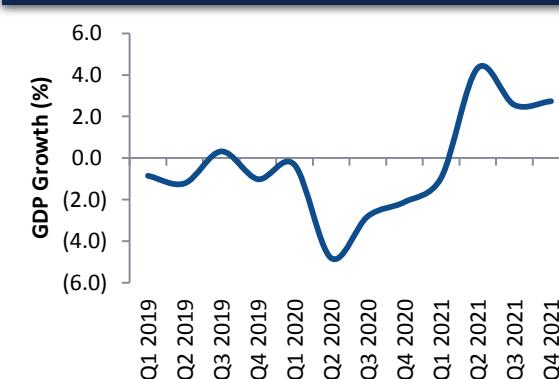
South Asia



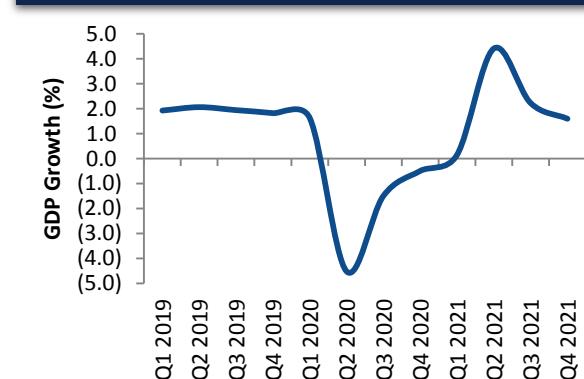
Latin America



Middle East



Africa



- The data and analysis on this slide stands updated as of 20 April 2021.
- Data for Q4 2020 onwards are estimates for South Asia, Latin America, Middle East, and Africa.
- Data for Q1 2021 onwards are estimates for Eurozone and Asia-Pacific.

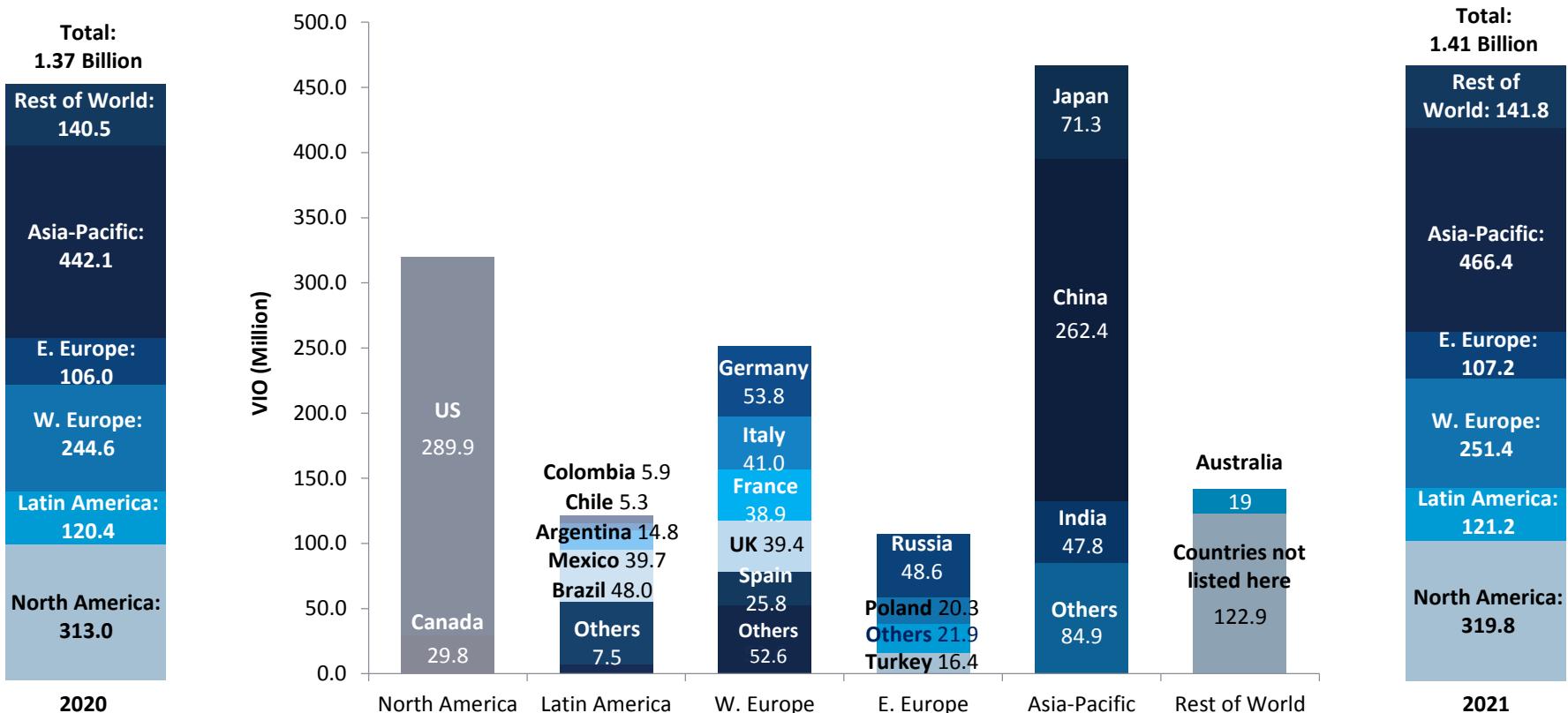
Source: IMF; Frost & Sullivan

Global Automotive Aftermarket Outlook and Trends, 2021

Global Light VIO

A 15.1% YoY dip in new vehicle sales in 2020 meant the ViO expansion was slower than the preceding years.

Automotive Aftermarket: Light VIO, Global, 2020 and 2021



Key: Asia-Pacific includes China, India, Indonesia, Japan, South Korea, Malaysia, the Philippines, Taiwan, Thailand, and New Zealand.
Eastern Europe includes Bulgaria, Bosnia-Herzegovina, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey, and Ukraine.

North America includes the US and Canada.

Latin America includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the UK.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Key: VIO figures of the regions are in million.

Center graph depicts 2021 data.

Global Aftermarket Revenue Market Size Potential

Automotive Aftermarket: Manufacturer-level Replacement Parts Revenue by Category, Global, 2020–2021

Base Year/Forecast	2020 Revenue (\$ Billion)	2021 Revenue (\$ Billion)	Growth Rate (2020–2021)
Tires	81.0	86.7	7.0%
Batteries	13.2	14.1	6.6%
Brake Parts	13.7	14.7	7.0%
Filters	8.3	8.9	6.9%
Collision Body Parts	34.8	37.1	6.5%
Starters and Alternators	5.3	5.5	5.4%
Lighting	5.9	6.2	5.1%
Exhaust Components	8.8	9.5	8.2%
Spark Plugs	2.6	2.8	6.8%
Others*	188.6	202.6	7.4%
Total	362.2	388.0	7.1%

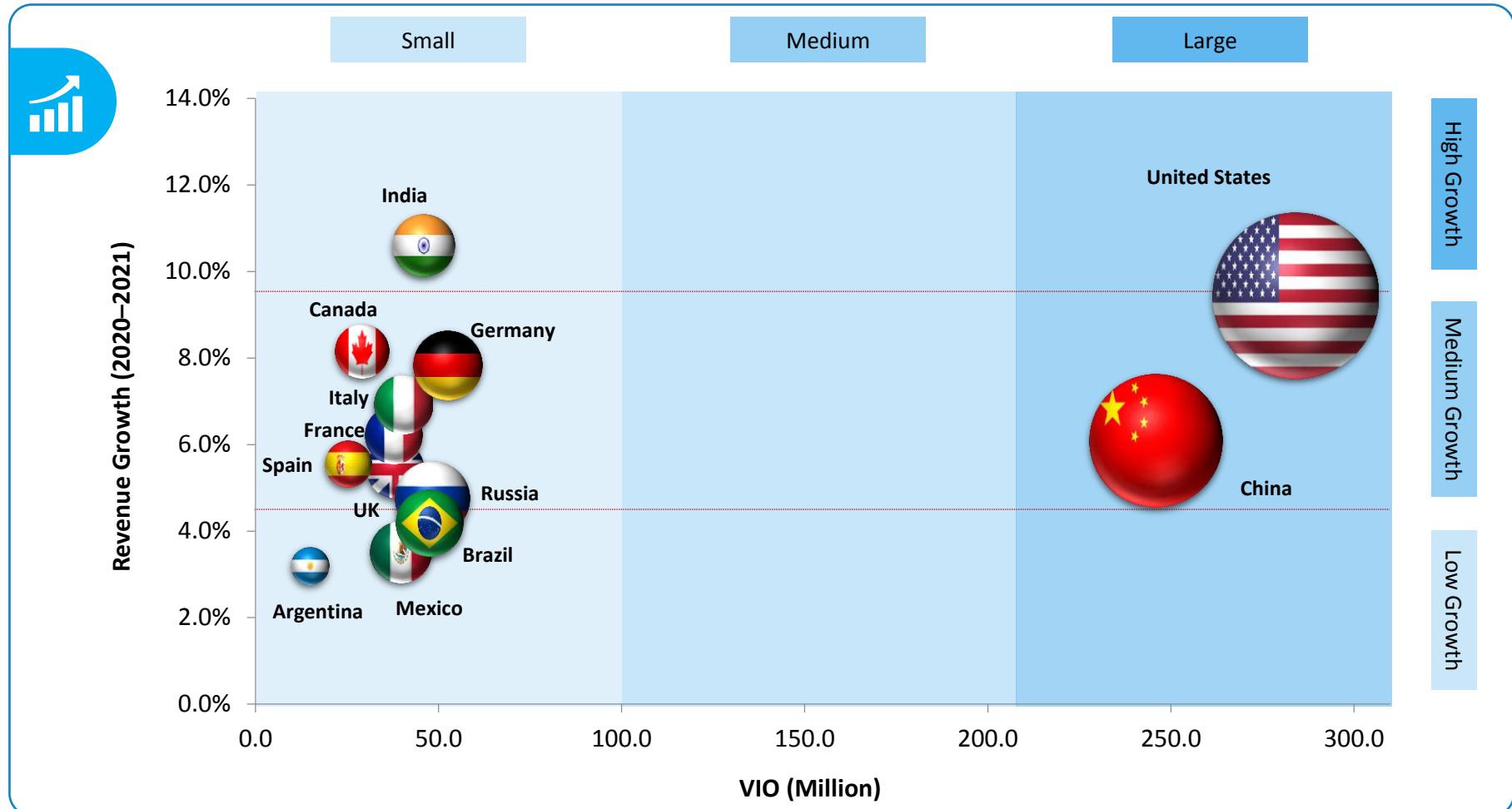
*Others include steering system hard parts, Remanufactured engine and transmission, remanufactured rack and pinion steering gear, Heating Ventilation and Air Conditioning (HVAC) and engine cooling components, light vehicle exhaust emission control systems, fuel-delivery systems, engine control units, ignition parts, automotive sensors, ignition wire sets, fuel pumps, selected automotive remanufactured pumps, sports compact underhood components, belt, hoses, gaskets and seals, battery, carburetor, gauge, and internal engine hard parts.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Growth Opportunity by Region

The demand from the US and India aftermarket is expected to rebound the fastest, while China will continue to be most lucrative market, in terms of real growth.

Automotive Aftermarket: Regional Growth Opportunity Analysis, Global, 2021



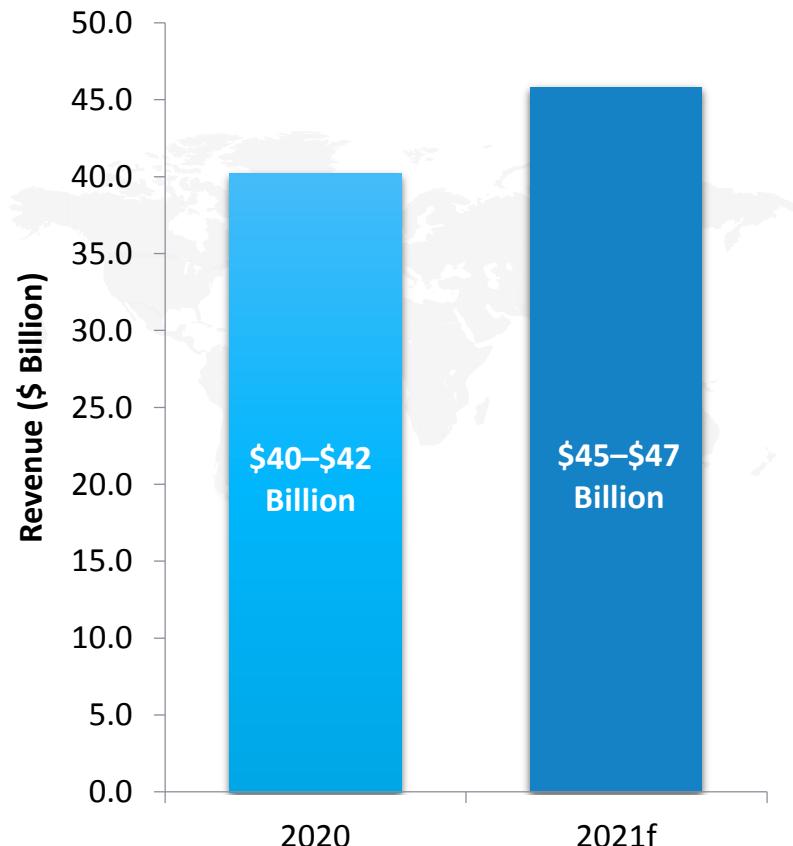
Key: Size of the bubble is representative of the regional aftermarket revenue in 2020.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Trend 1—eRetailing

Advanced eRetailing will penetrate the aftermarket over the next 3 or 4 years and fast-track strategic investments in aftermarket digitization.

Automotive Aftermarket: eRetailing Revenue,
Global, 2020 and 2021



Automotive Aftermarket: Top eRetailing Trends,
Global, 2020–2021

24% growth in global revenue in replacement parts and accessories sold online during 2020.



Heightened brand awareness and growing appetite for value line products will propel leading online sellers to invest in developing **private label brands**.



Online presence will prove to be crucial to garnering customer mind share and eventually share of wallet, whether online or offline; this could be through digital catalogs, online videos and so on.

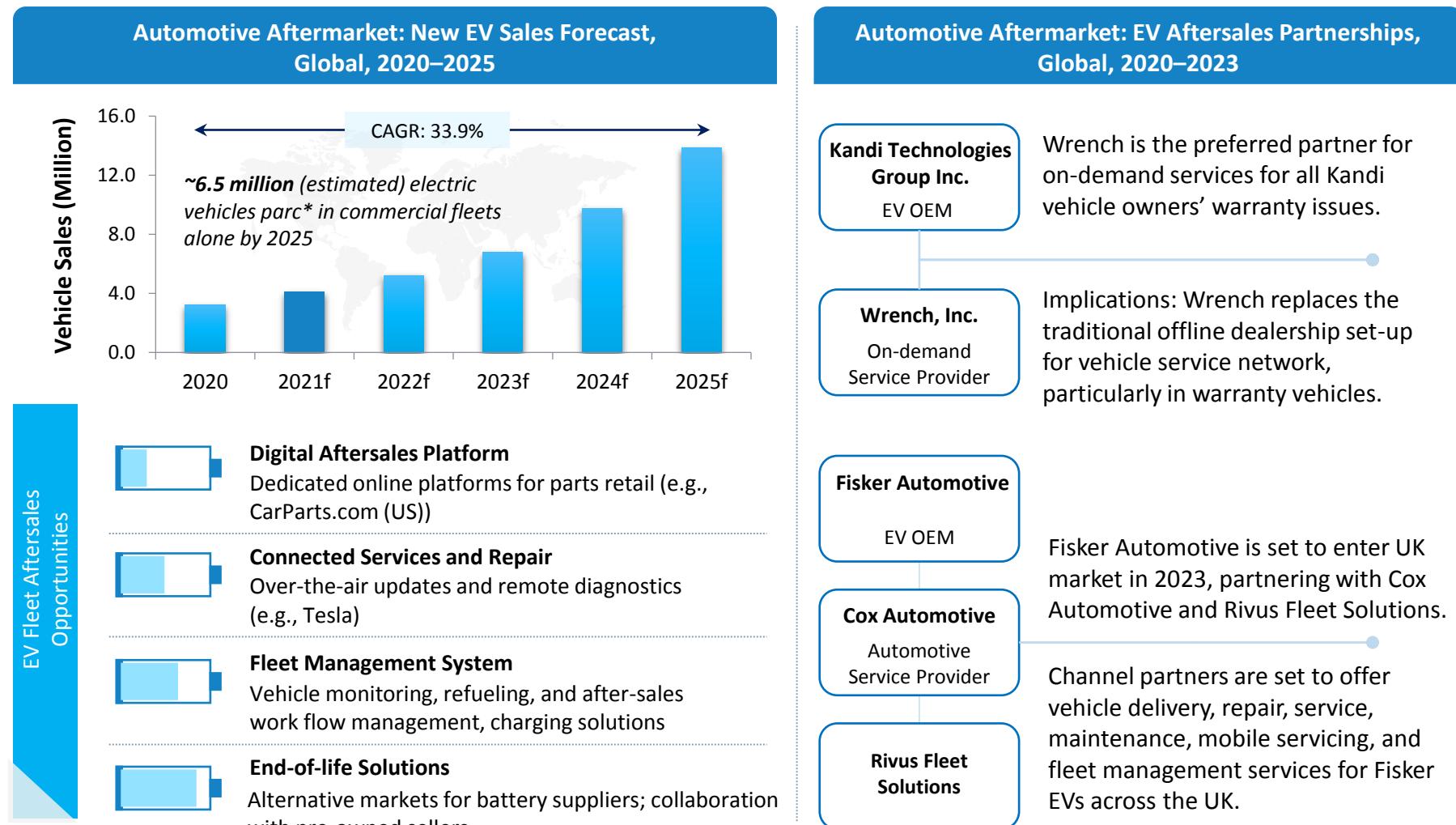


While 2020 saw a huge uptake in DIY-related purchases from online sellers, **solutions aimed at DIFM customers with O2O integration** will be vital to take the momentum forward in 2021.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Trend 2—EV Sales

Rapidly growing EV sales, particularly in fleet businesses, offer consolidated business opportunities at the early stage of vehicle lifetime as OEMs focus on asset-light operations.

