



Automotive Industry

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Industry Insights

Summer 2023



# Industry Highlights

## Overview

Globally, auto sales in 2023 are forecasted to grow modestly compared to 2022, but are expected to remain well below pre-pandemic levels.<sup>1,2</sup> The automotive industry had a slow start in the first half of 2022 as semiconductor shortages, persistent inflation, further COVID-19 lockdowns and Russia's war on Ukraine caused significant auto production cuts.<sup>3</sup> The auto industry is expected to continue its momentum after picking up speed in the second half of 2022 with the U.S., Chinese and European markets all experiencing a rebound in sales.<sup>2,4,5</sup>

Through the first quarter of 2023, global vehicle sales are up 12% as supply chain issues ease worldwide. Global light vehicle sales declined 0.5% in 2022 relative to 2021 as lingering supply chain constraints slowed sales in the first half of 2022.<sup>2</sup> In the U.S., light vehicle sales declined 9.4% year-over-year (Y-o-Y) to 13.7 million units in 2022.<sup>4</sup> U.S. vehicle sales are expected to grow to 14.6 million units, up 6.8% from 2022 but still below average levels.<sup>6</sup>

As of March 2023, the seasonally adjusted annual rate (SAAR) of Chinese auto sales was 26.3 million units.<sup>7</sup> In 2022, sales rose 10.2% to 23.2 million units.<sup>1</sup> As the world's largest electric vehicle (EV) market, nearly 35% of new vehicles sold in China are EVs.<sup>8</sup> New EV sales in China are expected to grow to eight million units this year.<sup>9</sup>

In Europe, sales in the first quarter of 2023 were strong, led by recoveries in Spain and Italy.<sup>5</sup> In 2022, strong increases in new passenger registrations in the second half of 2022 were not enough to offset the sluggish start to the year as annual registrations decreased 4.1% from 2021. Germany was the only major market to see registration growth last year.<sup>10</sup>

M&A activity in the automotive sector experienced a significant decrease in the second half of 2022 and first half of 2023 compared to the four years prior.<sup>11</sup>

Public company equity performance in the selected automotive indices trended upward in the first half of 2023, although the Automotive Aftermarket index underperformed the other groups and the overall market.<sup>11</sup>

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Executive Summary

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# Executive Summary



**Global Light Vehicle Sales For Q1 2023 Grew 12% Year-Over-Year<sup>2</sup>**

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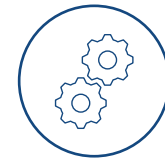
**U.S. Gas Prices Expected to Average \$3.50/gal in 2023, Down From Highs of \$5.02/gal in June 2022<sup>12, 13</sup>**

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**U.S Electric Vehicle Market Share is Over 8.0% for the First Three Months of 2023<sup>14</sup>**

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**The Automotive Supply Chain Has Shown Signs of Improvement<sup>3</sup>**

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**Global Auto Sales Expected to Rebound in 2023<sup>15</sup>**

# Global Auto Sales Trends

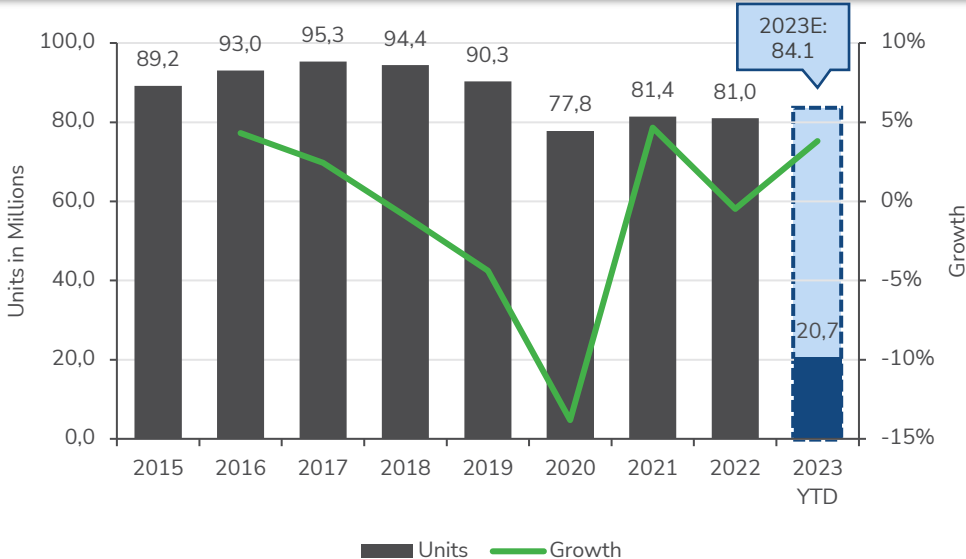
## Q1 2023 and 2022 in Review

Through March of 2023, global vehicle sales grew almost 12% year-over-year (Y-o-Y). Semiconductor and other supply shortages moderated across many regions. Chinese customers rushed to buy new cars before certain tax incentives ended in April, and Western European markets rose year-over-year for the first time since the start of Russia’s war on Ukraine in 2022.<sup>2,7</sup>

Global car sales were flat in 2022 compared to 2021 at around 81 million units.<sup>2</sup> China, the largest market in the world, and India were the only major markets to grow in 2022. Across other geographies, Japanese sales decreased 6%, the Brazilian market was relatively flat, and Russian sales plummeted by nearly 60%.<sup>1</sup>

Globally, vehicle sales are projected to increase 3.8% for 2023. China’s growth is expected to moderate due to changing vehicle purchase taxes, the United States market is expected to rebound from a ten-year low point, and the European market may improve off a low sales comparison despite energy shortages and the ongoing Russia’s war on Ukraine.<sup>15</sup>

### Q1 2023 Global Vehicle Sales



### 2022 Global Best-Selling Brands

Rank	Group	Major Brands	% of 2022 Market Share
1.	Toyota Group	TOYOTA, LEXUS	13.0%
2.	Volkswagen Group	VW, Audi, PORSCHE	10.2%
3.	Hyundai-Kia	HYUNDAI, KIA, GENESIS	8.7%
4.	Renault Nissan Alliance	NISSAN, RENAULT, MITSUBISHI	8.2%
5.	Stellantis	PEUGEOT, DODGE, Jeep	8.2%

Sources: LMC Automotive Public Data, World Car Manufacturers Ranking 2022, Focus2Move, February 23, 2023. All trademarks, trade names, or logos referenced herein are the property of their respective owners.

