Mobility Global

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The Insurance Outlook for Electric and Autonomous Vehicles 2026 and Beyond

Executive Summary

The global auto insurance market is undergoing structural transformation. Electrification, automation, and software-defined vehicle architectures are reshaping how vehicles are built and insured, changing how risk is measured and priced across the industry.

Electric powertrains and advanced driver-assistance systems are becoming mainstream, yet adoption remains uneven. Battery-electric vehicles (BEVs) have grown more slowly than expected as incentives phase out and cost barriers persist, while hybrids are regaining momentum as a practical bridge between efficiency and affordability. Automation continues to advance through incremental gains, pushing the boundary between driver supervision and system control.

These shifts carry direct consequences for insurers. Electrification raises repair costs and total-loss likelihood, automation reduces crash frequency but complicates liability, and software-defined architectures introduce evolving performance and risk through over-the-air updates.

Together, these forces are creating a more data-intensive environment. Rising repair costs, supply chain strain, and evolving regulation are pressuring margins, even as richer vehicle and telematics data offer new opportunities for underwriting precision.

The following analysis draws on insights from the recent webinar on the 2026 EV and AV insurance landscape, supported by Mobility Global and Market Intelligence research. Core datasets — including the Sales-Based Powertrain (SBPT) Forecast, Autonomy Forecasts, and VINtelligence — provide the foundation for understanding how electrification and automation will shape risk and opportunity through 2026 and beyond.

Electrification Outlook and Fleet Transformation

Electrification remains one of the most consequential shifts steering both the automotive and insurance sectors. Its pace and form will determine how quickly repair costs, claims structures, and risk models evolve across the fleet. This section examines how the transition from internal combustion to hybrid and battery-electric propulsion is unfolding, what it means for vehicle characteristics such as weight and cost, and how these shifts influence underwriting assumptions.

Transition Dynamics

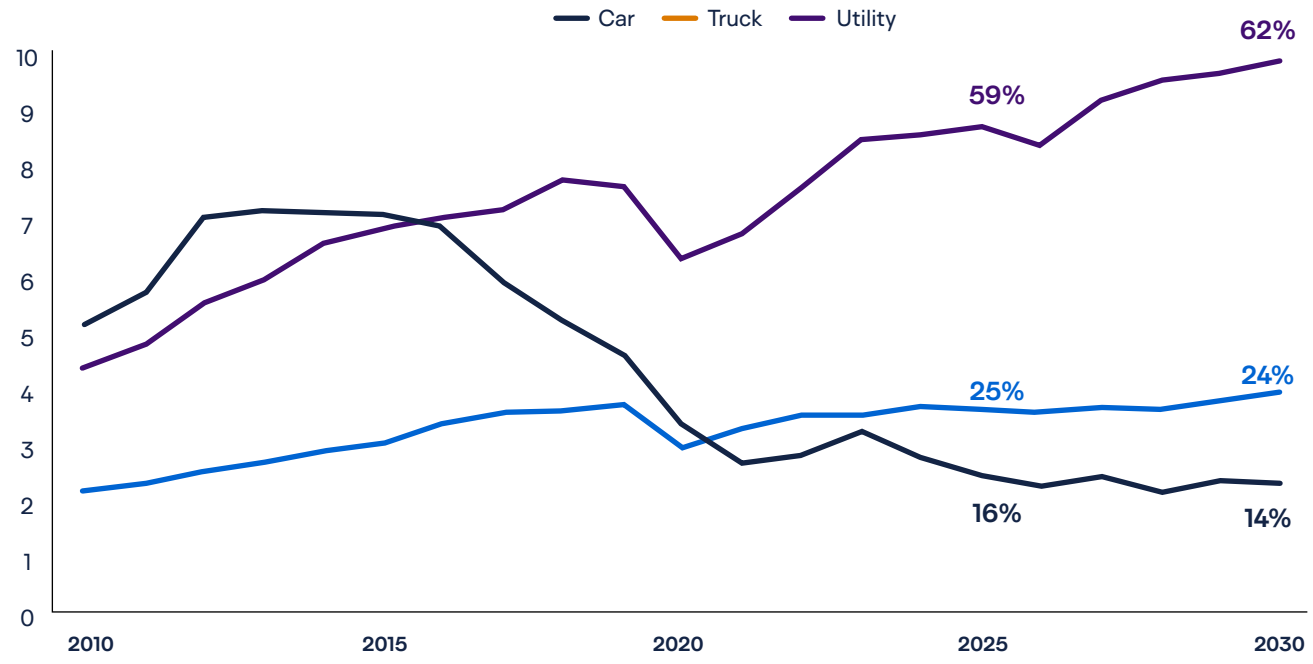
The path to electrification is proving more gradual than originally forecast. Early projections of a rapid shift to BEVs have been tempered by cost realities, infrastructure constraints, and the expiration of key purchase incentives. This moderation has brought hybrids back into focus as both automakers and consumers seek a more practical midpoint between efficiency and affordability.