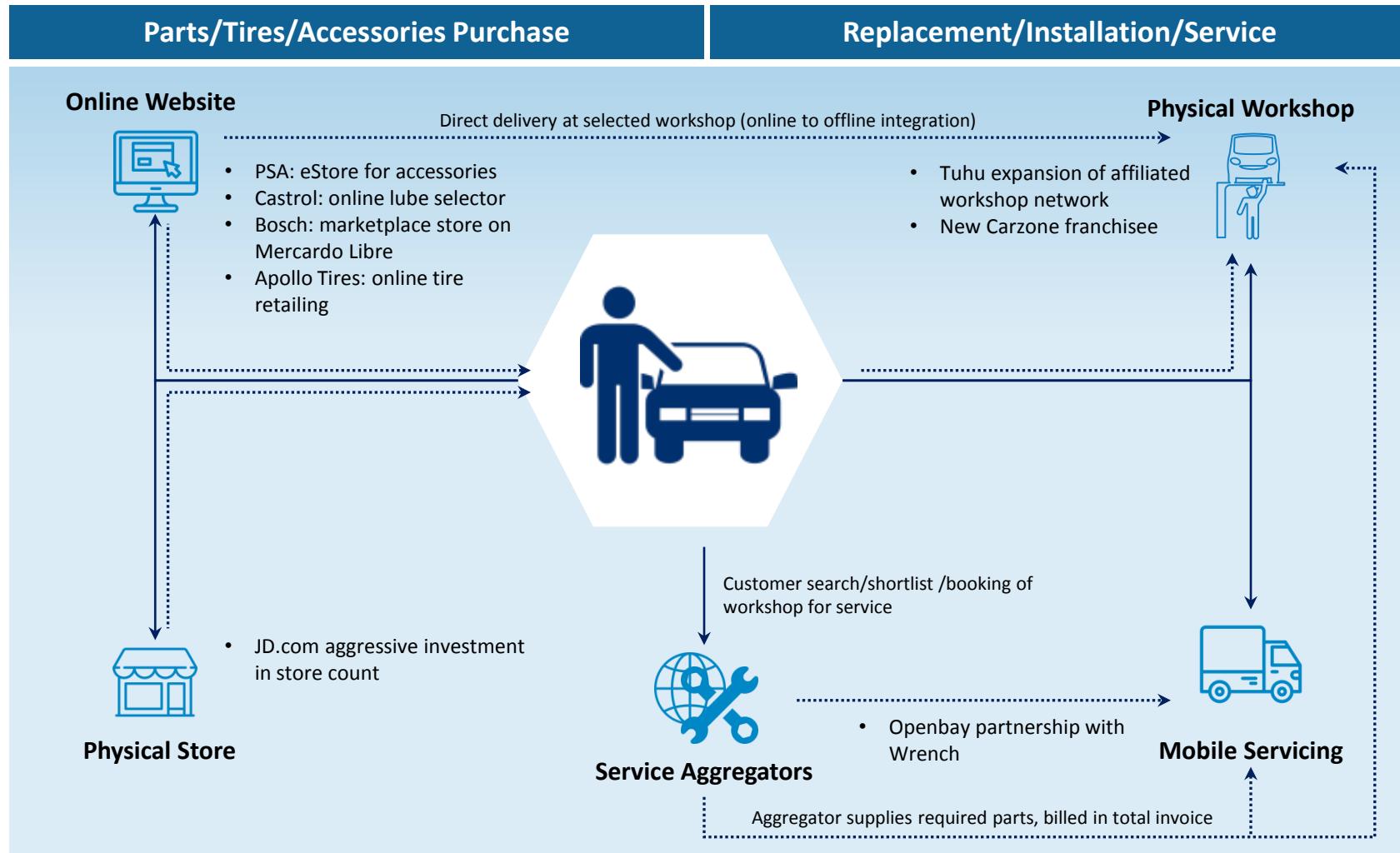


*Battery EVs in operation in the US, Europe, and China alone.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Trend 3—Digitization

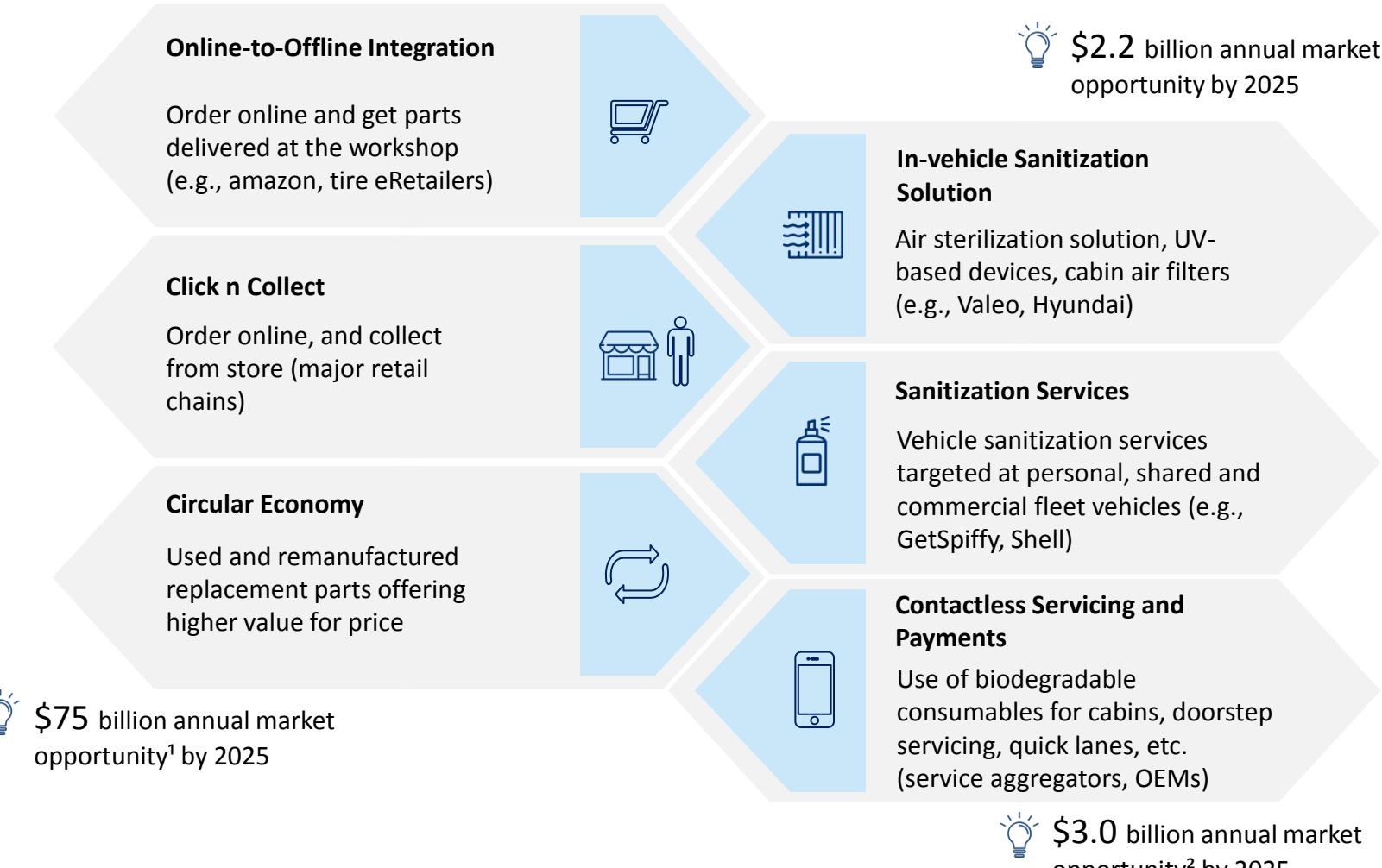
Digitization has enabled integration of customer purchase journey for parts retail to the point of fulfillment, thereby uplifting overall IAM attractiveness.



Trend 4—Pandemic-induced Products and Services

COVID-19 has accelerated not only digitization but also the introduction of newer products and services and pushed existing solutions to the limelight.

Automotive Aftermarket: COVID-19 Induced Implications on Parts and Services Retail, Global, 2021



Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Trend 5—Uptake of Sub-compact and Compact SUVs

Sub-compact and compact SUVs translate to higher per vehicle spending on maintenance services and accessorization.

Automotive Aftermarket: Trends in Vehicle Models, Global, 2020–2021

Factors	Model Type			Powertrain			Brand Growth			Aftermarket Opportunity	
	Region	Compacts	SUVs	Pickups	Gasoline	Diesel	EV	Brand1	Brand2	Brand3	
North America		⬇️	⬆️	⬆️	⬇️	⬆️	➡️➡️➡️	Tesla	Alfa Romeo	Volvo Cars	Diesel engine components, SUV parts and accessories
EU		⬇️	⬆️	➡️	⬆️	⬇️	⬆️	AvtoVAZ	Changan	Chery	EV components and services, SUV parts and accessories
China		⬇️	⬆️	➡️	➡️	➡️	⬆️	Lincoln	SOL	VGV	Hybrid vehicle related services, non-Chinese brands
India		➡️	⬆️	➡️	⬆️	⬇️	➡️➡️➡️	Kia	MG	Tata	Multibrand servicing, SUV parts and accessories
LATAM		⬇️	⬆️	➡️	⬆️	➡️	➡️	JMC	Dodge	Ram	Multibrand servicing, SUV parts and accessories

Segment Penetration in Vehicles in Operation

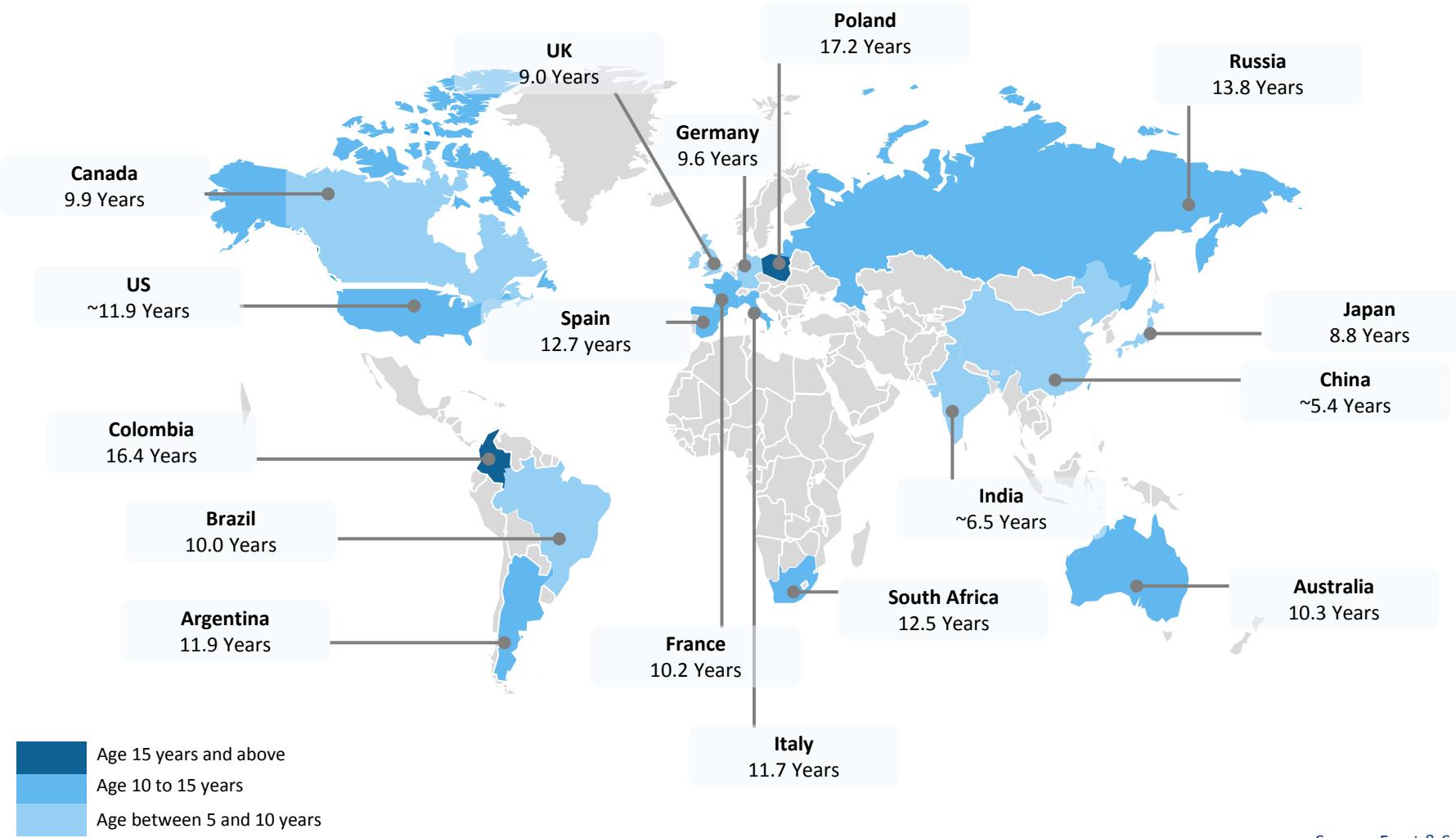
Decreasing ⬇️ Stable ➡️ Increasing ⬆️

Source: Frost & Sullivan

Average Vehicle Age

Slowdown in new vehicle sales during 2020 has increased average vehicle age, thereby creating opportunity.

Automotive Aftermarket: Average Vehicle Age, Global, 2021

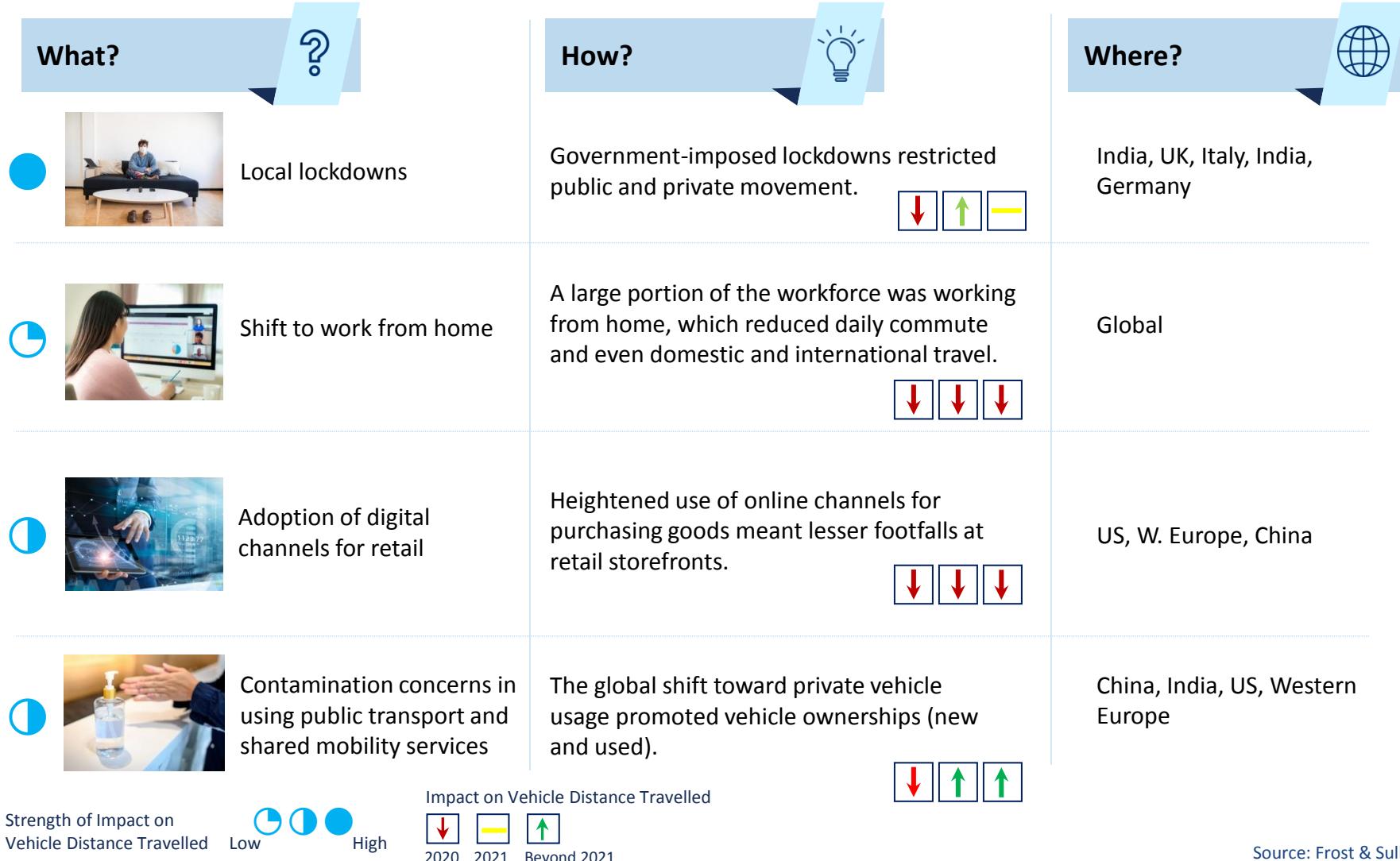


Source: Frost & Sullivan

Impact on Distance Travelled

COVID-19 significantly restricted vehicle movement, resulting in reduced service and repair demand worldwide.