# Gas Prices and Electric Vehicles

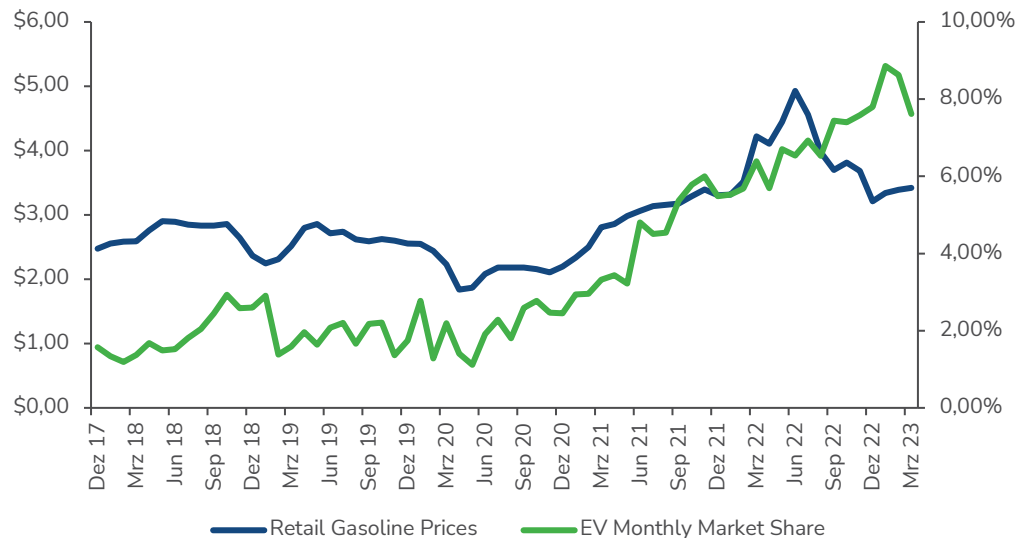
## Q1 2023 and 2022 in Review

Gas prices fluctuated wildly throughout 2022 and early 2023 as electric vehicles (EVs) gained significant market share and oil supplies declined.

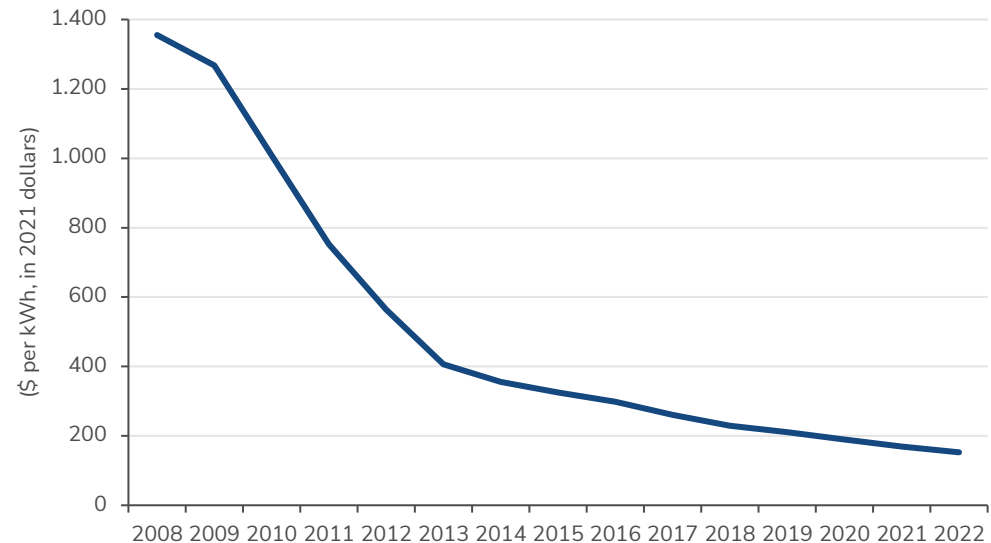
To start 2023, fuel prices moderated and fell below \$3.50 per gallon, but remain higher than 2017–2020 averages.<sup>16</sup> The U.S. Energy Information Administration forecasts gasoline prices to average \$3.50 per gallon throughout the summer season.<sup>13</sup> Fuel prices in 2022 were the highest ever recorded as Russia’s war on Ukraine and subsequent international sanctions helped drive up fuel prices in the first half of the year. The 20.0% price increase in March 2022 was the largest month-over-month gain ever.<sup>17</sup> Later, fuel costs in the U.S. spiked on June 14 with an all-time high national-average price of \$5.02 per gallon.<sup>12</sup>

As gas prices rose throughout 2021 and 2022, EV market share steadily rose, eventually eclipsing 8.0% in 2023. That marks a notable increase to the EV market share in the United States that remained relatively consistent around 1.5–2.5% from December 2017 to December 2020. Along with higher fuel prices, the EV market share has been further buoyed by the continued drop in battery pack costs which, along with various tax breaks for buyers, has helped lower the cost of buying an EV.<sup>14,18</sup>

Gas Prices vs. EV Market Penetration



EV Lithium-Ion Battery Pack Costs



Sources: Analysis: Boosting EV Market share to 67% of new sales is a Huge Leap, but Automakers Can Rise to the Challenge. PBS. April 15, 2023. U.S. Energy Information Administration