Hybrids, both full and plug-in, are now positioned as critical bridge technologies. OEMs are leveraging established ICE platforms with electrified enhancements to meet emissions targets while maintaining production scale and profitability. Consumers are drawn to hybrids for their improved fuel economy and lower cost premium relative to BEVs, while also not requiring any changes in consumer behavior.

The **SBPT Forecast** indicates that while BEV sales will continue to rise, hybrid volumes will account for most near-term growth. This diversification across powertrains is altering the fleet profile entering the insured market.

Figure 1. U.S. Light Vehicle Powertrain Mix, 2025–2030

Source: Mobility Global Sales-Based Powertrain Forecast

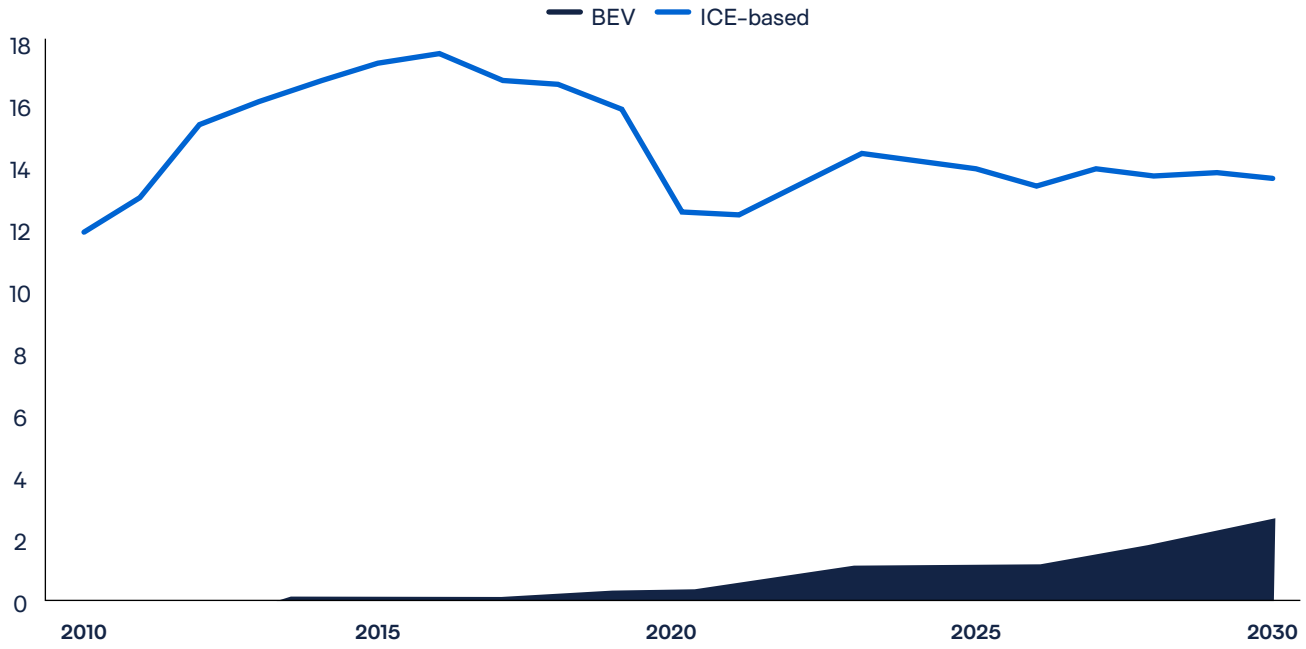


Vehicle Weight and Cost Implications

Electrification is reconfiguring both the composition and physical profile of the North American fleet. BEV output is projected to rise steadily through 2035 while internal-combustion production declines more gradually.