Automotive Aftermarket: COVID-19-induced Implications on Vehicle Distance Travelled, Global, 2021

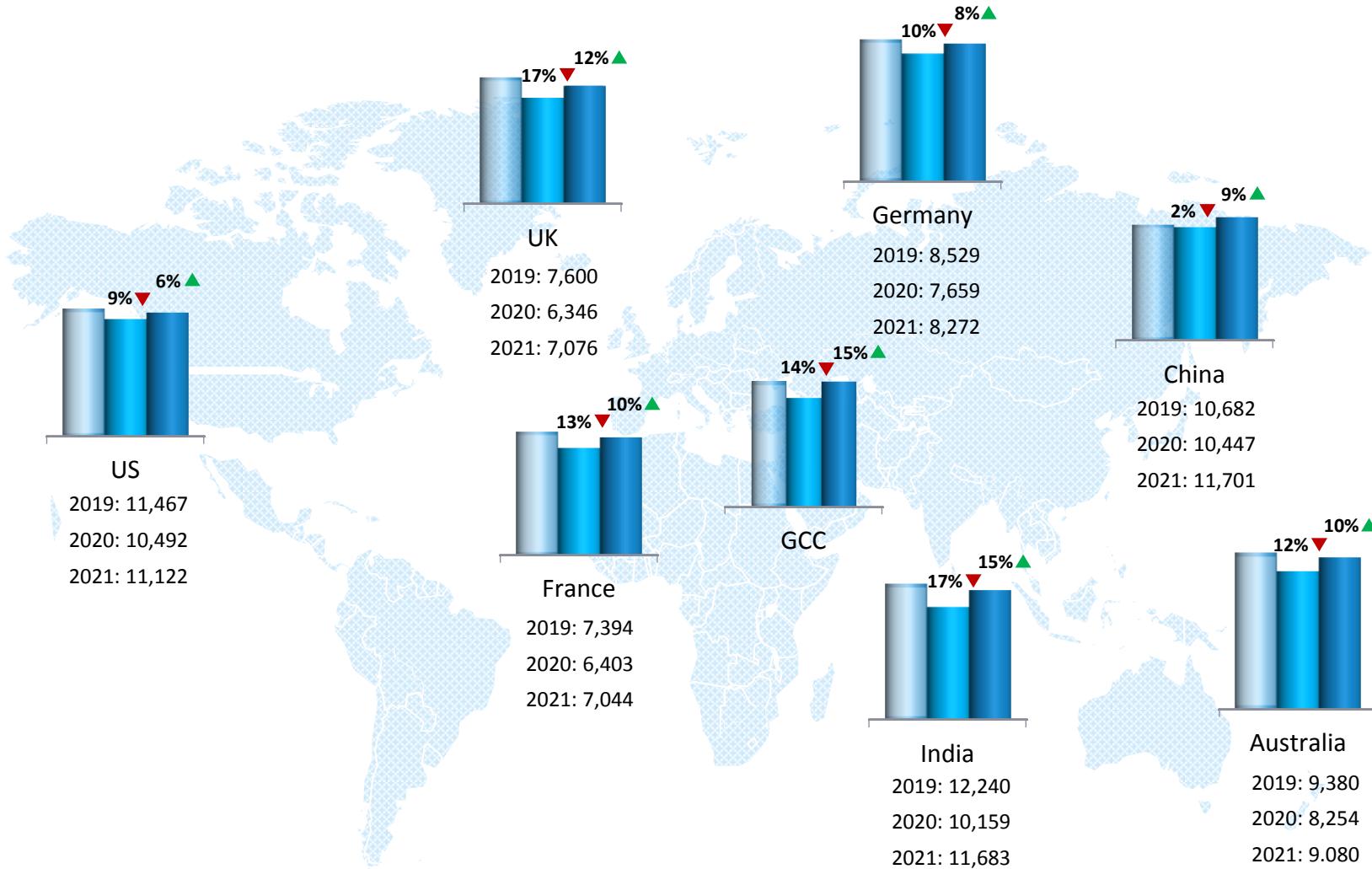


Source: Frost & Sullivan

Average Annual Miles Driven, 2019–2021

The global average per vehicle average annual miles driven fell by 8% to 12% in 2020 due to pandemic-related restrictions, widespread unemployment, and rapid adoption of digital channels.

Automotive Aftermarket: Average Annual Miles Driven Per Vehicle, Select Markets, 2019–2021



Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Long-term Trends

Automotive Aftermarket: Long-term Trends, Global, 2021		
	Trend Strength	Trend Impact
1 	COVID-19-induced changes in Personal Mobility COVID-19 has heightened the use of technology that provides alternatives to F2F meeting, offline retail, and has also dampened the exuberance for shared mobility.	 
2 	New Demand Pockets from Hybrid and Electric Vehicles Increasing proliferation of alternative powertrain vehicles is creating new categories in both parts and services aftermarket and promoting newer business models for fulfillment.	 
3 	ADAS Sensors and Recalibration Demand ADAS-equipped vehicles have specific requirement for sensor replacement and calibration in particular events. A growing parc fitted with these sensors offers opportunities and, at the same time, poses a challenge to aftermarket stakeholders.	 
4 	Digitization Across Value Chain Increased customer exposure to digital channels across lifestyle aspects will push aftermarket stakeholders to invest aggressively in digitization beyond parts retail and even workshop services.	 
5 	New Business Models for Fleet Servicing Aftermarket service providers will be compelled to alter their offerings to target fleet customers, for example, through subscription-based tire replacement programs.	 

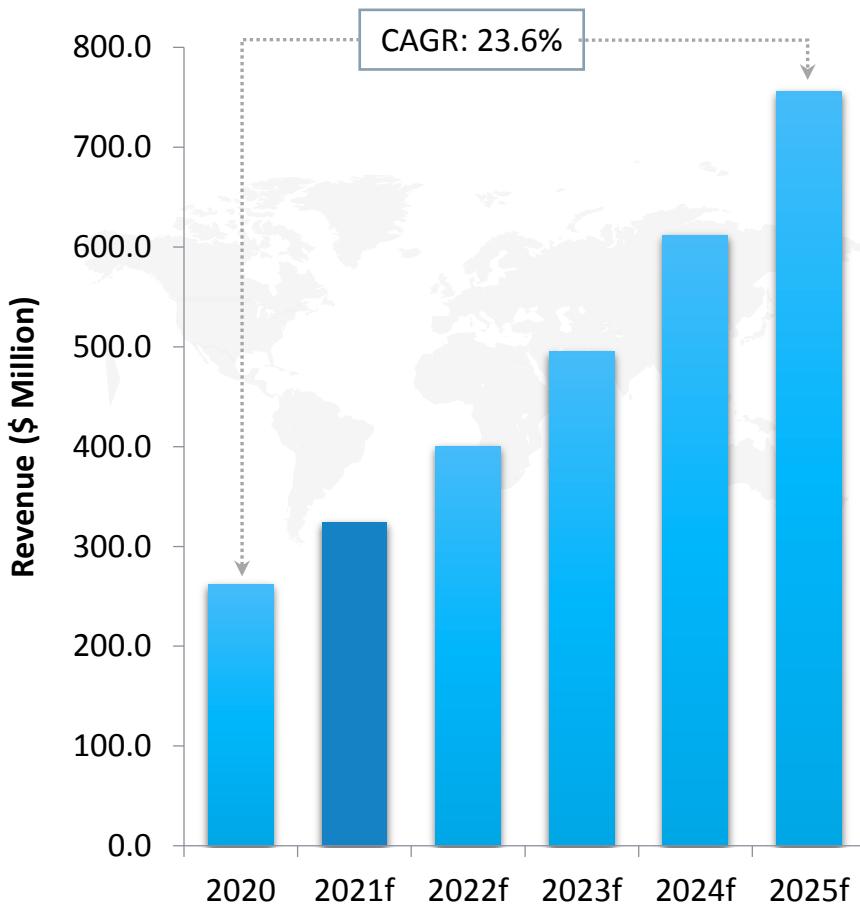
Trend Impact:
 Low
 High

Source: Frost & Sullivan

Long-term Opportunity

ADAS sensor recalibration is being widely seen as an aftermarket opportunity to harness and equally evident from the new product launches by key industry participants.

Automotive Aftermarket: ADAS Sensor Recalibration, Global, 2020–2025



Automotive Aftermarket: Opportunities from ADAS-equipped Vehicles, Global, 2020–2025



Collision Repair

Windshield cameras, bumper-mounted radar/LiDAR, and ultrasonic sensors; some cases even necessitate sensor replacement.



Tire Replacement/Wheel Alignment

Tire jobs disrupts alignment between the original sensor position relative to the vehicle ground clearance and wheel alignment values.



Vehicle Customizations

Accessorizing and other performance related customizations.

In addition, sensor replacement offers newer product servicing categories to the aftermarket suppliers; these include ultrasonic sensors, radars, and cameras.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

OEM Activity in 2020

During 2020, OEMs' focus on aftermarket was visible in establishing product lines and working with different stakeholders across the competitive landscape.

Automotive Aftermarket: OEM Activity, Global, 2020

Theme	Activity	Primary Stakeholder	Development	Aftermarket Implications
OEM Activity	India	Mahindra & Mahindra Ltd.	Sold off multibrand vehicle service business to TVS Motors in India	Pan-India access of TVS Motors (myTVS) to a wide offline footprint already under Mahindra First Choice
	Partnership	Mercedes-Benz	Partnership with Microsoft to develop virtual maintenance technology in the service bay	Newer technologies in workshop to improve overall service quality levels
	Merger	FCA and Groupe PSA	Announcement of the merger of two global OEMs	Product standardizations and leveraging channel presence
	New Launch	Groupe PSA	Launch of Eurorepar tire range	Intensification of competition in the value line import tires
	Partnership	Groupe Renault	Partnership intended at multi-brand electronics repair service in France	Feeds into the OEM's plans for a circular economy
	Partnership	Groupe PSA	IAM multi-brand servicing with GoMechanic in India	IAM expansion even before entry; new vehicle sales will help with preparedness and garner market share
	Partnership	BMW AG	MoU with Alibaba to digitalization of different customer touch points	Match dealer competencies with some strong IAM digital service providers
	Rebranding	General Motors	New packaging unveiled for GM's Genuine and AC Delco parts line-ups	Safeguarding authenticity; renews competition in OE label parts

Source: Frost & Sullivan

eCommerce Activity in 2020

Propelled by growth in customer uptake, eCommerce sector witnessed the most activity around private labels and expanding offline presence.

Theme	Region	Primary Stakeholder	Development	Aftermarket Implications
eCommerce	Europe	Groupe PSA	Launch of accessories eStore, operational in France, Germany and Spain	Direct selling to extend brand coverage and customer engagement opportunity
	US	Michelin	Company announced shutting down of direct e-store for selling tires	Mixed signals to competitors looking to sell online, strengthened pure play eRetailer role
	France	Oscaro	Launched private label for automotive oils	Expanded opportunity to increase revenues, increase competition
	France	Norauto	In partnership with Black Star, launched a line of reconditioned tires	Compete with value line of tires which are posing a stiff competition to premium, relatively high-priced tires
	France	Castrol	Launch of online lube selector	Digitalization of value chain
	UK	EuroCarParts	In a move to provide O2O integration, portal now provides access to 1800+ garages for booking parts replacement services	O2O integration to be essential to penetrating the DIFM market space
	India	SKF	Launches E Shop – online store in India	Better product access to end customer
	India	Apollo Tyres	Launched eCommerce portal for sales of car and two-wheeler tires	'Buy Online Fit Offline' model to help customers make the tire purchase online for DIFM or DIY purposes
	China	JD.com	Announced plans to double offline store count in 2021	Promotes adoption of online channels in aftermarket retail
	US	Openbay and Wrench	Openbay announced partnership with the on-demand service provider to provide contactless services	Leverages new business models to enable value offerings and meet newer customer expectations
	Brazil	Robert Bosch GmbH	Direct selling on online marketplace—Mercado Libre	Increased reach in the IAM for genuine parts

Source: Frost & Sullivan

OEM/Supplier Activity in 2020

OE and IAM suppliers are expanding product offerings and diversifying by introducing newer product lines.

Theme	Segment	Primary Stakeholder	Development	Aftermarket Implications
OEM/Supplier Activity	Product Expansion	Goodyear	Expansion on brake components and lubricants category	Extension of existing service business with new product line and extended customer service opportunities
	Subscription Service	Bridgestone	Monthly tire subscription service in UK in partnership with ETB Autocenters	New business models in tire retailing
	Digital Solution	Solera Holdings	Launch of AI-based car repair valuations estimator	Digitization in vehicle-service-related customer journey to make process transparent, thereby improving overall experience
	Digital Solution	TMD Friction	Launch of Garashield, a workshop management system	Access to workshop operations and extended customer engagement opportunity
	Acquisition	Borg Warner	Acquisition of Delphi Technologies	Expands Borg Warner's position in the electronics- and electrification-related component space
	New Launch	Delphi Technologies	Launch of ADAS recalibration kit	IAM offering to leverage forthcoming opportunity in the service business
	Launch	Schaeffler	Launched lubricants in the Indian Aftermarket	OE offerings to widen customer options and uplift overall customer experience
	New Launch	Valeo	Launch of in sanitization solution ClimSpray (in-vehicle), ClimPur (workshop)	Particularly essential for restoring customer confidence in shared mobility services and workshop services
	Partnership	Robert Bosch GmbH	Collaboration on autonomous vehicle fleet maintenance with Pony.ai	Explores newer opportunities in aftermarket fleet services

Source: Frost & Sullivan

M&As, MoUs, and Partnerships in 2020

COVID-19 left various companies financially vulnerable, thereby leading to multiple acquisitions through 2020.

Theme	Region	Primary Stakeholder	Development	Aftermarket Implications
Mergers and Acquisition, MoUs and Partnerships	US	First Brands	Acquired Centric Parts	Expansion in replacement brake parts aftermarket in NA
	Portugal	Groupe PSA	Acquisition of used car parts company Amanha Global	Expansion to serve variety of customers in IAM
	US	Original One Parts	Acquired recycled OEM parts online sellers PartsCycle	Expansion of online channel coverage to wider customer segments
	US	Legacy Acquisition Corp.	Acquired Onyx Enterprise Corp., the operator of CARiD.com and an online aftermarket parts seller	Growth in online sales attracting newer investments
	Belgium	Solera Holdings	Acquired InSyPro, a workshop management solution provider	In line with digitalization of entire customer journey and not just limited to parts retail
	US	Dana Incorporated	Acquired cooling system business from Modine Manufacturing Company	Consolidation in the HVAC components space
	US	BendPak Holdings LLC	Acquired Garage Equipment Supply Inc., adding Dannmar, MaxJax and Garage Equipment Supply brands	Consolidation in workshop tools and equipment market
	Italy	PPG	Acquisition of Industria Chimica Reggiana (ICR) S.p.A, a supplier of paints and coatings for auto refinish	Geographic and portfolio expansion, strengthens PPG's position
	Brazil	Fras Le	Acquired Nakata, a supplier of steering and suspension parts to the aftermarket	Market consolidation
	US	APC Technologies	Bankruptcy	Distributor accounts transferred to competition
	Canada	Spectra Premium	Bankruptcy	Distributor accounts transferred to competition
	Brazil	Garrett Motion	Bankruptcy	Distributor accounts transferred to competition

Source: Frost & Sullivan

Policy and Regulation Changes in 2020

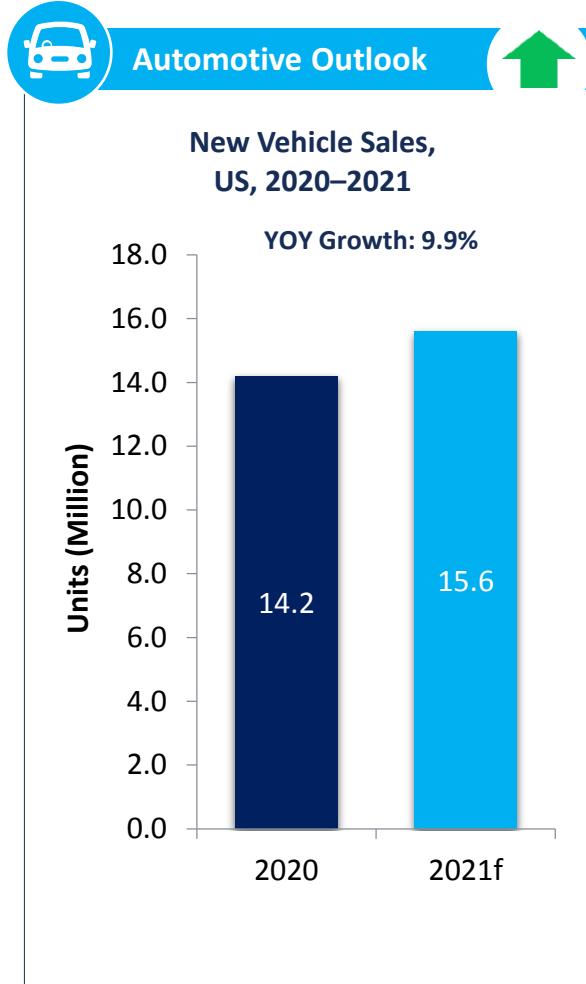
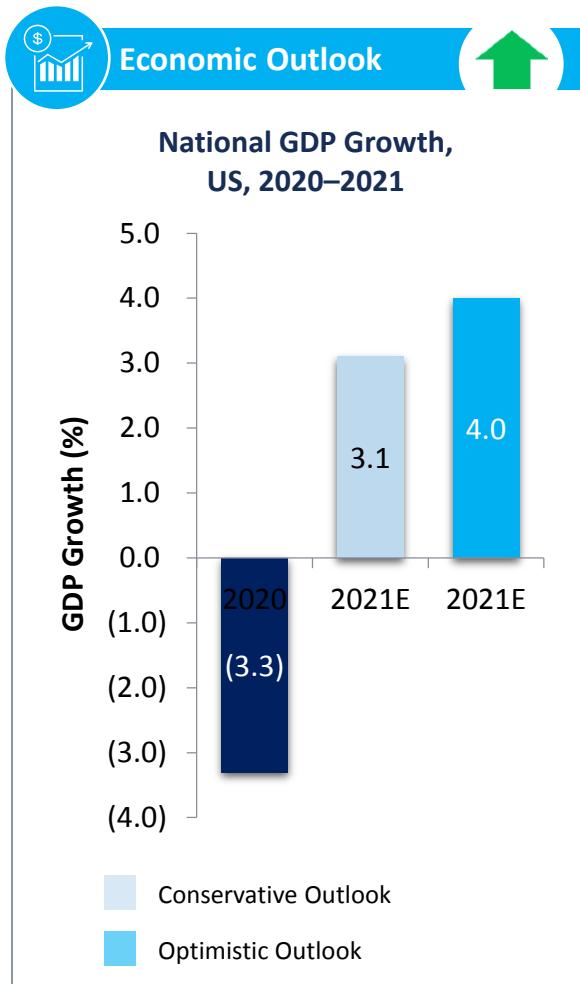
Regulations primarily pertaining to vehicle safety, emission control, and vehicle data access came into effect in 2020 in different markets.