# Supply Chain Update

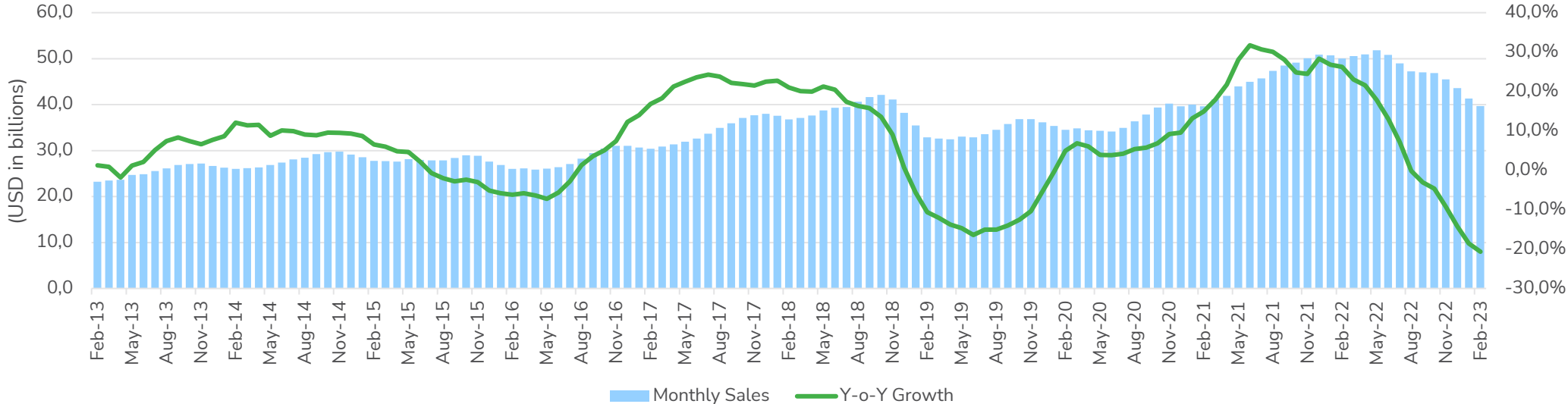
## Q1 2023 and 2022 in Review

While some semiconductor shortages are expected to persist into 2023 and 2024, supply is expected to improve. Global sales are lower to start 2023 compared to 2022, but 80% of global semiconductor executives believe supply shortages will ease by the end of the year. Further, 70% of executives believe there will be a surplus of semiconductors by 2024 or earlier.<sup>19</sup>

The number of vehicles cut from worldwide production plans due to chip shortages is expected to drop to 2.8 million vehicles in 2023, a decrease of 36% compared to 2022.<sup>20</sup> The auto industry saw increased chip supply in the second half of 2022 due to weakness in other end markets like consumer electronics.<sup>3</sup> European production has had the slowest recovery compared to North America and China due to the added impact of Russia's war on Ukraine.<sup>3</sup>

Newer cars, especially EVs, need more chips and computing power to operate. Due to this increasing reliance on high end semiconductors, in 2023, chip makers have ranked the automotive sector as the most important revenue driver for the first time.<sup>19</sup>

### Global Semiconductor Sales



Source: Semiconductor Industry Association

# Mobility Update

## Q1 2023 and 2022 in Review

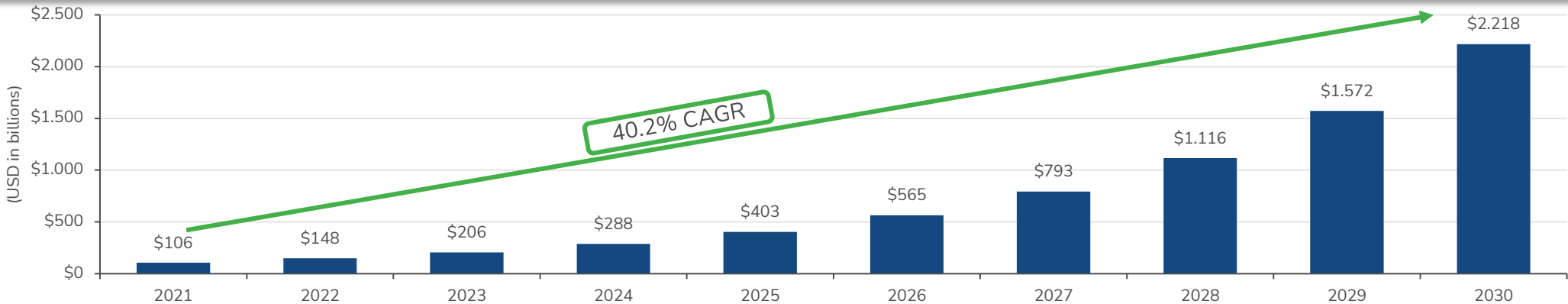
**Uber 10-Year Deal with Motional for Robotaxi Service:** In late 2022, Uber started investing back into the autonomous vehicle (AV) space with a deal with Hyundai and Aptiv’s joint venture Motional. The deal comes two years after Uber sold its autonomous research division. The ambitious partnership has hopes of becoming the largest deployments of AVs on a ride-hailing network in the world. Motional also operates autonomous taxis for Lyft.<sup>21</sup>

**Autonomous/Driverless Market Growth:** The autonomous car market is expected to grow from \$148 billion in 2022 to around \$2.2 trillion in 2030, detailed below. The rise in the development of “smart cities” is expected to be a key driver of growth in the market. A study concluded that using a network of driverless cars could lead to a decrease of up to 90% in traffic accidents, thus improving the safety of many roads. Several countries, including the U.S. and Canada, are deploying digital infrastructure to promote these driverless networks in order to reduce traffic congestion and improve overall road safety.<sup>22</sup>

**Malware and Cybersecurity Threats:** The emergence of certain types of malware specifically targeting EVs has been increasing since 2019 at a rapid pace. In the past, many malware attacks were targeted at government institutions, but the scope has broadened to include automotive companies such as Tesla, Honda, Nissan and Toyota. Ransomware payments from industrial companies totaled around \$6.9 million in 2019 and increased to around \$20 billion by 2020. These bribes are expected to surpass \$50 billion by the end of 2023.<sup>23</sup>

**Urban Air Mobility Advancement:** In March 2023, United Airlines and Archer Aviation announced the first commercial electric air taxi route in Chicago between O’Hare Airport and the Illinois Medical District near the Chicago Loop, to launch in 2025. <sup>24</sup> This represents a significant advancement in a highly competitive sector.