Figure 2. North America Powertrain Mix Forecast, 2025–2035

Source: Mobility Global, Q3 2025 Powertrain Forecast



Utility vehicles and pickups will dominate this transition. Their electrified versions require large-format batteries and reinforced structures that add significant mass, pushing average new-vehicle weights beyond 4,600 pounds in many model years. Greater mass increases crash energy and, in turn, average repair costs, particularly when high-voltage systems or sensor arrays are involved.

Eric Anderson outlines how average vehicle weight is rising above 4,600 lbs and why that shift—driven by electrified SUVs and pickups—directly affects cost structures.

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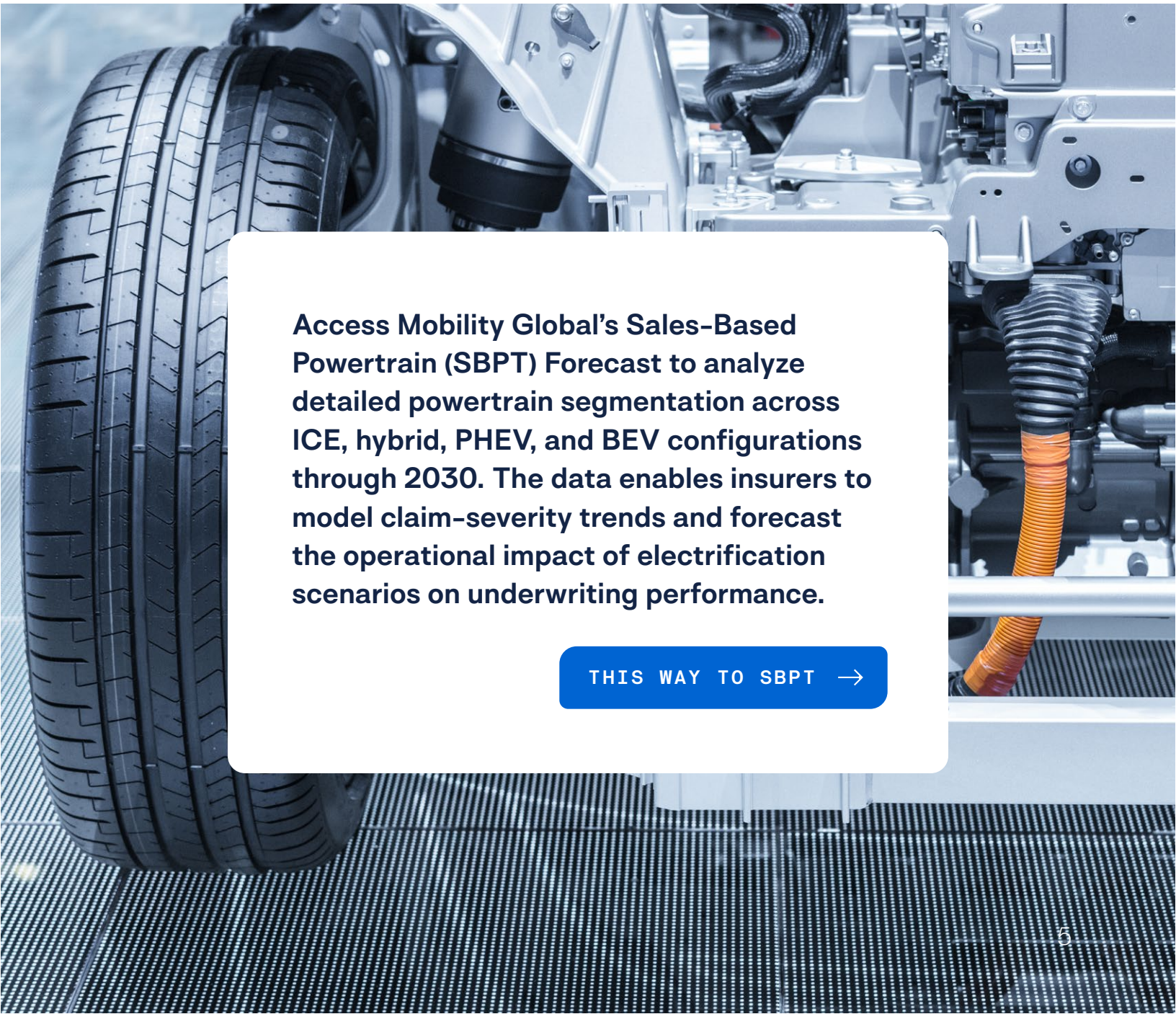
Insurers are now observing this duality: vehicles are safer and crashes less frequent, yet each incident carries more cost. Managing this divergence between lower frequency and higher severity is central to sustaining portfolio performance through the decade.