Theme	Region	Primary Stakeholder	Development	Aftermarket Implications
Policies & Regulations	UK	Driver and Vehicle Standard Agency, UK	Legislation banning use of tires aged more than 10 years in light commercial vehicles	Tire replacement demand to increase as a result of legislation implementation and particularly because of expected increase in demand for goods movement in 3PL services
	India	Transport Ministry, India	Voluntary scheme applicable to private vehicles of age 20 years and older	Promotion of new vehicle sales; reduction of average vehicle age; increased availability of cores and used parts
	Malaysia	National Automotive Policy 2020	Promotion of energy efficient vehicles, development of local parts manufacturing for exports and local consumption	Increased competitiveness in local aftermarket
	UK	Department of Transport	Regulation guarantees access to OBDII port for repair and maintenance services	Data access offers IAM equal opportunity to compete with the OE network
	US	US state of Massachusetts	Inclusion of telematics in the right to repair act passed in 2012	Enables data access over internet, thereby opening up possibilities of development of newer cost-effective solutions in the aftermarket
	US	SAFE Act 2020 Moving Forward Act 2020	Installation of driver monitoring systems among other systems aimed at safer driving	<ul style="list-style-type: none"> Overall improvement in driving habits to reduce collision and eventual service demand for related events Addition of newer technologies to create new service requirements

Source: Frost & Sullivan

North American Automotive Aftermarket Outlook, 2021

Regional Outlook—United States



Aftermarket Impact

- Gravely serious human causalities from the COVID-19 pandemic, contraction in GDP, and drop in new vehicle sales damped the overall automotive industry sentiment in 2020.
- Unemployment peak in the middle of 2020 will influence how the market recovers in the current year.
- A majority of the population is expected to be vaccinated only by the end of 2021.

Negative Outlook

Neutral Outlook

Positive Outlook

Source: IMF; The Economist Intelligence Unit; Frost & Sullivan

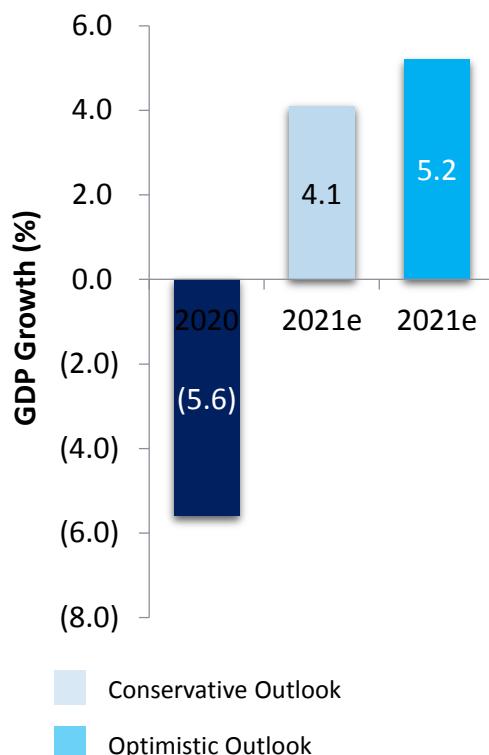
Regional Outlook—Canada



Economic Outlook



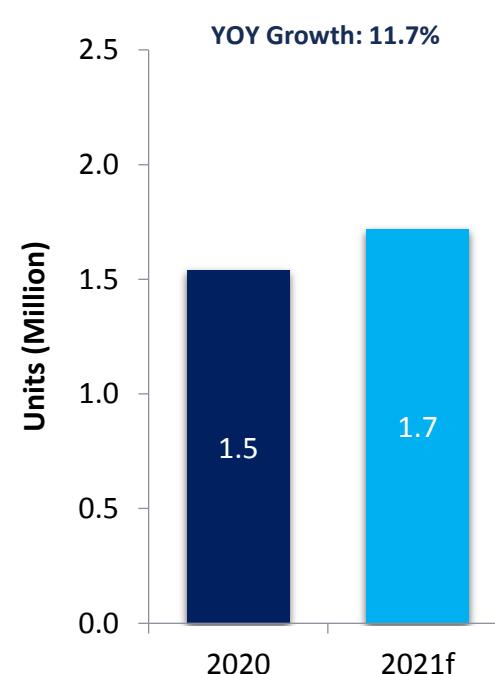
National GDP Growth,
Canada, 2020–2021



Automotive Outlook



New Vehicle Sales,
Canada, 2020–2021



Aftermarket Impact

- Recovery in 2021 hinges largely on the **course of the COVID-19 virus** as is evident from the more recent lockdowns imposed at the beginning of 2021.
- Not-too-many stringent lockdowns and government stimulus package have been instrumental, to an extent, in keeping consumption levels afloat during 2020; this can change under stricter lockdown conditions and limit vehicle miles driven.
- Vaccination of the majority of the population is not expected at least until the middle of 2022.



Negative Outlook



Neutral Outlook

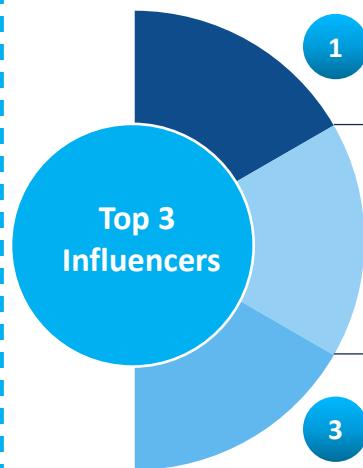


Positive Outlook

Source: World Bank; Frost & Sullivan

North America Aftermarket

Automotive Aftermarket: Aftermarket Dashboard, North America, 2020–2021



1 A dip of approximately 8.5% in the **annual miles driven** in 2020 will be hard to recover in 2021, nonetheless with recovery at 6% in 2021 will help fuel replacement parts demand.

2 The preference for **personal vehicles rather than shared mobility** will promote used cars sales and **increase motorization rates**, thereby expanding addressable market.

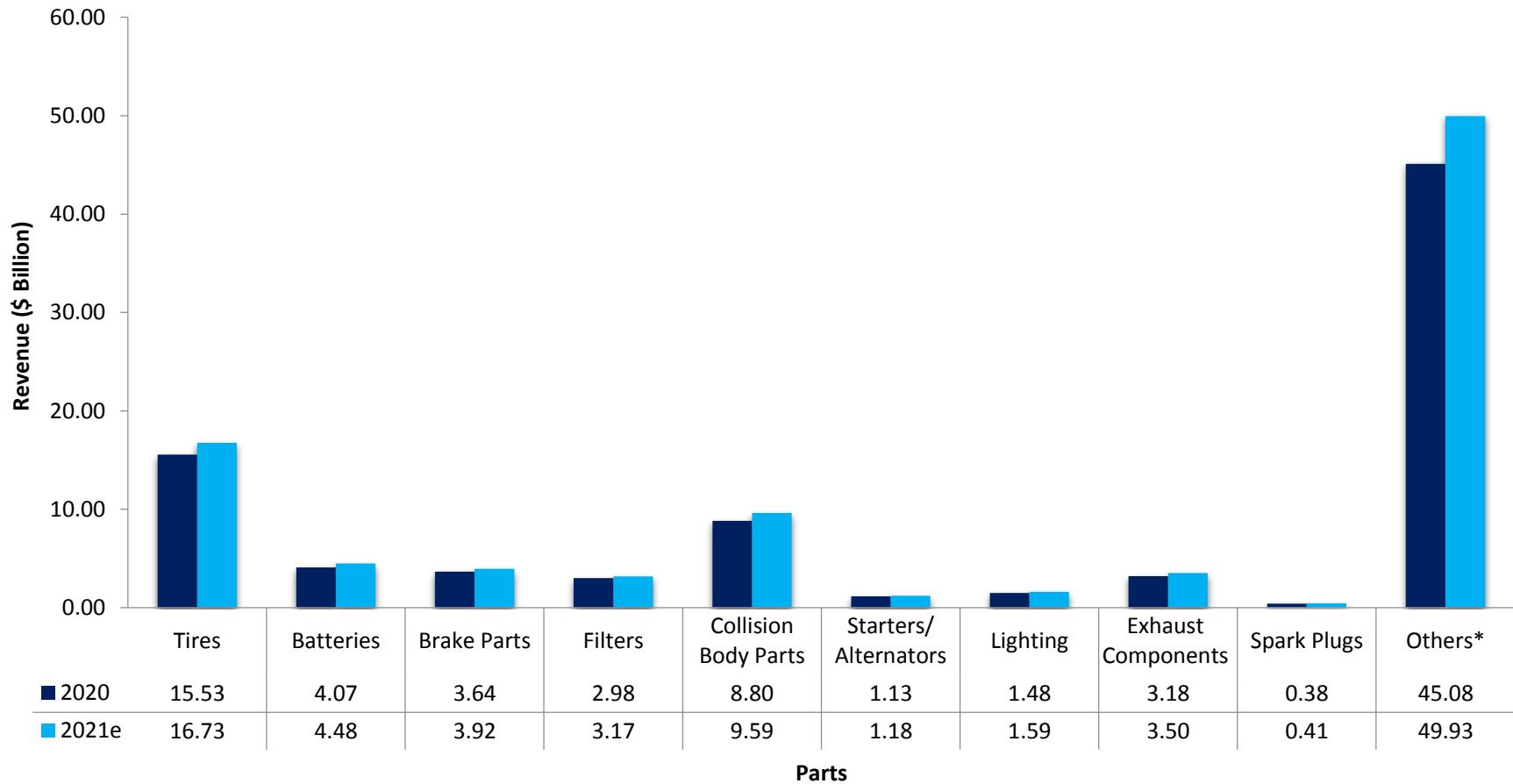
3 A **change in administration** is expected to restore some balance in trade tensions in 2021 and **ensure protection from any price rise** or supply chain roadblocks.

Source: Frost & Sullivan

Aftermarket Outlook—Revenue by Parts Type

Automotive Aftermarket: Revenue by Parts Type, North America, 2020–2021

	Regional Outlook
	Aftermarket Dashboard
	Replacement Revenue
	VIO
	Model Mix
	Opportunity Areas



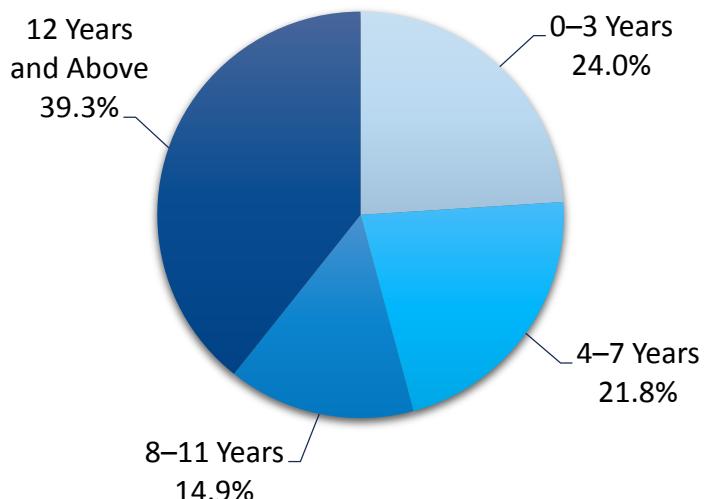
*Others include steering system hard parts, Remanufactured engine and transmission, remanufactured rack and pinion steering gear, Heating Ventilation and Air Conditioning (HVAC) and engine cooling components, light vehicle exhaust emission control systems, fuel-delivery systems, engine control units, ignition parts, automotive sensors, ignition wire sets, fuel pumps, selected automotive remanufactured pumps, sports compact underhood components, belt, hoses, gaskets and seals, battery, carburetor, gauge, and internal engine hard parts.

Key: All revenue figures reported at manufacturer level.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Ownership Pattern

**Automotive Aftermarket: VIO Age,
North America, 2020**

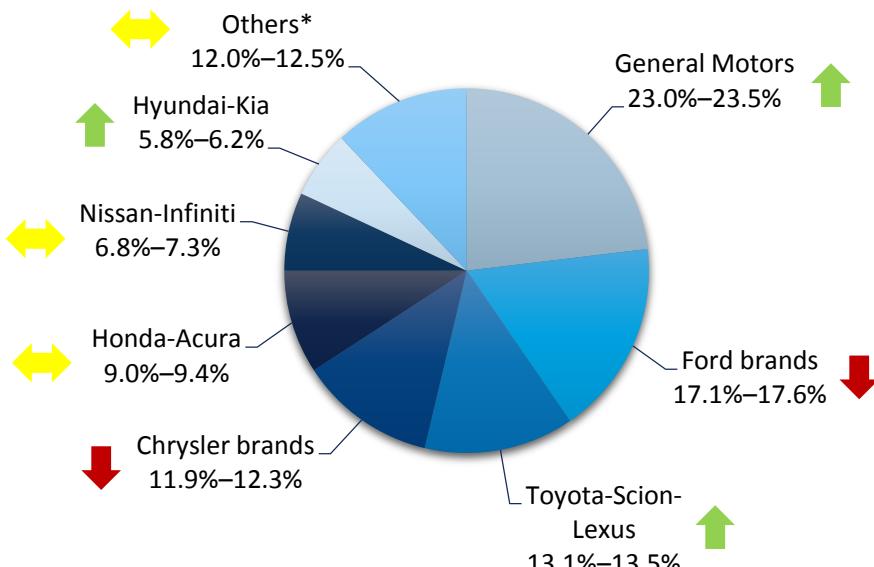


Aftermarket Opportunity

Decreasing ↓ Stable ↔ Increasing ↑

- Slowdown in new vehicle sales has pushed up average vehicle age to 11.9 years, generating incremental service opportunity.

**Automotive Aftermarket: VIO Brand Share,
North America, 2020**



Aftermarket Opportunity

- As new car sales shrunk, existing VIO offered an attractive profit center for OEMs to leverage.

*Others include Audi, Volkswagen, Fiat, Suzuki, Mitsubishi, BMW, Mercedes-Benz, Mazda Motors, and Tesla.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Model Mix—North America



Automotive Aftermarket: VIO Model Mix, North America, 2020–2021

Type	Category	2020	2021	Notes	2021 Aftermarket Implication
Vehicle Size	Compacts	⬇️	⬇️	<ul style="list-style-type: none"> SUVs' and pickups' share of contribution has risen to 75% in the overall vehicles sold. Number of vehicles sold has declined in all segments; compacts and pickups had the highest and least drop, respectively. 	For the last 8 consecutive years, the share of SUVs and pick ups has been increasing. As the aftermarket sweet spot begins from 7 to 8 years of vehicle age, the demand for parts and accessories for the segment will also increase average spend on vehicle up upkeep.
	SUVs	⬆️	⬆️		
	Pick Up Trucks	⬆️	⬆️		
Fuel Type	Gasoline	⬇️	⬇️	<ul style="list-style-type: none"> Customer preference for SUVs and pickups enables higher diesel vehicle sales. Sale of EVs in the US grew marginally while Canada saw a negative growth. 	With the increasing diesel-engine-equipped vehicles, the demand for associated parts and technicians with diesel engine expertise will increase.
	Diesel	⬆️	⬆️		
	EVs	🟡	🟡		
OEM	Brands	Almost all brands saw drop in sales in 2020 with the exception of Tesla, Volvo Cars, and Mazda. Nissan had the highest drop in sales; for the last 3 years, sales have been on a decline.			

Decreasing ⬇️ Stable 🟡 Increasing ⬆️

Source: Frost & Sullivan

Automotive Aftermarket Opportunity Areas

Automotive Aftermarket Opportunity Area, North America, 2021



ADAS-related Sensor Replacement and Recalibration

New business opportunities will arise for IAM sensors and cameras suppliers, tools and equipment suppliers, and aftermarket workshops.



On-demand Services

On-location service requests for oil change, fuel change, and other repairs will pick up.



Fleet Service Models

Corporate, rental cars and new mobility fleets demand personalized service offerings with dedicated digital B2B platforms.