### Projected Global AV Market Size



Source: Next Move Strategy Consulting



# North American Auto Sales Trends

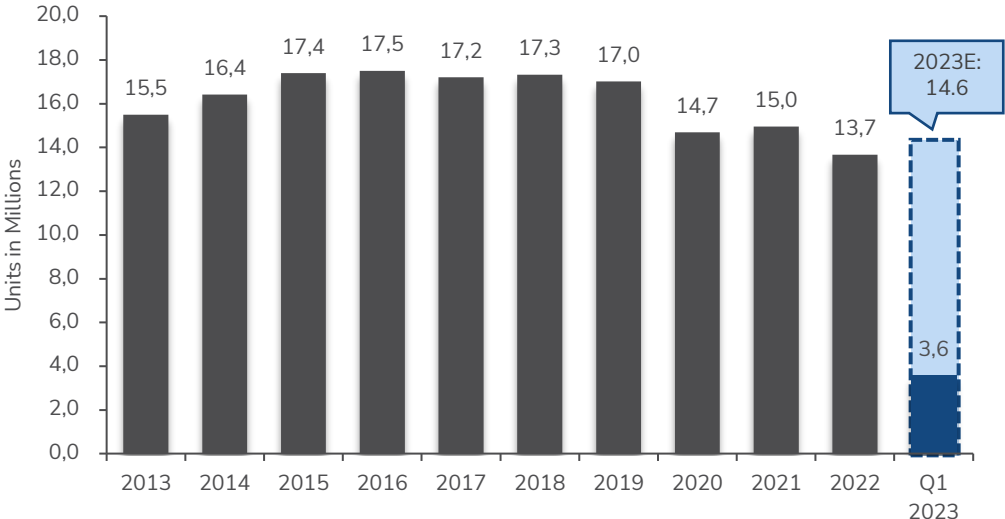
## Automotive Landscape by Geography

Through March 2023, sales grew 8.4% Y-o-Y. As predicted, inventory levels are improving and transaction prices are falling through the first three months of the year.<sup>2</sup> Inventories are expected to continue to improve through the rest of 2023 and sales in 2023 are forecasted to grow to 14.6 million units, an increase of 6.8% compared to 2022 but still below historical averages.<sup>6</sup>

In 2022, the United States' new light-vehicle sales hit 13.7 million units. This is a 9.4% decline from 2021 and is the lowest sales total in over a decade.<sup>4</sup> Lower sales were partly caused by lingering chip shortages and supply chain issues that didn't allow inventories to recover as quickly as once thought.

Over the past year, pickup trucks and SUVs continue to dominate the U.S. market. The top three selling vehicles in the U.S. in 2022 were pickup trucks, and the Toyota Camry was the only non-SUV or pickup truck in the top ten.<sup>25</sup> While still a small percentage of overall sales, EV sales nearly doubled from 2021 to 2022. In 2022, hybrids, plug-in hybrids, and battery EVs accounted for 12.3% of all new vehicles sold, compared to 9.6% in 2021.<sup>6</sup>

Q1 2023 U.S. Vehicle Sales



2022 U.S. Best-Selling Vehicles

Rank	Model	Make	Units Sold	Change From 2021
1.	Ford F-Series		653,957	-9.9%
2.	Chevrolet Silverado		520,963	-1.7%
3.	Ram Pickup		468,344	-17.8%
4.	Toyota RAV4		366,741	-10.1%
5.	Toyota Camry		295,201	-5.9%

Sources:  
 "US Auto Industry Sales Analysis." Good Car Bad Car. March 2022.  
 "US Auto Sales by Model Analysis." Good Car Bad Car. January 2023.  
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# Chinese Automotive Landscape

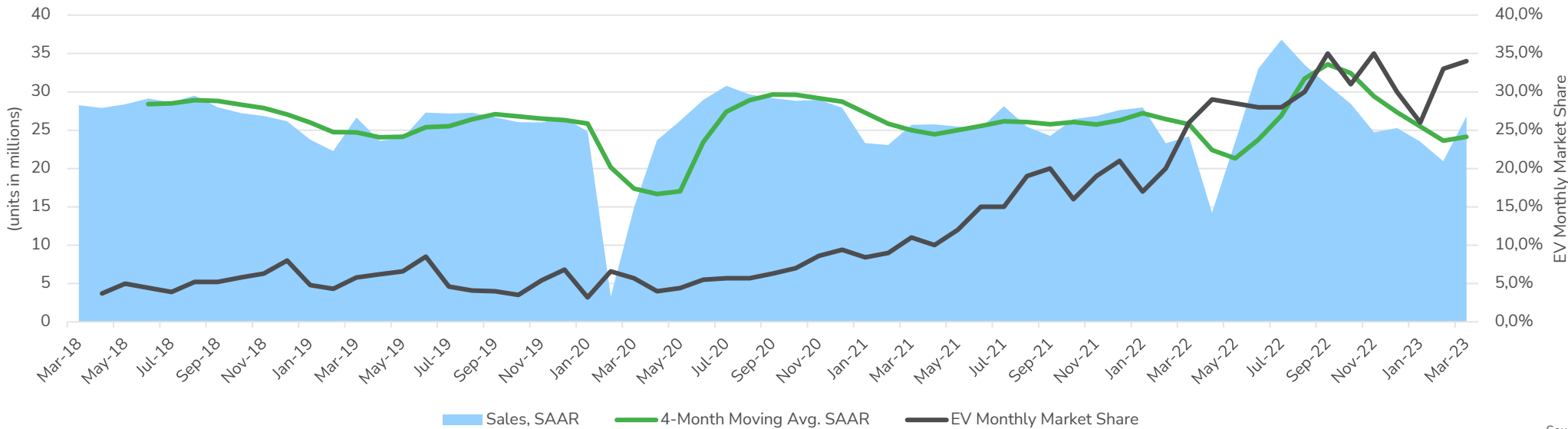
## Automotive Landscape by Geography

Chinese automotive sales in March 2023 increased to 26.8 million seasonally adjusted annualized rate (SAAR), or 11% Y-o-Y growth. Many OEMs cut prices amid the sales decline, leading to a sales jump in March 2023. Additionally, new exhaust standards will be implemented on July 1, 2023, which may help accelerate sales in the short term as dealerships will not be able to sell some cars after that date.<sup>7</sup>

China continues to be the largest car market in the world, with nearly as many sales in 2022 as Europe and the U.S. combined. Sales in the first quarter of 2022 were sluggish as COVID-19 lockdowns hampered demand and slowed production, but growth strengthened in the second half of the year.<sup>1</sup> In December 2022, two major tax incentives to purchase EVs were terminated, leading to a surge in sales at the end of 2022 and weaker sales to start 2023.<sup>7</sup>