What else you should consider:
Beyond direct repair cost inflation, the increasing energy density of EV batteries has implications for fire risk, salvageability, and storage safety. These factors can influence claim management strategies and reserve assumptions.



Access Mobility Global's Sales-Based Powertrain (SBPT) Forecast to analyze detailed powertrain segmentation across ICE, hybrid, PHEV, and BEV configurations through 2030. The data enables insurers to model claim-severity trends and forecast the operational impact of electrification scenarios on underwriting performance.

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Automation and Autonomous Driving Outlook

As advanced driver assistance systems (ADAS) technologies become standard, the insurance industry faces new questions about fault, liability, and risk distribution. This section explores the gradual path toward higher automation levels, the regional disparities in adoption, and the early implications for coverage frameworks and pricing models.

The Incremental Path to Autonomy

While public attention has long focused on the vision of fully driverless vehicles, real-world progress is incremental. The majority of automation growth is concentrated in Level 2 and Level 2 Plus systems, where vehicles can manage steering, acceleration, and braking, but the driver remains responsible for supervision.

These systems have become standard across many mass-market and premium lineups. They represent a significant safety enhancement, but they also blur the line between driver assistance and automated control.

Level 3 and higher systems will remain limited to niche, high-cost models for much of the decade, constrained by regulatory barriers, infrastructure limitations, and liability exposure. Autonomous vehicles in Level 4 are growing at a deliberate pace as key robotaxi players like Waymo expand.

Liability Evolution and Risk Redistribution

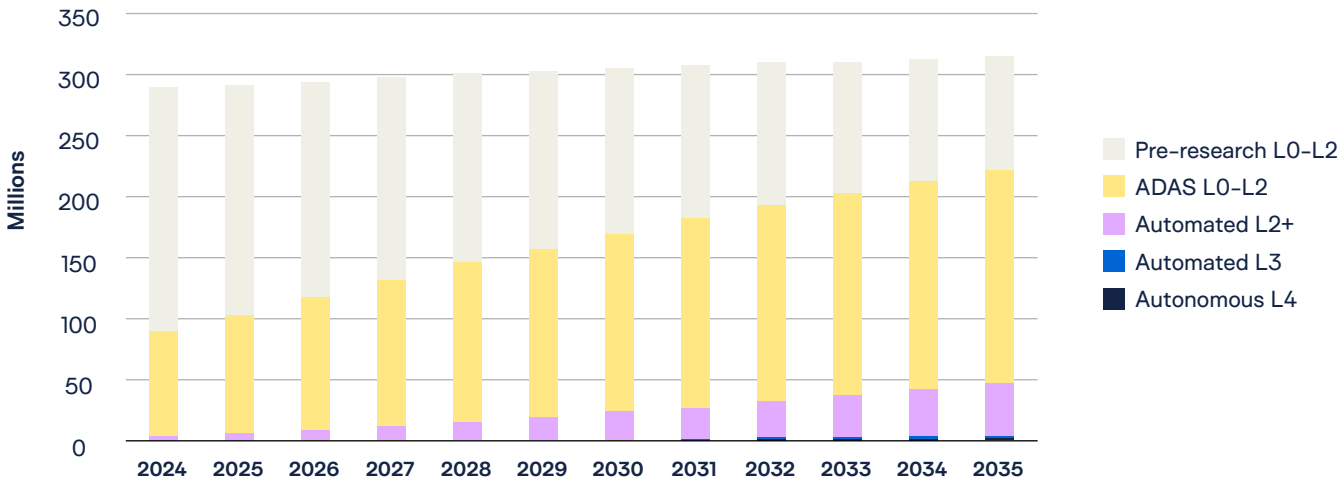
As vehicles assume greater control, responsibility shifts. The current liability model, centered on driver fault, will gradually make room for manufacturer and software liability. In Level 3 systems, where a driver can temporarily disengage, fault attribution becomes challenging: was the human inattentive or did not takeover control when prompted, or did the software fail to act or act incorrectly?