Expanding SUV Population

Demand for parts and accessories for the enthusiasts customer segments will rise.



EV Service Opportunity

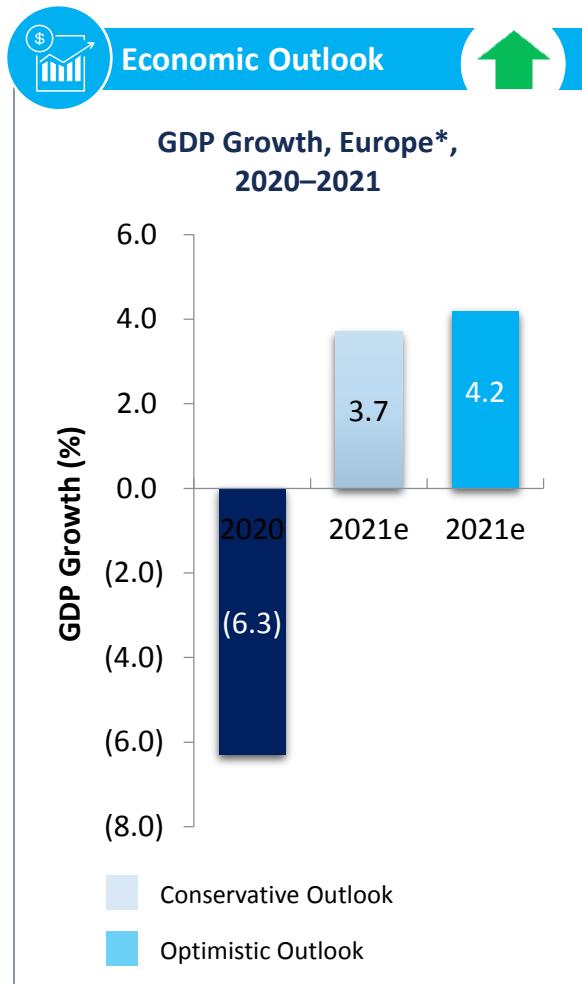
IAM dedicated offerings, including those related parts and services to growing EV parc, will grow.



Source: Frost & Sullivan

Europe Automotive Aftermarket Outlook, 2021

Regional Outlook—Europe



Aftermarket Impact

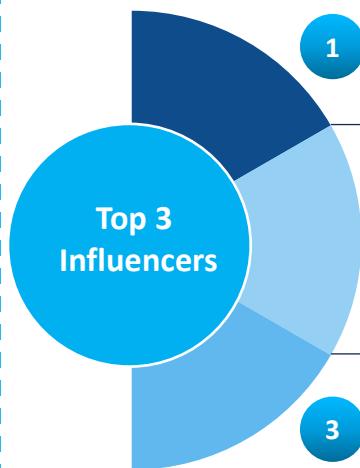
- While 2020 did impact the economy adversely, the extension of restrictions due to COVID-19 is expected to check any strong recovery in 2021.
- New car sales are predicted to grow swiftly, indicating positive automotive industry outlook during the forecast period; levels, however, will continue to remain below 2019.
- From under the shadows of a brutal 2020, automotive companies are anticipated to invest cautiously in 2021.
- Vaccination of the majority of the population is expected only by Q2 2022.

*Includes only EU27, UK, Russia, and Turkey.

Source: IMF; European Commission; The Economist Intelligence Unit; Frost & Sullivan

Europe Aftermarket Dashboard

Automotive Aftermarket: Aftermarket Dashboard, Europe, 2020–2021

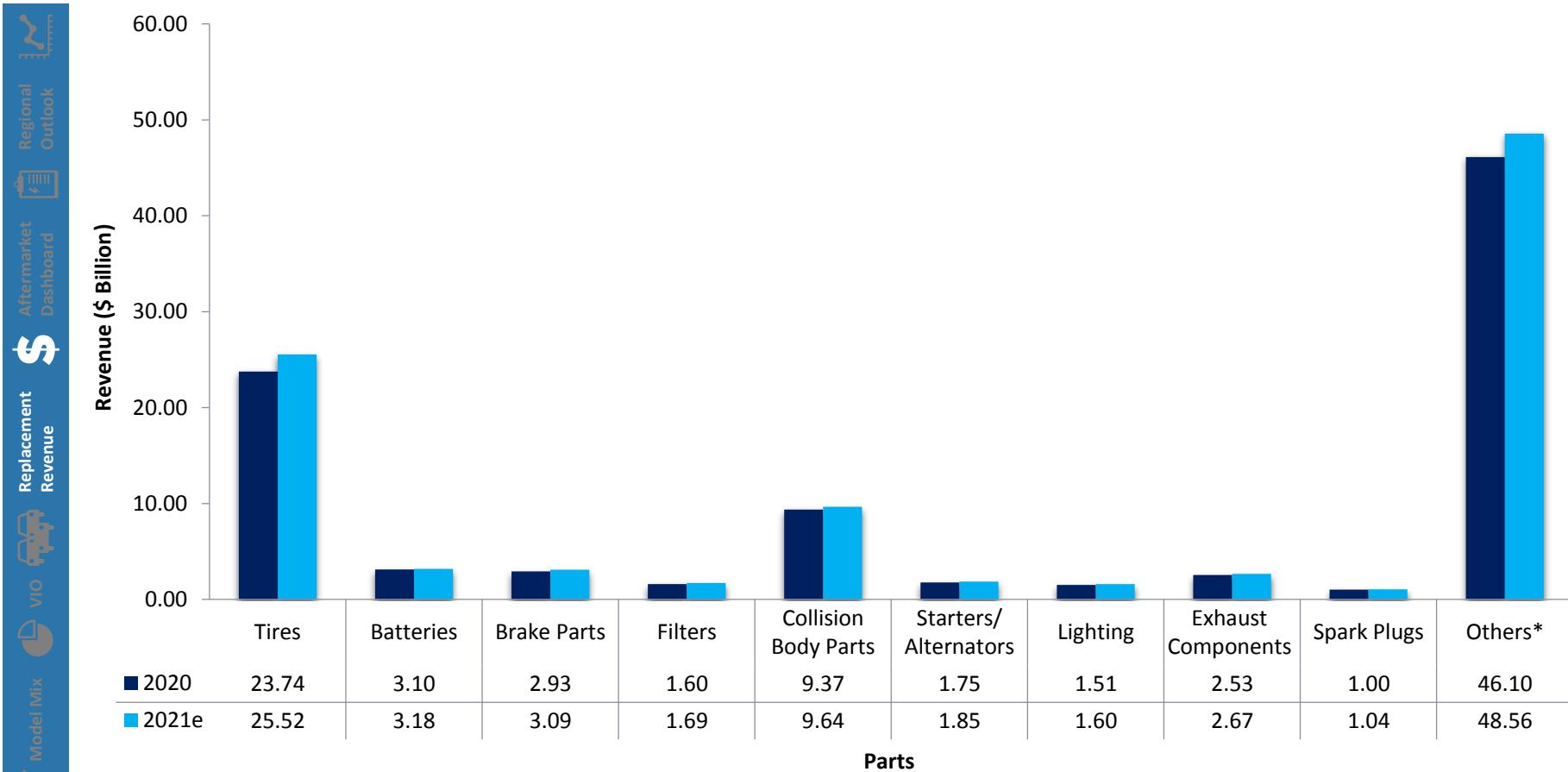


- 1 Extended work from home, and the shift to suburban locations will control the average annual vehicle miles driven, thereby not letting aftermarket demand mushroom as expected earlier.
- 2 The Brexit deal ensuring no shift to WTO tariffs between UK and EU will also mean a not-so-steep price increase for replacements parts as was being anticipated earlier.
- 3 In Europe, 16.5% of new vehicle sold in Q4 2020 were electrically chargeable vehicles; EV servicing and repair is fast emerging to be a hot demand pocket.

Source: ACEA; Frost & Sullivan

Aftermarket Outlook—Revenue by Parts Type

Automotive Aftermarket: Revenue by Parts Type, Europe, 2020–2021



*Others include steering system hard parts, Remanufactured engine and transmission, remanufactured rack and pinion steering gear, Heating Ventilation and Air Conditioning (HVAC) and engine cooling components, light vehicle exhaust emission control systems, fuel-delivery systems, engine control units, ignition parts, automotive sensors, ignition wire sets, fuel pumps, selected automotive remanufactured pumps, sports compact underhood components, belt, hoses, gaskets and seals, battery, carburetor, gauge, and internal engine hard parts.

Key: All revenue figures reported at manufacturer level.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Model Mix—Europe

Automotive Aftermarket: VIO Model Mix, Europe, 2020–2021

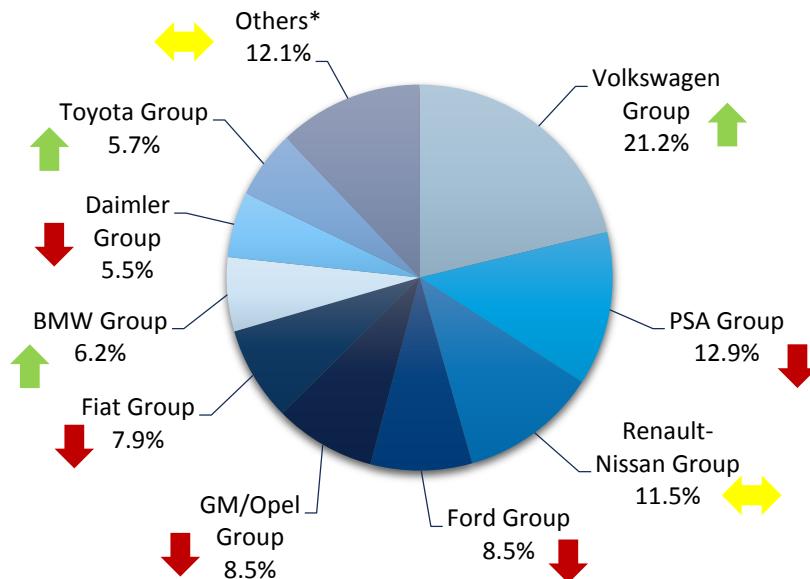
Type	Category	2020	2021	Notes	2021 Aftermarket Implication
Vehicle Size	Compacts			<ul style="list-style-type: none"> SUVs continue to gain share from compacts despite the drop in vehicle sales across all vehicle sizes. Share of SUVs in the overall vehicle sales has grown from 11% in 2010 to 42% in 2020. 	In addition to replacement parts demand swaying towards SUV, increasing demand for accessories will also arise, as the possibility of accessorizing an SUV is much higher than that of compacts.
	SUVs				
	Pick Up Trucks				
Fuel Type	Gasoline			<ul style="list-style-type: none"> Both diesel and gasoline vehicle sales have dropped while that of the EV has more than doubled. The growth of EV sales is expected to continue due to increasing vehicle options, better EV infrastructure, and incentives. 	<ul style="list-style-type: none"> EV associated parts, infrastructure, accessories will offer growth opportunities. Similarly, technicians with EV skillset will be of demand.
	Diesel				
	EVs				
OEM	Brands	All major brands had sales drop in 2020; Opel had the highest drop. VW and Renault continue to hold the top positions in terms of volume.			

Decreasing  Stable  Increasing 

Source: Frost & Sullivan

VIO Ownership Pattern

Automotive Aftermarket: VIO Brand Share, Western Europe, 2020

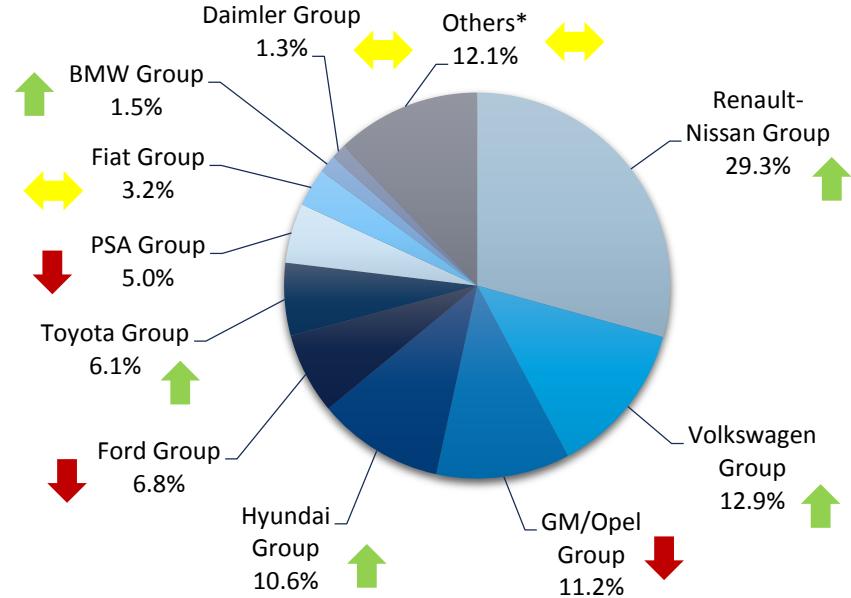


Aftermarket Opportunity

Decreasing Stable Increasing

Gradually increasing EV sales presents itself as an opportunity to develop service infrastructure for the long term.

Automotive Aftermarket: VIO Brand Share, Eastern Europe, 2020



Aftermarket Opportunity

Share of Japanese and Korean brand vehicles is increasing in vehicle parc, both new and used vehicle imports.

*Others includes BAIC Group, Chery Group, Mahindra Group, Tata Group, and Tesla.
Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Automotive Aftermarket Opportunity Areas

Automotive Aftermarket Opportunity Area, Europe, North America, 2021



Used Cars Service Management

Double-digit growth in used cars sales in 2020 represents a potential business opportunity for service providers to engage with IAM service contracts.



Market Consolidation Post 2020 Slump

Largely fragmented and widely distributed downstream retail and service network hit by pandemic offers acquisition targets.



Company Car Fleet Aftersales

Increasing company car fleet vehicle parc is a stand-alone goal post for providing targeting services to B2B accounts.



Vehicle Parc Electrification

Europe was the fastest growing market for EVs in 2020, validating the requirement for investing in developing aftersales ecosystem.



Digitalization of Value Chain

With online parts sales expected to witness double digit growth, online presence will make or break market share expansion plans.



Source: Frost & Sullivan

China Automotive Aftermarket Outlook, 2021

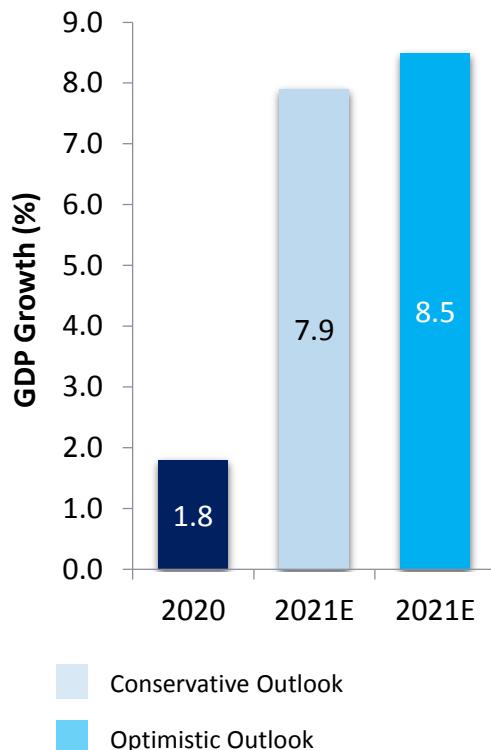
Regional Outlook—China



Economic Outlook



National GDP Growth,
China, 2020–2021

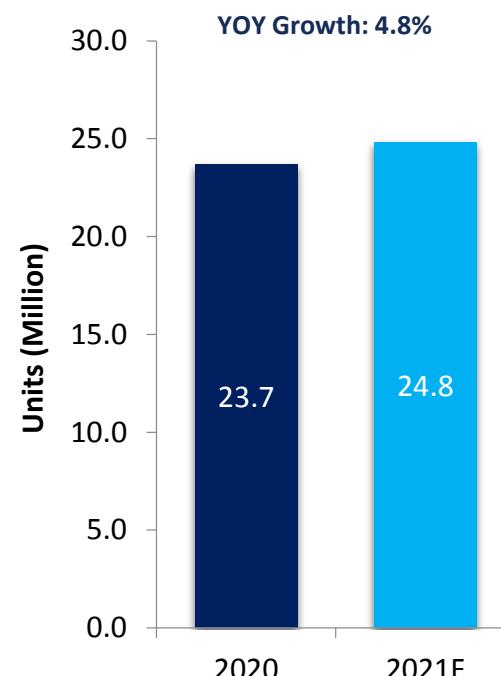


Automotive Outlook



New Vehicle Sales,
China, 2020–2021

YOY Growth: 4.8%



Aftermarket Impact

- Recovery from the pandemic and the containment of new virus strains have been noteworthy, in the case of China.
- The momentum of **economic recovery in H2 2020** is expected to carry on in 2021 as well.
- Government support and policies that support small businesses are expected to play a crucial role in promoting the largely fragmented retail and services industries.
- A majority of the population** is expected to **be vaccinated** against COVID-19 only by **Q4 2022**.



Negative Outlook



Neutral Outlook



Positive Outlook

Source: IMF, The Economist Intelligence Unit, Frost & Sullivan

China Aftermarket Dashboard

Automotive Aftermarket: Aftermarket Dashboard, China, 2020–2021



1 China leads the world, in terms of innovating with **new business models** for retail; this has been visible in the **aftermarket digitization** of parts and services retail, which has **attracted a diversified set of service providers**.