In February 2023, the top three selling cars in China were either fully electric or hybrid EVs. EV sales increased 62% Y-o-Y<sup>7</sup> and now account for almost 35% of passenger vehicle sales.<sup>8</sup> Currently, China accounts for nearly 59% of the global EV sales volume, with EV sales expected to exceed 8 million units in 2023.<sup>9</sup>

Chinese Seasonally Adjusted Annualized Auto Sales



Sources:  
LMC Automotive Public Data  
Clean Technica

# European Automotive Landscape

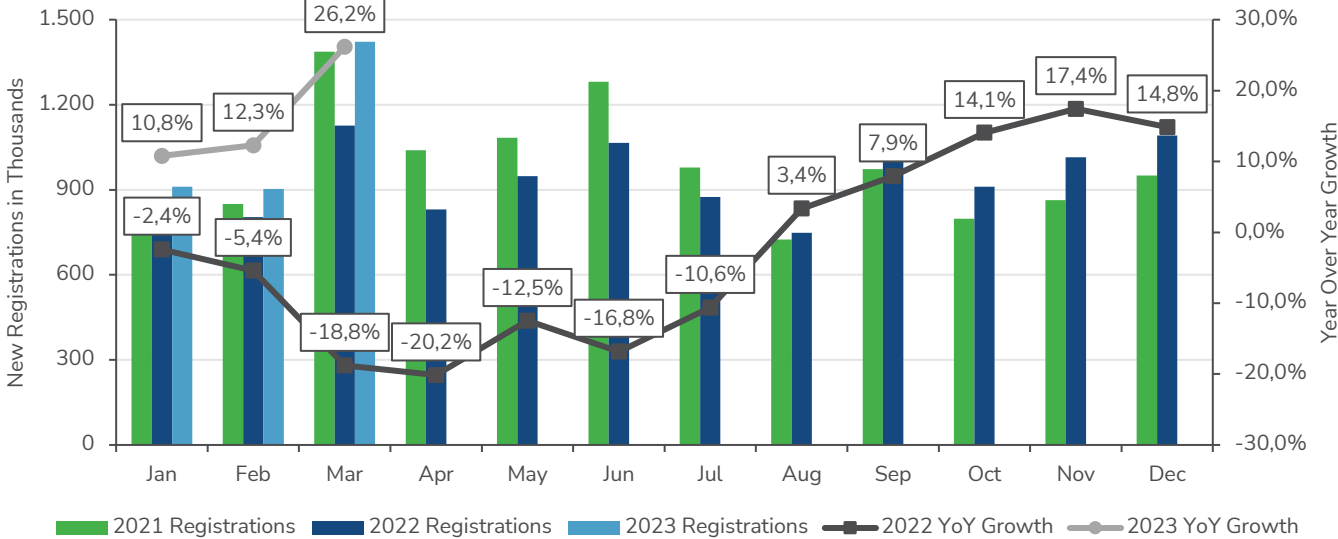
## Automotive Landscape by Geography

Through the first three months of 2023, car registrations were up 17.5% in the EU, EFTA and UK combined compared to 2022, with Spain and Italy seeing the largest gains.<sup>5</sup> While European auto sales are expected to increase in 2023, many analysts see continued headwinds such as persisting supply chain constraints, high inflation, market uncertainty and tightening financial conditions. 2023 registrations are still expected to be 20% below the pre-COVID-19 pandemic 2015 to 2019 average.<sup>26</sup>

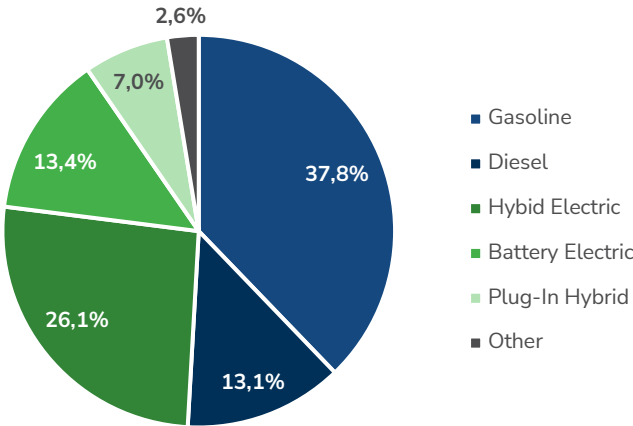
In 2022, new car registrations in the EU, EFTA and UK were 11.3 million, down 4.1% from 2021. Three of the EU's four largest markets declined Y-o-Y, with Italy, France and Spain declining 9.7%, 7.8% and 5.4% respectively. Germany was the only major market to grow from 2021, posting a modest 1.1% increase in registrations. The European market saw declines mainly due to lingering component shortages in the first half of the year. These issues appear to be easing as registrations grew Y-o-Y for five consecutive months to end 2022.<sup>10</sup>

Despite the overall decline in registrations for cars in 2022, registrations of battery EVs grew 29.3% in the EU, EFTA and UK combined. While EV's are growing at a much faster pace, traditional gasoline and diesel cars still account for over half of registrations in Europe.<sup>10</sup>

European Monthly Auto Registrations



YTD March 2023 Fuel Types of New Cars



Source: The European Automobile Manufacturers' Association (ACEA)

Note: Monthly registrations represent new passenger car registrations in the European Union, European Free Trade Association, and the United Kingdom

# Public Company Equity Performance

## Public Company Trading Statistics

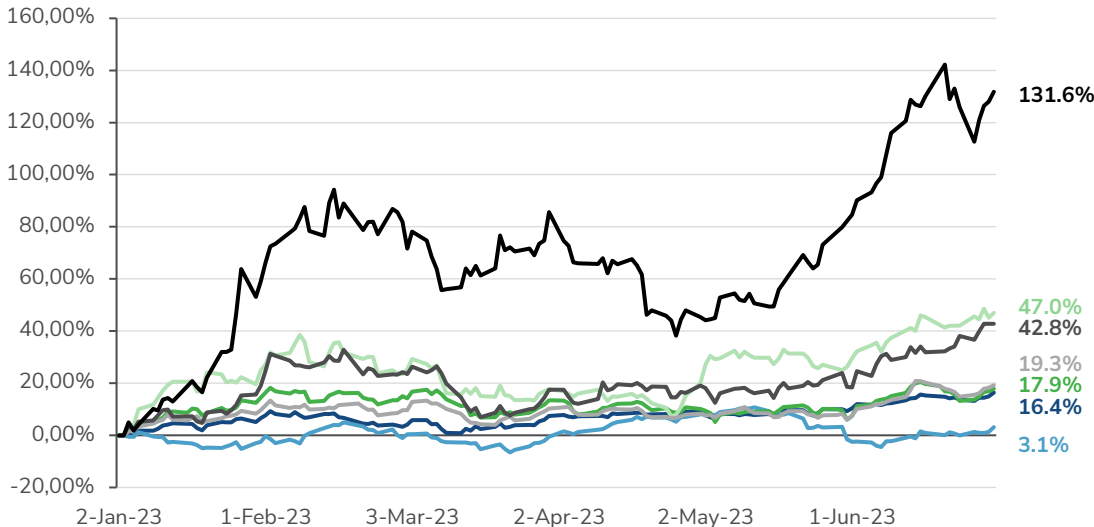
In the first half of 2023, most indices outperformed the S&P 500. The EV index was the largest gainer, up 131.6%. Automotive Aftermarket Parts and Repair was only up 3.1%, while the rest of the automotive indices gained between 17% and 47%, outperforming the S&P 500 gain of 16.4% during that same time period.<sup>11</sup>

Over the past two years, the automotive indices varied significantly in performance. Automotive Mobility declined 47.5%, driven largely by declines in ride-sharing companies. Automotive Suppliers and OEMs ended the period down 24.8% and 16.8% respectively. The EV index substantially followed Tesla's stock with strong performance in the second half of 2021, followed by a gradual decline, ending the period up 7.6%. Automotive Dealers finished with a 14.4% gain. The Automotive Aftermarket Parts and Repair index significantly outperformed all other automotive indices and the S&P 500, ending the period up 45.0%.<sup>11</sup>

Last Two Years Equity Market Performance



H1 2023 Equity Market Performance



— S&P 500 — Automotive Aftermarket Parts and Repair — Automotive Suppliers — Automotive Mobility — Automotive OEMs — Automotive Dealers — Electric Vehicles

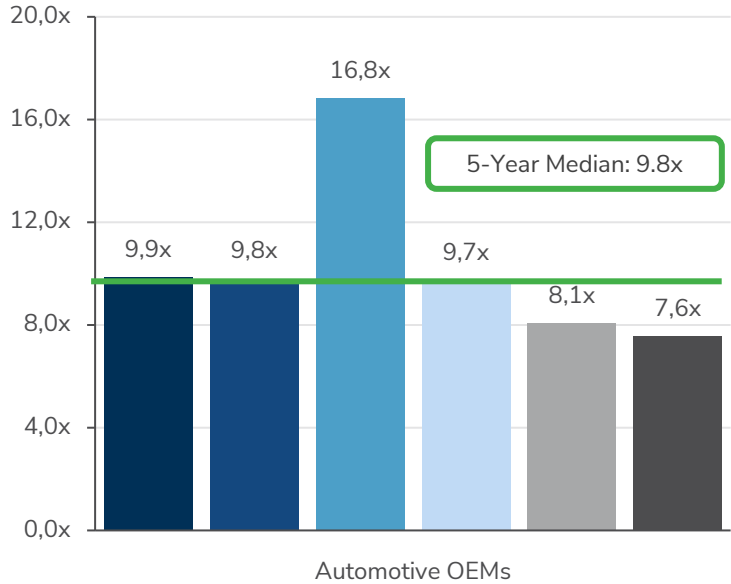
Note: Represents the most actively traded public automotive sector companies  
Source: S&P Capital IQ as of June 30, 2023

# Historical Trading Multiples

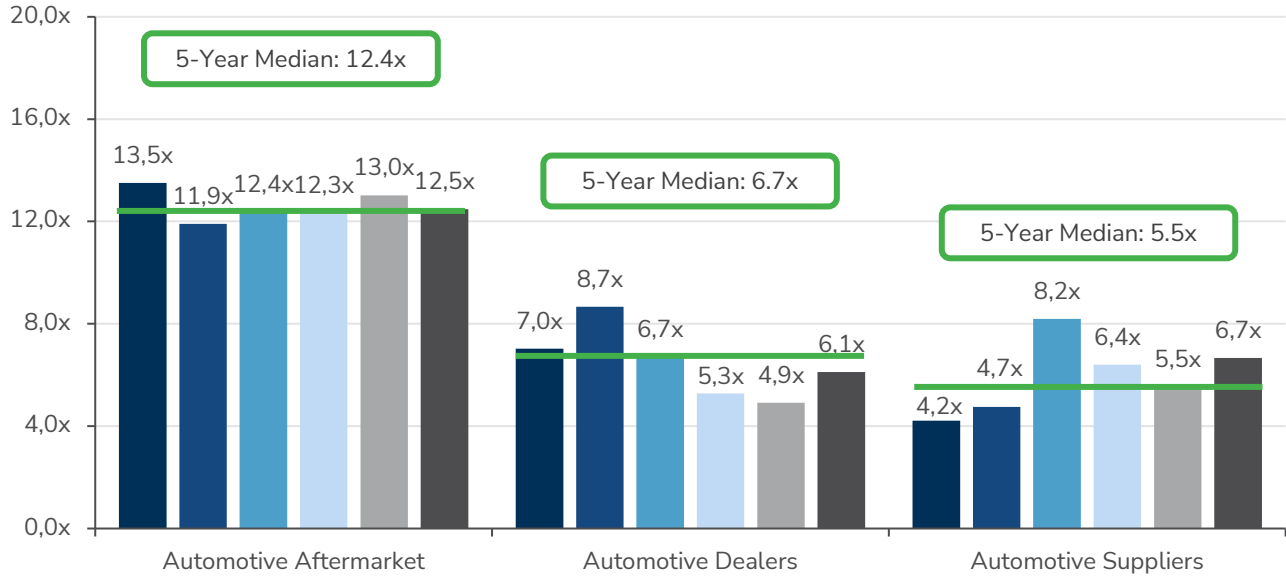
## Public Company Trading Statistics

The Automotive OEMs are trading at 7.6x LTM EPS, down over 2.0x from their five-year median price-to-earnings (P/E) multiple of 9.8x. The Automotive Aftermarket Index is currently trading in line with their five-year median EV/EBITDA multiple. Historically, the Aftermarket Index has consistently traded around 12.0x to 13.5x EV/EBITDA. Automotive Dealer multiples have decreased in recent years, currently trading at 6.1x, down from 8.7x in 2019. Automotive Suppliers are trading above their five-year median multiple of 5.5x.<sup>11</sup>