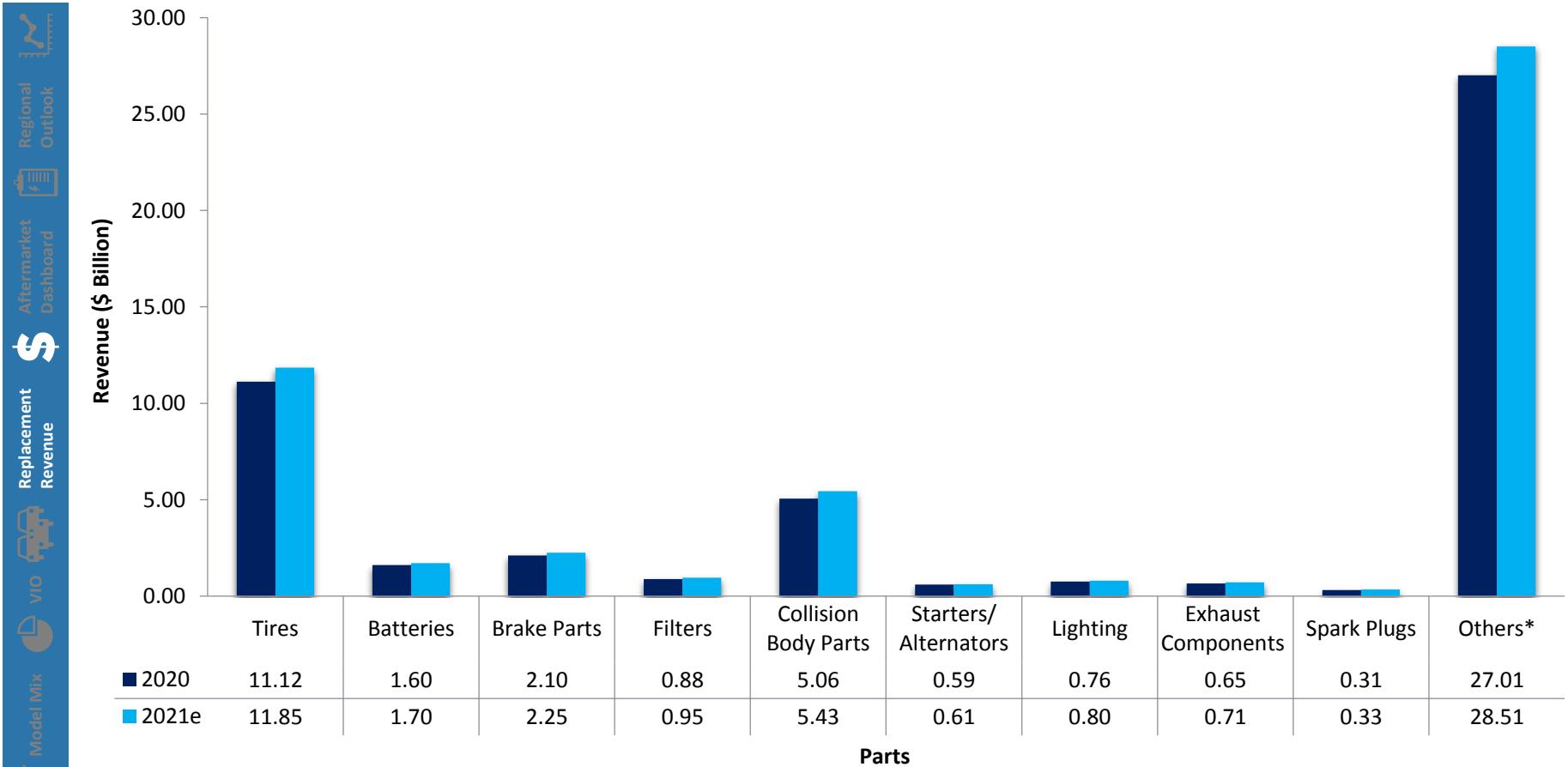
2 **Extension of the vehicle scrappage policy by 5 years** is expected to reduce end-of-life vehicles on road, which is likely to diminish some of the short-term aftermarket opportunities.

3 Implementation of the regulation '**Administrative Methods for Publicizing Automobile Maintenance and Repair Technical Information**' is yielding results by strengthening IAM share alongside the digitization wave.

Source: Frost & Sullivan

Aftermarket Outlook—Revenue by Parts Type

Automotive Aftermarket: Revenue by Parts Type, China, 2020–2021



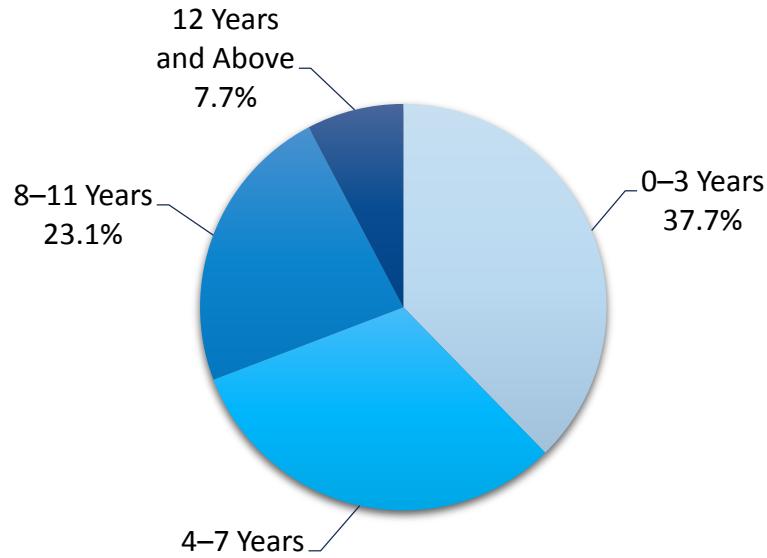
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Key: All revenue figures reported at manufacturer level.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Ownership Pattern

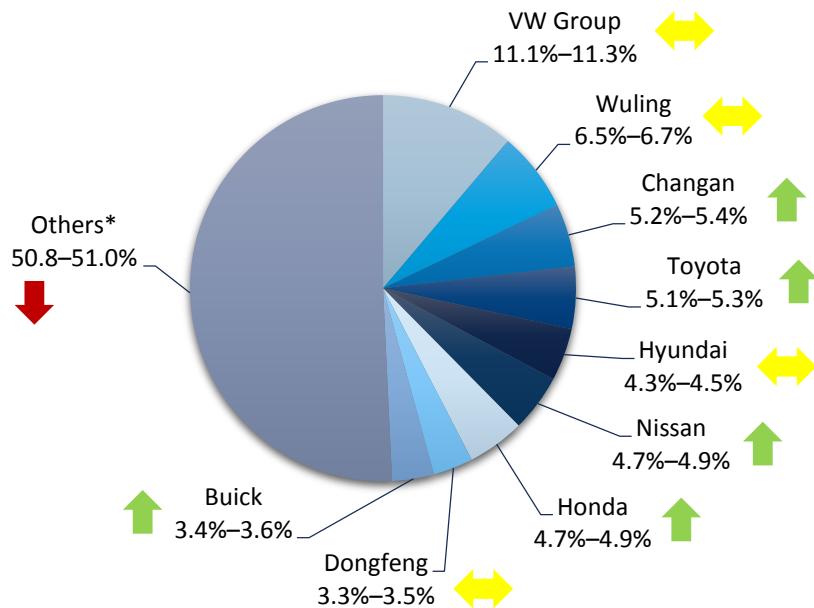
Automotive Aftermarket: VIO Age, China, 2020



Aftermarket Opportunity

Decreasing ↓ Stable ↔ Increasing ↑

Automotive Aftermarket: VIO Brand Share, China, 2020



Aftermarket Opportunity

- Increasing share of foreign brands in the parc will lead to more investments in IAM infrastructure, particularly service and retail.

*Others include Audi, Volkswagen, Fiat, Suzuki, Mitsubishi, BMW, Mercedes-Benz, Mazda Motors, and Tesla.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Model Mix—China

Automotive Aftermarket: VIO Model Mix, China, 2020–2021

Type	Category	2020	2021	Notes	2021 Aftermarket Implication
Vehicle Size	Compacts			<ul style="list-style-type: none"> China saw minimal drop in overall vehicle sales; this is on top of the 2019's significant drop in sales due to the economic slowdown. Sales of SUVs were higher than the previous year while that of the compacts dropped; SUV share now contributes more than half of the overall vehicles sold. 	Replacement parts and accessories related to SUVs will be of interest across the aftermarket value chain.
	SUVs				
	Pick Up Trucks				
Fuel Type	Gasoline			<ul style="list-style-type: none"> Gasoline sales decline due to the pandemic; increase in diesel vehicle sales had partially offset the drop in overall sales. The rise in diesel engine vehicles sales is primarily due to increase in commercial car sales. 	With the increasing demand for EVs and better EV-associated infrastructure, and additional accessories, supported garage networks will be of importance.
	Diesel				
	EVs				
OEM	Brands	VW continues to dominate in terms of volume, with a significant lead in spite of the drop in sales in 2020; Honda and Toyota are closely competing for the 2 nd and 3 rd position. Both Japanese brands had grown in 2020, primarily driven by their hybrid-SUV offerings.			

Decreasing  Stable  Increasing 

Source: Frost & Sullivan

Automotive Aftermarket Opportunity Areas

Regional
OutlookAftermarket
DashboardReplacement
Revenue

VIO



Model Mix

Opportunity
Areas

Automotive Aftermarket Opportunity Area, China, 2021



Average Vehicle Age

Average age is approaching the aftermarket sweet spot, thereby creating IAM opportunities.



Digitalization Induced by Newer Competitors

Success of non-automotive players has led to innovative business models consolidation of largely fragmented service sector.



Expanding Vehicle Parc

China's vehicle population is currently only behind North America and is well poised to overtake it, resulting in tremendous demand potential.



Aftermarket eCommerce for Parts and Services Retail

Emerging as a popular standalone channel, digital presence is vital to staying competitive in the IAM.



EV Service Opportunity

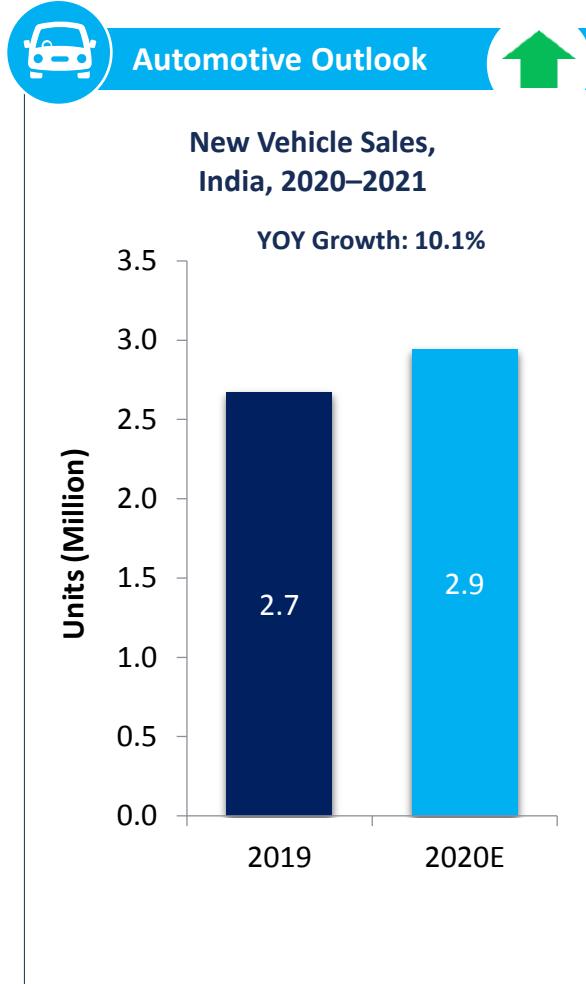
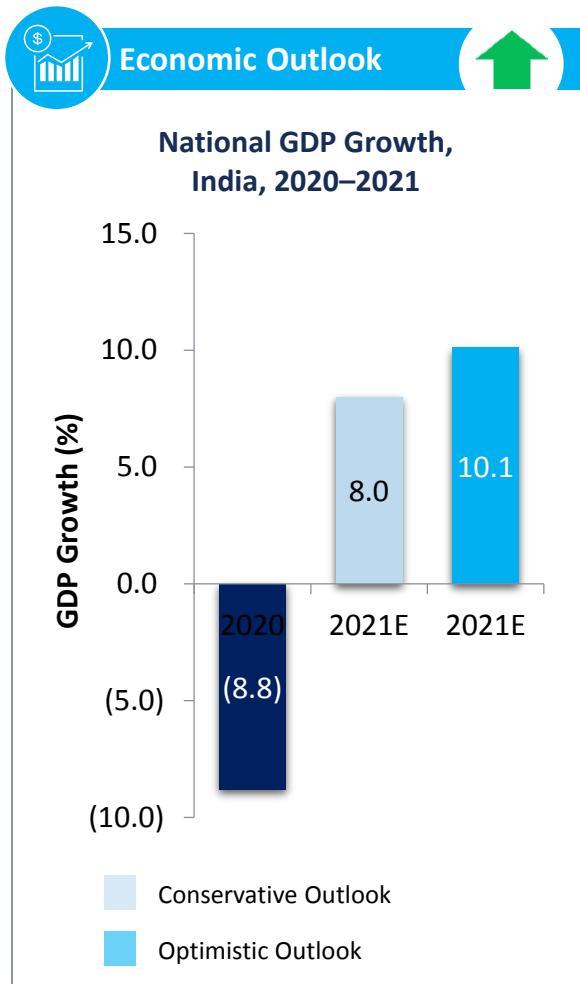
Among the largest EV markets worldwide, dedicated service offerings and end-of-life solution will remain crucial.



Source: Frost & Sullivan

India Automotive Aftermarket Outlook, 2021

Regional Outlook—India



Aftermarket Impact

- While 2020 had an adverse effect on the economic situation, recovery in 2021 is expected to be swift.
- India was under extended nation-wide lockdown, which crippled a lot of small- and medium-sized businesses, in some cases even forcing closure.
- With relatively lower fatality rates reported, recovery from COVID-19 is expected to ensure a faster return to normal.
- Lost jobs and increasing inflation will continue to hinder recovery.
- A majority of the population is expected to be vaccinated only by the end 2023.

Key: The predictions for India were made prior to the advent of the second wave of COVID-19 in April 2021.

Source: IMF; Frost & Sullivan

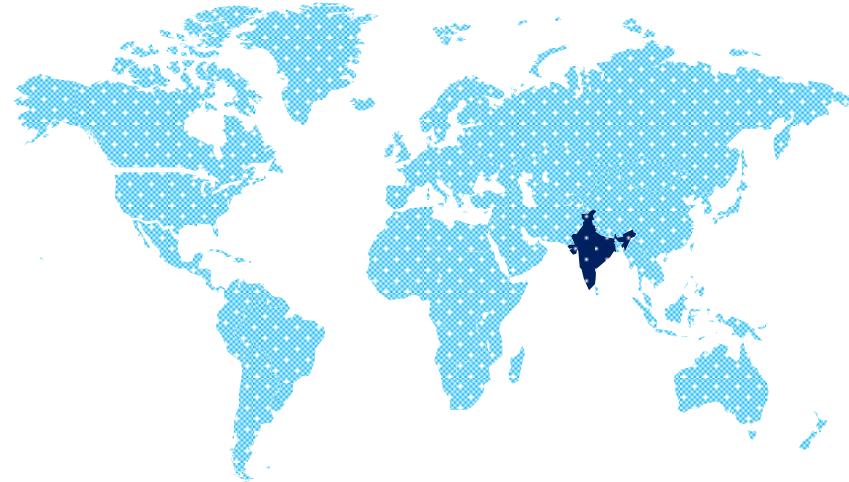
Negative Outlook

Neutral Outlook

Positive Outlook

India Aftermarket Dashboard

Automotive Aftermarket: Aftermarket Dashboard, India, 2020–2021



1 Strict nation wide lockdowns imposed during 2020 resulted in significant drop in miles driven, thereby contracting demand for repair and maintenance services- possible effects to be visible in 2021 as well.

2 Services sector constitutes majority share to the Gross Value Added, with a significant portion of it from the IT Sector. Extended work from home policies will continue to keep mobility needs low and thereby restrict growth aftermarket demand.

3 Vehicle Scrappage Policy announced at the beginning of 2021 can boost new vehicle sales and also potentially help in growth of used and remanufactured parts aftermarket.