Historical P/E Multiples Since 2018



Historical EBITDA Multiples Since 2018



■ FY2018 ■ FY2019 ■ FY2020 ■ FY2021 ■ FY2022 ■ LTM as of 6/30/23

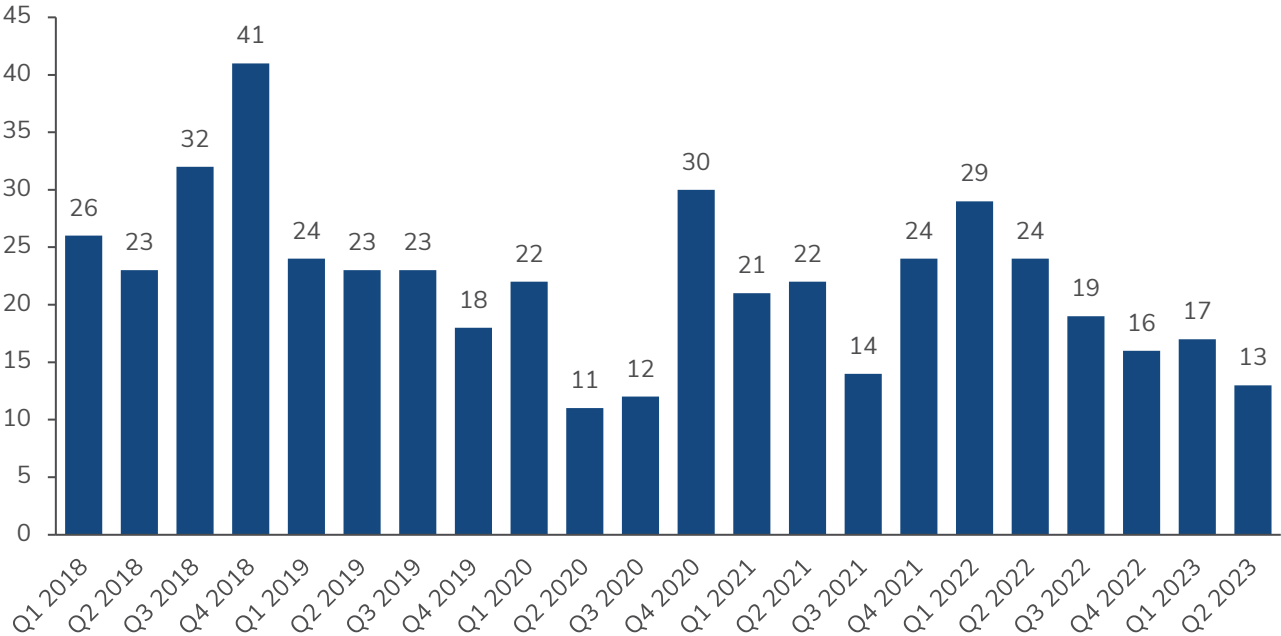
Note: Multiples have been adjusted historically to reflect corresponding adjustments made in the Automotive Valuation Deck on pages 3-7  
 Source: S&P Capital IQ as of June 30, 2023 and company filings

# Historical M&A Activity by Quarter

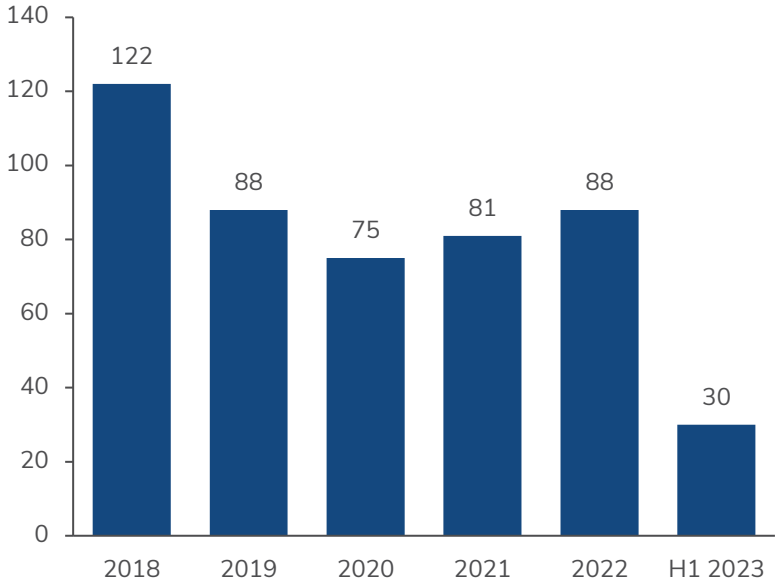
## M&A Activity

M&A activity in the automotive sector has remained relatively consistent over the last two years, with between 13 to 29 deals happening each quarter since Q1 2021. Deal activity slowed in 2020 due to concerns from COVID-19, but volume bounced back in 2021 and 2022. As interest rates increased throughout 2022 and 2023, deal volume slowly fell, culminating with only 30 transactions completed in the first half of 2023. That represents the second lowest six-month period by deal volume in the last five years, second only to Q2 and Q3 of 2020.<sup>11</sup>

**Automotive Industry Quarterly M&A**



**Automotive Industry Yearly M&A**



Note: All transactions with available target financials  
Source: S&P Capital IQ

# Notable Industry M&A Transactions

## M&A Activity



# Select Kroll Automotive Transaction Experience

## Fairness Opinion

Fenix Parts, Inc. has been acquired by **Stellex Capital Management LP**.



Financial advisor to the board of directors of Fenix Parts Inc.

## Solvency Opinion

American Trailer World Corp., a portfolio company of **Bain Capital, LP**, has completed a leveraged dividend recapitalization transaction.



## Solvency Opinion

Airxcel, Inc., a portfolio company of **L Catterton**, has completed a comprehensive reorganization transaction.



## Solvency Opinion

JHT Holdings, Inc. has completed a leveraged dividend recapitalization transaction.



Financial advisor to the board of directors of JHT Holdings, Inc.