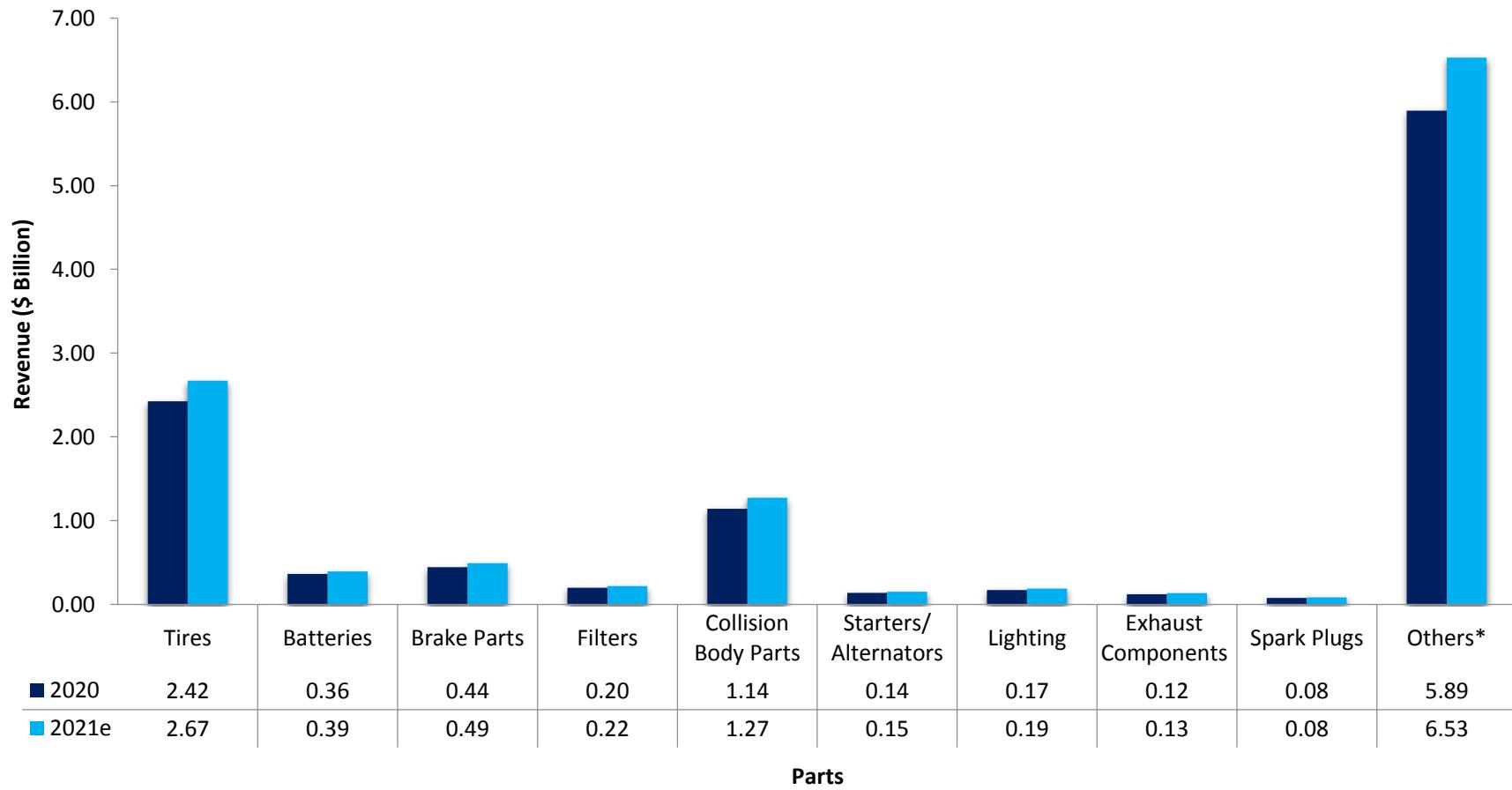
Source: Frost & Sullivan

Aftermarket Outlook—Revenue by Parts Type

Automotive Aftermarket: Revenue by Parts Type, India, 2020–2021

Regional Outlook
Aftermarket Dashboard
Replacement Revenue





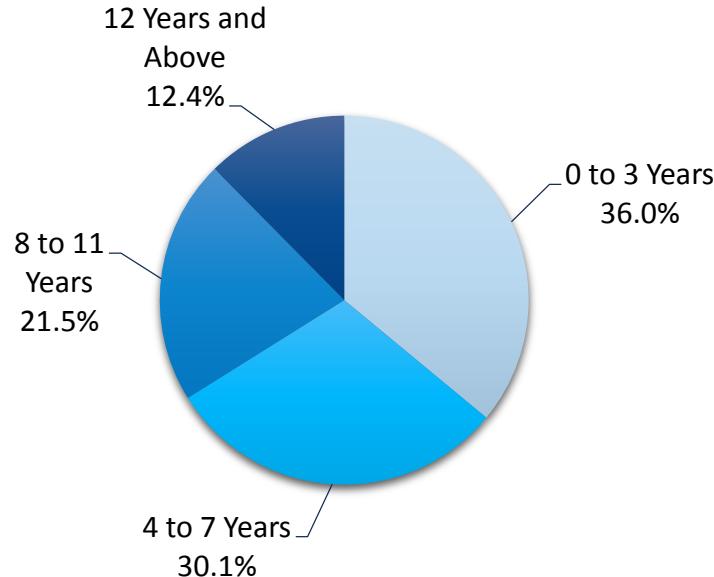
*Others include steering system hard parts, Remanufactured engine and transmission, remanufactured rack and pinion steering gear, Heating Ventilation and Air Conditioning (HVAC) and engine cooling components, light vehicle exhaust emission control systems, fuel-delivery systems, engine control units, ignition parts, automotive sensors, ignition wire sets, fuel pumps, selected automotive remanufactured pumps, sports compact underhood components, belt, hoses, gaskets and seals, battery, carburetor, gauge, and internal engine hard parts.

Key: All revenue figures reported at manufacturer level.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Ownership Pattern

Automotive Aftermarket: VIO Age, India, 2020**

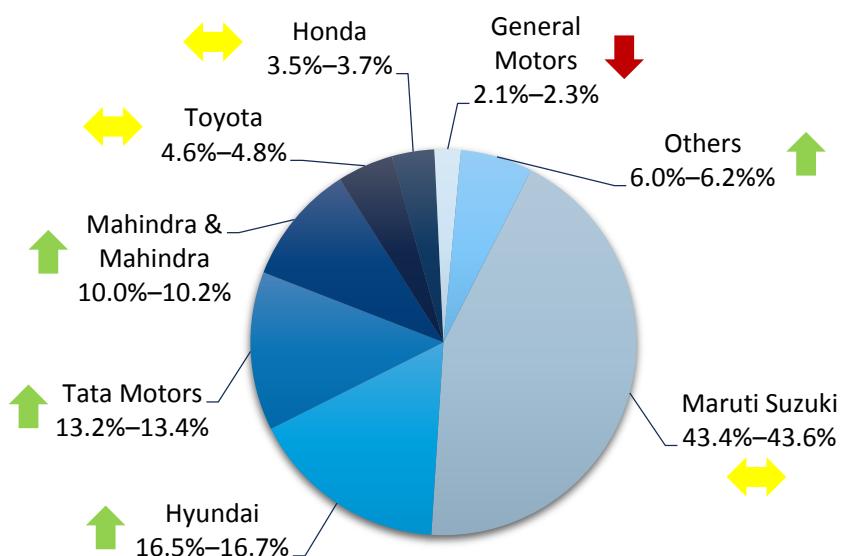


Aftermarket Opportunity

- Increasing share of 4-7 years old vehicles poses challenge to IAM to upgrade service offerings at par with OE dealerships.

Key: Half circle under the aftermarket opportunity is the total potential; the blue-shaded portion represents immediate impact.

Automotive Aftermarket: VIO Brand Share, India, 2020



Aftermarket Opportunity

- Hyundai, Tata and M&M have expanded their share in the vehicle parc, thereby opening up room for multi-brand servicing.

**VIO by age only corresponds to passenger vehicles.

*Others include MG, Kia, Isuzu, VW, Ford, and Jeep.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Model Mix—India

Automotive Aftermarket: VIO Model Mix, India, 2020–2021

Type	Category	2020	2021	Notes	2021 Aftermarket Implication
Vehicle Size	Compacts			<ul style="list-style-type: none"> Increasing customer preference enabled a significant increase in share of SUV sales in the last five years. In spite of the pandemic impact, Y-o-Y drop in 2020 for the SUVs was less than 1%. Compacts had a significant hit in both 2019 and 2020 due to the economic slowdown and COVID-19 respectively. 	As most of the vehicle growth is driven by new vehicle brands and models, parts proliferation is expected to increase.
	SUVs				
	Pick Up Trucks				
Fuel Type	Gasoline			<ul style="list-style-type: none"> With the decreasing cost benefits of owing a diesel vehicle, the demand for gasoline vehicles is continuing to increase. Lack of electric vehicles at similar price points to that of the compacts or low-cost SUVs results in sluggish growth for EVs. 	Focus towards training on new age technologies such as telematics solutions, various sensors and electronic equipment repairs for technicians will become a critical success factor.
	Diesel				
	EVs				
OEM	Brands	Suzuki and Hyundai hold the top positions in terms of volume; these brands had the least drop in sales % as compared to other major brands. KIA and MG which entered the market in 2019 had a significant growth in 2020.			

Decreasing  Stable  Increasing 

Source: Frost & Sullivan

Automotive Aftermarket Opportunity Areas

Regional
OutlookAftermarket
DashboardReplacement
Revenue

VIO



Model Mix

Opportunity
Areas

Automotive Aftermarket Opportunity Area, India, 2021

Brand Diversification in Vehicle Population

For long dominated by Maruti Suzuki and Hyundai, vehicle parc has seen new additions and thereby newer service opportunities- company SUVs, electronics replacement.



Ageing Vehicle Parc

Average age of the vehicle on road is favorable for IAM service channel- thereby necessitating dedicated offerings.



Ballooning Vehicle in Operation

New Vehicle sales forecast pegs India as the 5th largest market, validating the rapidly evolving addressable market.



Localization

Coupled with Government's 'Make in India' push, and the growing attractiveness of local market- investments in local development and manufacturing vital for long term growth.



Penetration in Newer Markets

Improving road infrastructure, and growing sales in tier II and III cities is opening up newer markets for distribution and servicing.



Source: Frost & Sullivan

Latin America Automotive Aftermarket Outlook, 2021

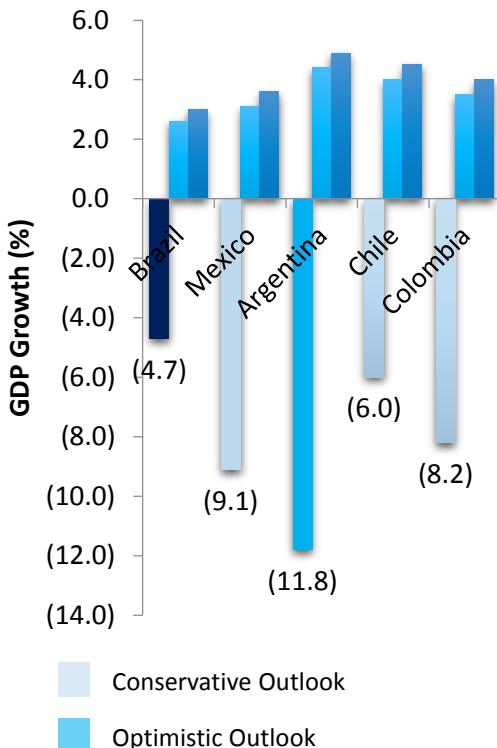
Regional Outlook—Latin America



Economic Outlook



National GDP Growth, Latin America, 2020–2021

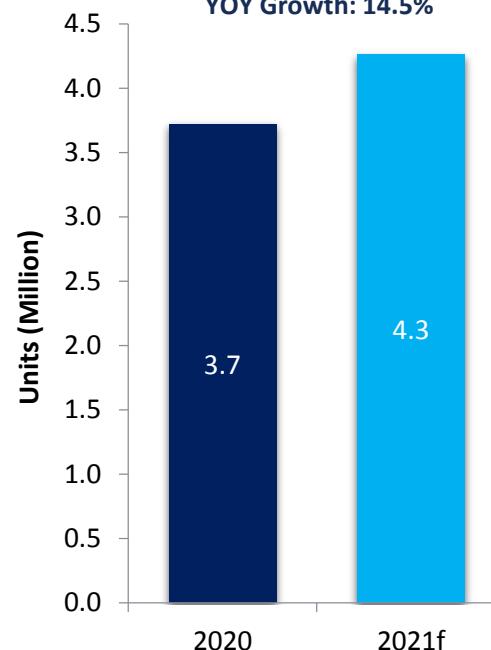


Automotive Outlook



New Vehicle Sales, Latin America, 2020–2021

YOY Growth: 14.5%



Aftermarket Impact

- While most of the markets in LATAM were coming out of a recession in early 2020, the pandemic has multiplied the stress on the region's economy.
- Political instabilities** across regions further **pose challenges to pandemic mitigation** and **continue to stifle the region's growth** in the short term.
- New vehicle sales declined by almost one-third in 2020.
- Unfriendly exchange rate further worsened the situation for spare parts exports.
- Vaccination of the majority of the population is expected only by late 2022.**



Negative Outlook



Neutral Outlook



Positive Outlook

Source: IMF; Frost & Sullivan

Latin America Aftermarket Dashboard

Automotive Aftermarket: Aftermarket Dashboard, Latin America, 2020–2021



1 New vehicle sales were pushed back to levels from 4 or 5 years ago; a slow down in the expansion of vehicle parc will translate to slower aftermarket growth.

2 In a fragmented aftermarket, and with reduced manufacturing output last year, supply chain management—particularly, effective stock keeping—will be vital to assisting and promoting any recovery signs in an otherwise adversely impacted aftermarket.

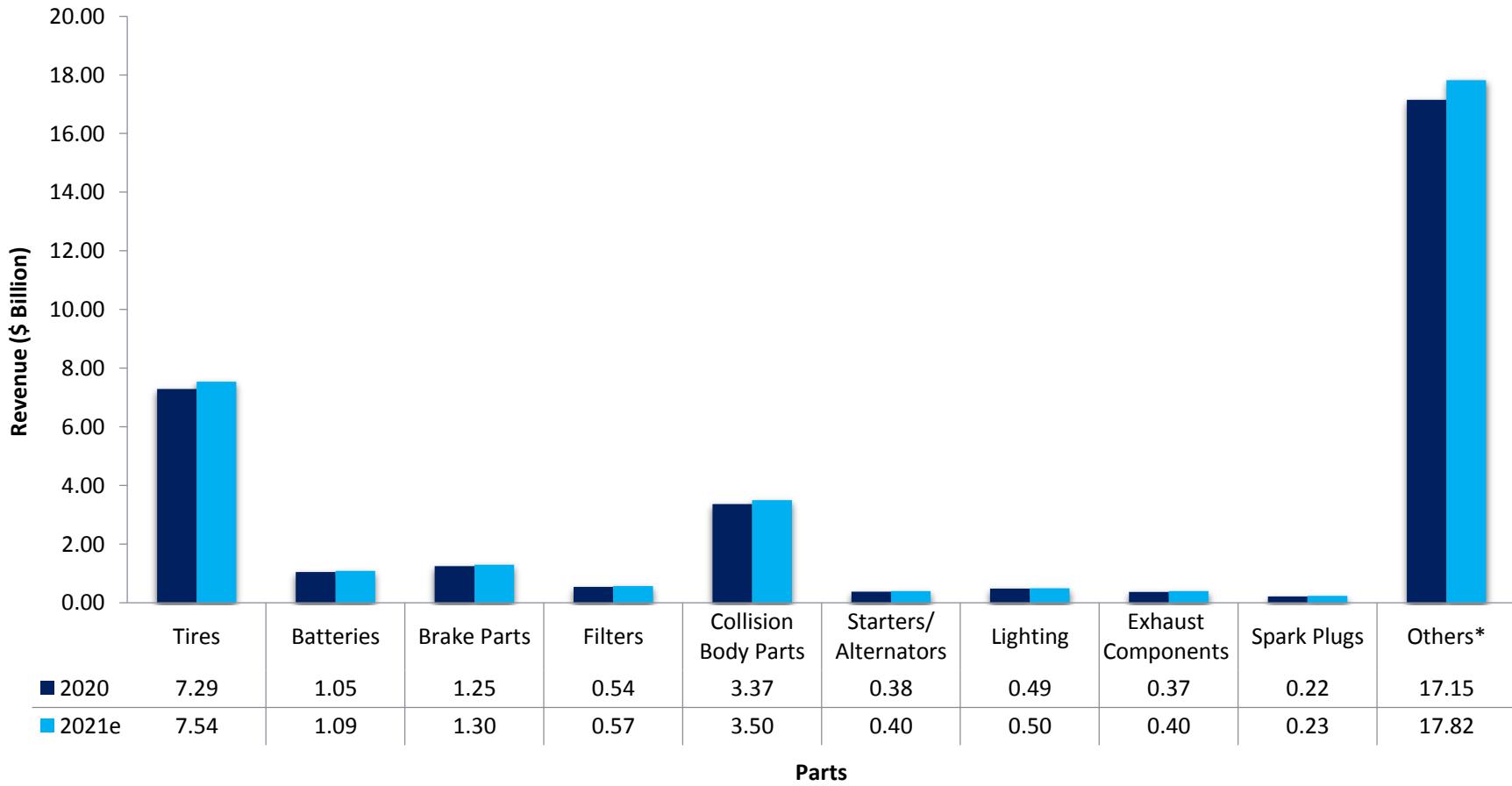
3 Overall improved quality of parts and relatively newer brands in the vehicle parc are offsetting replacement rate, for different part categories in major markets, with visible effects.

Source: Frost & Sullivan

Aftermarket Outlook—Revenue by Parts Type

Automotive Aftermarket: Revenue by Parts Type, Latin America, 2020–2021

	Regional Outlook
	Aftermarket Dashboard
	Replacement Revenue
	Parts
	Model Mix
	Opportunity Areas



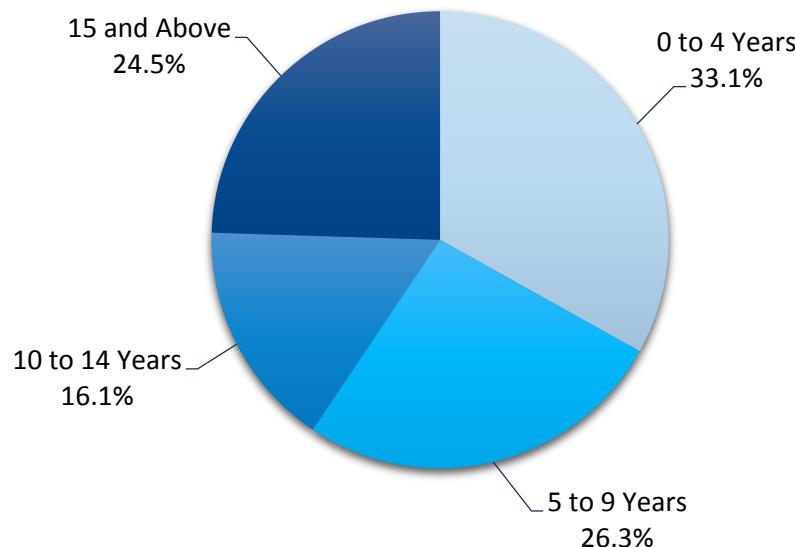
*Others include steering system hard parts, Remanufactured engine and transmission, remanufactured rack and pinion steering gear, Heating Ventilation and Air Conditioning (HVAC) and engine cooling components, light vehicle exhaust emission control systems, fuel-delivery systems, engine control units, ignition parts, automotive sensors, ignition wire sets, fuel pumps, selected automotive remanufactured pumps, sports compact underhood components, belt, hoses, gaskets and seals, battery, carburetor, gauge, and internal engine hard parts.

Key: All revenue figures reported at manufacturer level.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Ownership Pattern

Automotive Aftermarket: VIO Age, Latin America, 2020

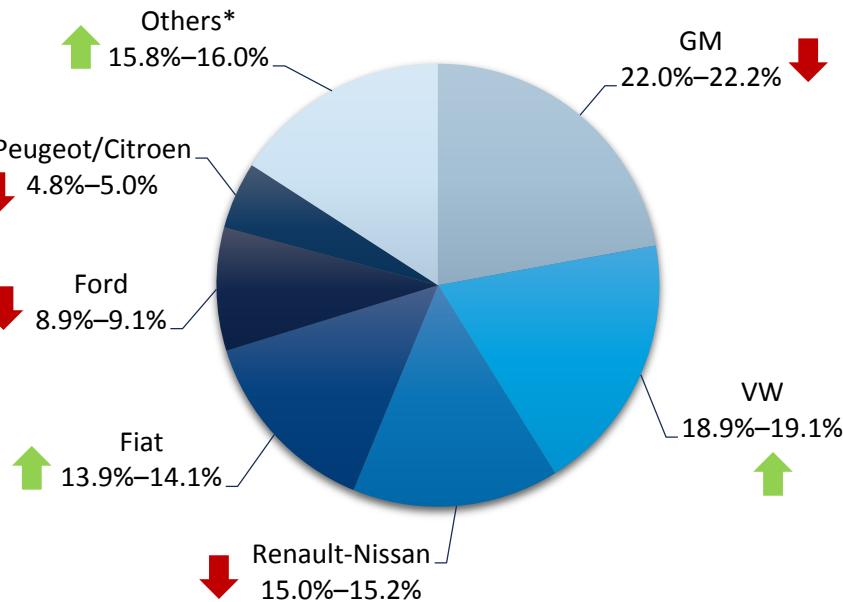


Aftermarket Opportunity

Decreasing ↓ Stable ↔ Increasing ↑

- Poor new vehicle sales in the last year has further aged the vehicle parc average age, and in doing so, has further challenged the OE network's attractiveness.

Automotive Aftermarket: VIO Brand Share, Latin America, 2020



Aftermarket Opportunity

- Most Chinese OEMs performed relatively well in a tough year, promising good returns on investments from servicing these new brands in the future.

*Others includes BMW, Mazda, Great Wall, Cherry Automobile, Daimler Group, Honda, Toyota etc.

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

VIO Model Mix—Latin America



Automotive Aftermarket: VIO Model Mix, Latin America, 2020–2021

Type	Category	2020	2021	Notes	2021 Aftermarket Implication
Vehicle Size	Compacts	⬇️	⬇️	Similar to the trend in other regions, LATAM saw an increasing share of SUVs in the overall sales while that of the compacts are declined.	Even though the SUV share is increasing, it still contributes about one-fourth of the overall sales. With increasing average vehicle age, older compacts will be the major demand driver for the aftermarket.
	SUVs	⬆️	⬆️		
	Pick Up Trucks	🟡	🟡		
Fuel Type	Gasoline	⬆️	⬆️	Unlike the EU or China, EV sales did not witness a significant growth; this and the stringent regulations enabled the sales of gasoline-based vehicles to grow.	<ul style="list-style-type: none"> With EV sales less 1% of overall sales, there is likely to be no impact from EVs. Drop in sales in both 2019 and 2020 will further drive the average age of the vehicle, thereby offering more opportunities through the older gasoline vehicles.
	Diesel	🟡	🟡		
	EVs	🟡	🟡		
OEM	Brands	Similar to Europe, all major brands had a drop in 2020. Chevrolet and VW hold the top positions. Renault and Ford had the highest YoY decline.			

Decreasing ⬇️ Stable 🟡 Increasing ⬆️

Source: Frost & Sullivan

Automotive Aftermarket Opportunity Areas

Automotive Aftermarket Opportunity Area, Latin America, 2021



Servicing Old Vehicle Parc

Majority of the vehicle parc is more than 10 years old; multiple replacement cycles for some parts challenge pricing alignment with TCO.



Newer Brands and Evolving Vehicle Type Preferences

Popularity of Chinese OEM brands and SUV body types have rejuvenated distributors and retailers which are replenishing stocks to meet future demand.



Personal Mobility Promoting Pre-Owned Car Sales

The preference for personal mobility over public transport augurs well for servicing pre-owned cars.



Fleet Vehicle Servicing

In Brazil, eCommerce grew by 50% YOY in 2020; such rapid increase will also lead to newer service opportunities for fulfillment fleets.



New Vehicle Technologies

While EVs constitute a small share of vehicle parc, the swiftly growing penetration of electronics in newer vehicles adds new demand pockets.



Source: Frost & Sullivan



Growth Opportunity Universe, 2021

Growth Opportunity 1: Online Sales of Replacement Parts and Accessories in 2021

Frost & Sullivan has identified 10 Growth Processes that serve as levers for determining and evaluating new Growth Opportunities.



Opp. Size in 5 Years	\$75–\$78 Billion	Relevant Industries for this Growth Opportunity			Applicable Regions	
Timeline for Action	4–5 Years	Industrial Automation	Commercial Mobility	Security	North America	South Asia
Base Year	2021	Environmental	Chemicals & Materials	Communications Tech	Latin America	Middle East
		Oil & Gas	Ag., Food & Nutrition	Information Tech	Cent/East Europe	European Union
		Building Technologies	Test & Measurement	Pharma & Biotech	Asia-Pacific	UK
		Consumer Electronics	Aerospace	Advanced Medtech	Africa	Japan
		Consumer Mobility	Defense	Fintech	China	Oceania

Source: Frost & Sullivan

Growth Opportunity 1: Online Sales of Replacement Parts and Accessories in 2021 (continued)

Context and Definition

- eRetailing of replacement parts and accessories refers to the online purchasing channel.
- COVID-19 triggered a rapid uptake of online retail channels and was not limited to aftermarket retail alone.
- Pandemic-induced restrictions further meant that most of the population was indoors at different points in time, therefore eCommerce rushed to the rescue.
- In the automotive aftermarket, the market grew by almost 23.7% YoY in 2020, as DIYers preferred to get parts delivered at home and work on their vehicles themselves, even as the overall aftermarket fell considerably in that year.

Call to Action

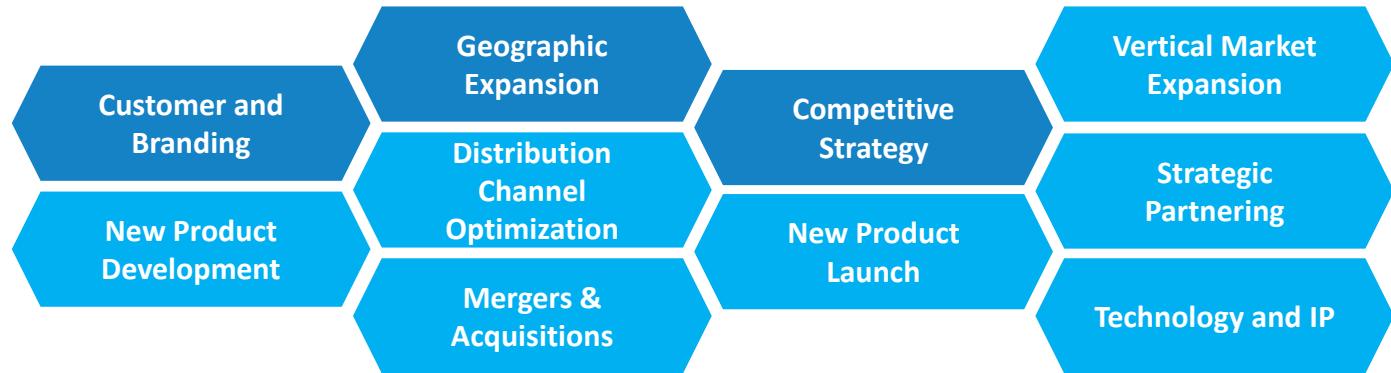
- The true test of any hypothesis around increased adoption of online channels will be in 2021 when offline retail opens up as business as usual.
- To leverage the heightened exposure to their websites, marketplace and pure-play operators will need to deliver on higher value to their customers by ensuring robust delivery and fulfilment mechanism.
- Though effective cataloguing can ensure customers have easy accessibility to required parts, it will mean lesser returns or fewer timely solutions.
- A large part of the focus in 2021 will be to digitize various aspects of the customer journey, all the way to fulfilment. This will be largely reliant on how best the existing offline infrastructure is used to support customers. Service aggregation and on-demand services should be largely complimenting this development.



Source: Frost & Sullivan

Growth Opportunity 2: ADAS Sensor Recalibration Services

Frost & Sullivan has identified 10 Growth Processes that serve as levers for determining and evaluating new Growth Opportunities.



Opp. Size in 5 Years	\$700–\$750 Million	Relevant Industries for this Growth Opportunity			Applicable Regions	
Timeline for Action	4–5 Years	Industrial Automation	Commercial Mobility	Security	North America	South Asia
Base Year	2020	Environmental	Chemicals & Materials	Communications Tech	Latin America	Middle East
		Oil & Gas	Ag., Food & Nutrition	Information Tech	Cent/East Europe	European Union
		Building Technologies	Test & Measurement	Pharma & Biotech	Asia-Pacific	UK
		Consumer Electronics	Aerospace	Advanced Medtech	Africa	Japan
		Consumer Mobility	Defense	Fintech	China	Oceania

Source: Frost & Sullivan

Growth Opportunity 2: ADAS Sensor Recalibration Services (continued)

Context and Definition

- The global automotive industry is striving to develop safer vehicles by continuously adopting advanced engineering measures. ADAS has been a primary focus area of the OEMs. These systems incorporate sensors at various locations in the vehicles and assist in driving.
- While a lot of the sensors come with long service life, even then these may require replacement/recalibration in the event of a collision or part replacement.
- There are various levels of ADAS in a vehicle, ranging from L0-L5, each with specific capabilities set and sensors fitted accordingly. Currently, the vehicles on road have L0-L1 capabilities.
- Sensor recalibration involves ensuring sensors work as desired and within specific limits of functionality.
- **Tire replacements, windshield replacements, and collision-related events** are some of the primary reasons for sensor recalibration in vehicles in operation.



Call to Action

- **Though most of the demand for such services is being fulfilled at the OE dealerships, IAM stands a chance in the medium-to-long term.**
- **This will come on the back of investments in upskilling the workforce with desired skills, and also in tools and equipment required for carrying out the service.**
- IAM will also need more access to data from these vehicle for effective re-calibration, and this requires industry's efforts to work with regulatory bodies.
- In order to compete with the captive OE service market, IAM also needs affordable access to the required tooling- opening up room for newer business models from tooling providers.
- For suppliers dependent on IC engine related portfolio, diversification into ADAS related sensors is also a sustainable way ahead.

Source: Frost & Sullivan

Growth Opportunity 3: New Product Categories Offer Additional Revenues

Frost & Sullivan has identified 10 Growth Processes that serve as levers for determining and evaluating new Growth Opportunities.



Opp. Size in 5 Years	\$2-\$2.5 Billion	Relevant Industries for this Growth Opportunity			Applicable Regions	
Timeline for Action	3-4 Years	Industrial Automation	Commercial Mobility	Security	North America	South Asia
Base Year	2020	Environmental	Chemicals & Materials	Communications Tech	Latin America	Middle East
		Oil & Gas	Ag., Food & Nutrition	Information Tech	Cent/East Europe	European Union
		Building Technologies	Test & Measurement	Pharma & Biotech	Asia-Pacific	UK
		Consumer Electronics	Aerospace	Advanced Medtech	Africa	Japan
		Consumer Mobility	Defense	Fintech	China	Oceania

Source: Frost & Sullivan

Growth Opportunity 3: New Product Categories Offer Additional Revenues (continued)

Context and Definition

- In-vehicle sanitization is a priority now. Workplace sanitization is also an equally measure that will ensure personnel safety, as will any other measure for controlling any infection.
- Last year saw a large number of companies coming out with sanitization solutions, particularly surface disinfectants for both in-vehicle use and for the workspace.
- A lot of distribution groups were seen getting into private labels, while chemical and paint manufacturers extended their product portfolio to include these chemical-based products.
- These products will stay in demand for the next 2 to 3 years, especially in shared mobility services.

Call to Action

- As shared mobility demand has been particularly dampened by COVID-19, service providers will have to work on customer confidence building. They will have to mitigate the threat of infection by building safer environments for the customer, which will open up opportunities for products, such as cabin filtration solutions, UV-disinfections, and personal protection equipment.
- Aftermarket products and services related to health, wellness, and wellbeing present a sizeable multibillion-dollar opportunity over the next 3 to 4 years.

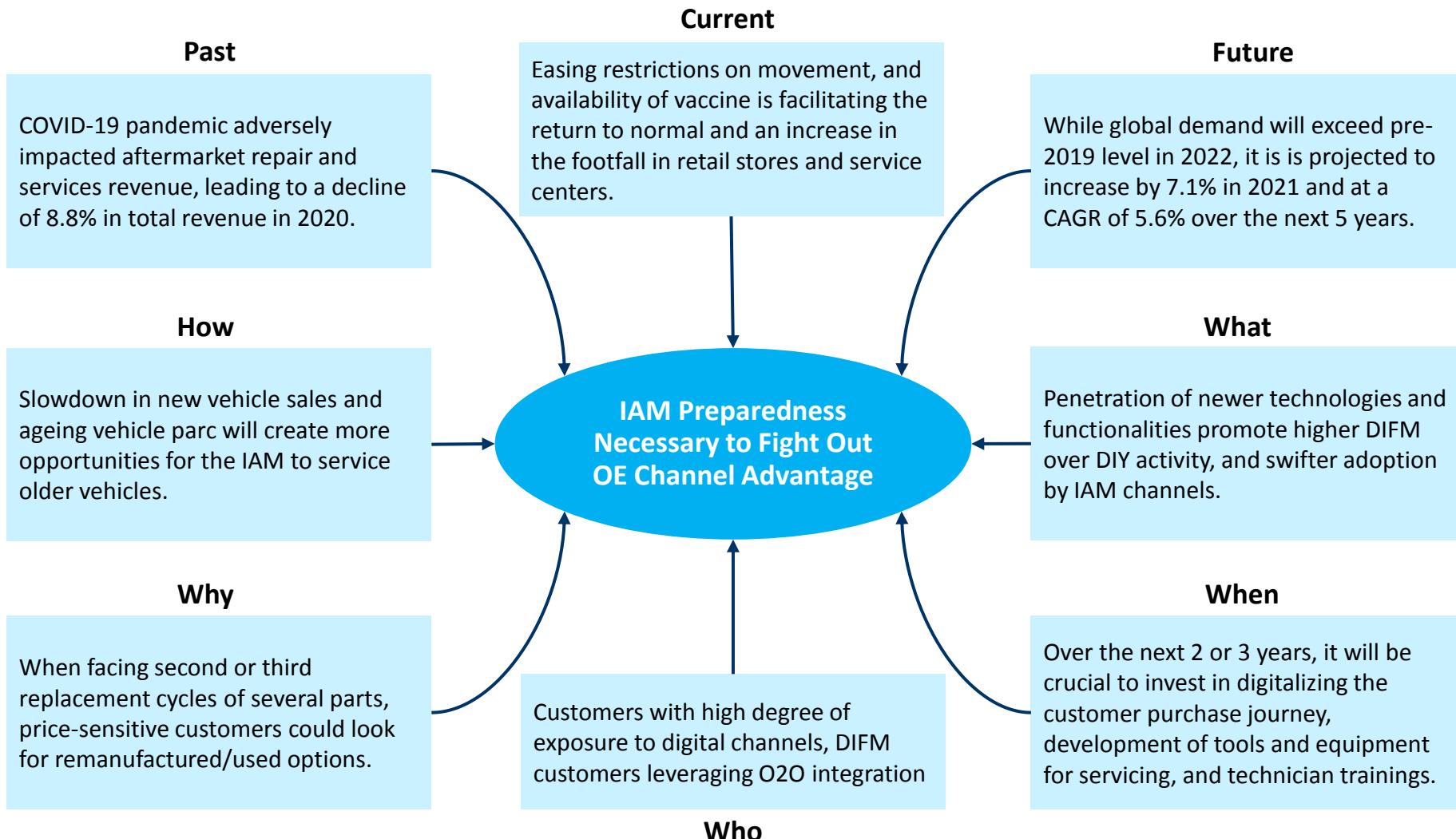


Source: Frost & Sullivan

Key Conclusions

Key Conclusions and Future Outlook

Automotive Aftermarket: Key Conclusions, Global, 2020–2021



Source: Frost & Sullivan

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