## Expert Opinion

**BMW Group (XTRA:BMW)** and **Daimler AG (XTRA:DAI)** agreed to combine their mobility services business units in a newly formed, equally-owned joint venture to shape sustainable urban mobility of the future.



Independent financial advisor to BMW Group and Daimler AG in connection with the transaction.

## Fairness Opinion

eHi Car Services Limited was acquired by a consortium of investors including its chairman, **MBK Partners Fund IV, L.P.**, and **Baring Private Equity Asia Limited**.



Financial advisor to the special committee of independent directors of eHi Car Services Limited.

## Fairness Opinion

SORL Auto Parts, Inc. (NasdaqGM:SORL) has been acquired by an insider-led consortium in a going private transaction.



Financial advisor to the special committee of independent directors of the board of directors of SORL Auto Parts, Inc.

## Solvency Opinion

KAR Auction Services, Inc. (NYSE:KAR) has completed the spin-off of **IAA, Inc.**



Financial advisor to the board of directors of KAR Auction Services, Inc.



# Select Kroll Automotive Transaction Experience

**Fairness Opinion**

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Atlas Crest Investment Corp. entered into a business combination agreement with Archer Aviation.



Financial advisor to the board of directors of Atlas Crest Investment Corp.

**Solvency Opinion**

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Cap-Con Automotive Technologies Ltd., a portfolio company of **The Jordan Company**, has completed a leveraged dividend recapitalization transaction.



Financial advisor to the board of directors of Cap-Con Automotive Technologies Ltd.

**Solvency Opinion**

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Chassis Brakes International B.V., a portfolio company of **KPS Capital Partners, LP**, has completed a leveraged dividend recapitalization transaction.




Financial advisor to the board of directors of Chassis Brakes International B.V.

**Fairness Opinion**

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Johnson Controls Inc. has sold its Power Solutions business to **Brookfield Business Partners L.P.**



Financial advisor to the board of directors of Johnson Controls Inc.

**Solvency Opinion**

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AxleTech International, LLC, a portfolio company of **The Carlyle Group**, has completed a leveraged dividend recapitalization transaction.



Financial advisor to the board of directors of AxleTech International, LLC.

**Solvency Opinion**

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Chassis Inc. has completed a leveraged dividend recapitalization transaction.




Financial advisor to the board of directors of Chassisx Inc.

**Fairness Opinion**

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UQM Technologies Inc. has sold newly issued common shares to **Hybrid Kinetic Group Ltd.**



Financial advisor to the board of directors of UQM Technologies Inc.

**Solvency Opinion**

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Tekfor Global Holdings Ltd., a portfolio company of **Kohlberg Kravis Roberts & Co.**, has completed an internal restructuring.



Financial advisor to the board of directors of Tekfor Holding Germany GmbH.

# Sources

1. "2022 (Full Year) International: Worldwide Car Sales." Best-Selling-Cars. February 2, 2023.
2. "Global Light Vehicle Sales Update." LMC Automotive Public Data. April 2023.
3. "Supply chain issues and autos: When will the chip shortage end?" JP Morgan. April 18, 2023.
4. "US Auto Industry Sales Analysis." Good Car Bad Car. April 2023.
5. "New car registrations: +28.8% in March; battery electric 13.9% market share." European Automobile Manufacturers' Association (ACEA). April 19, 2023.
6. "NADA Issues Analysis of 2022 Auto Sales and 2023 Sales Forecast." National Automotive Dealers Association. January 11, 2023.
7. "China Light Vehicle Sales Update." LMC Automotive Public Data. April 2023.
8. Pontes, Jose. "China EV Sales Report" CleanTechnica. May 1, 2023.
9. "One in Four Cars Sold in China in 2022 Was an EV with BYD Powering Country's Outperformance." Counterpoint Research. March 15, 2023.
10. "Passenger car registrations: -4.6% in 2022; +12.8% in December." European Automobile Manufacturers' Association (ACEA). January 18, 2023.
11. S&P Capital IQ. June 30, 2023.
12. Isidore, Chris. "Gas prices had a wild ride this year, making 2023 tough to predict." CNN. December 29, 2022.
13. Snider, Mike. "Gas prices are down but projected to rise again. How much will gas cost in 2023?" USA Today. December 28, 2022.
14. "Light Duty Electric Drive Vehicles Monthly Sales Updates." Argonne National Laboratory. May 2023
15. Trendforce. "Global Car Sales Projected to Rebound in 2023." EE Times. February 14, 2023.
16. "U.S. Regular All Formulation Retail Gasoline Prices." U.S. Energy Information Administration. April 17, 2023.
17. "Record Breaking Increases in Motor Fuel Prices in 2022. Bureau of Transportation Statistics. August 18, 2022.
18. Jenn, Alan. "Analysis: Boosting EV market share to 67% of new sales is a huge leap, but automakers can rise to the challenge." PBS. April 15, 2023.
19. "2023 KPMG Global Semiconductor Industry Outlook." KPMG. February 2023.
20. "Production Cuts Increase as Chip Shortage and Supply Chain Issues Persist." Alvarez & Marsal. March 22, 2023.
21. Hawkins, Andrew. "Uber is back in the robotaxi game after signing 10-year deal with Motional." The Verge. October 6, 2022.
22. "Autonomous Cars Global Market Report 2023." Business Research Company. February 2023.
23. "Ransomware: The Cyber Attacks on the Automotive Industry." Otorio. February 9, 2021.
24. "United Airlines and Archer Announce First Commercial Electric Air Taxi Route in Chicago." Archer Aviation Investor Relations. March 23, 2023.
25. "US Auto Sales by Model Analysis." Good Car Bad Car. January 2023.
26. Lehne, Henner. "Europe Sales and Production Commentary – February 2023." S&P Global Mobility. March 3, 2023.



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### About Kroll

As the leading independent provider of risk and financial advisory solutions, Kroll leverages our unique insights, data and technology to help clients stay ahead of complex demands. Kroll's global team continues the firm's nearly 100-year history of trusted expertise spanning risk, governance, transactions and valuation. Our advanced solutions and intelligence provide clients the foresight they need to create an enduring competitive advantage. At Kroll, our values define who we are and how we partner with clients and communities. Learn more at [www.kroll.com](http://www.kroll.com).

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