Most of the U.S. fleet through 2035 will remain concentrated in **Level 0–2 ADAS systems**, with **Level 2+ automation** expanding gradually and **Level 3 and 4 autonomy** representing only a small share of vehicles in operation. This distribution indicates that liability will evolve slowly, with traditional fault-based frameworks remaining relevant for years before product-liability considerations become mainstream.

This gradual progression will still demand innovation in insurance design. Policy frameworks will need to accommodate shared or conditional liability, particularly for vehicles or fleets in which driver supervision may change by the mile. Crash reconstruction also evolves to reference new and more detailed data from sensors especially cameras.

Figure 3: USA Vehicles in Operation by Autonomy Level, 2024–2035

Source: Mobility Global, Autonomy Tech VIO Forecast Q2 2025



Regional Disparities

China is rapidly emerging as the global leader in Level 2+ deployment, driven by domestic technology investment and regulatory coordination. Penetration rates are projected to exceed 70% of new vehicles by 2035. The United States and Europe, while technologically advanced, remain cautious, with slower regulatory adaptation and more fragmented testing environments.

Jeremy Carlson contrasts China's rapid Level 2+ penetration with the U.S. and Europe.

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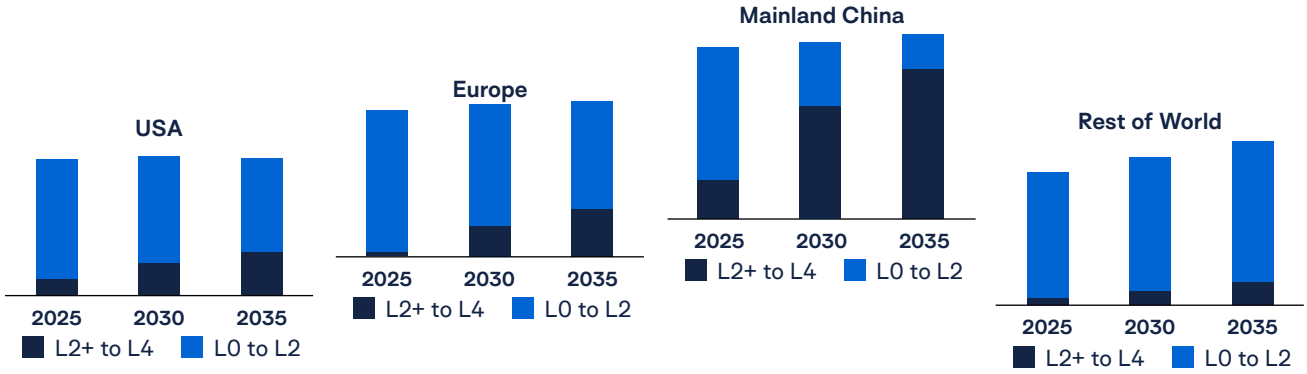
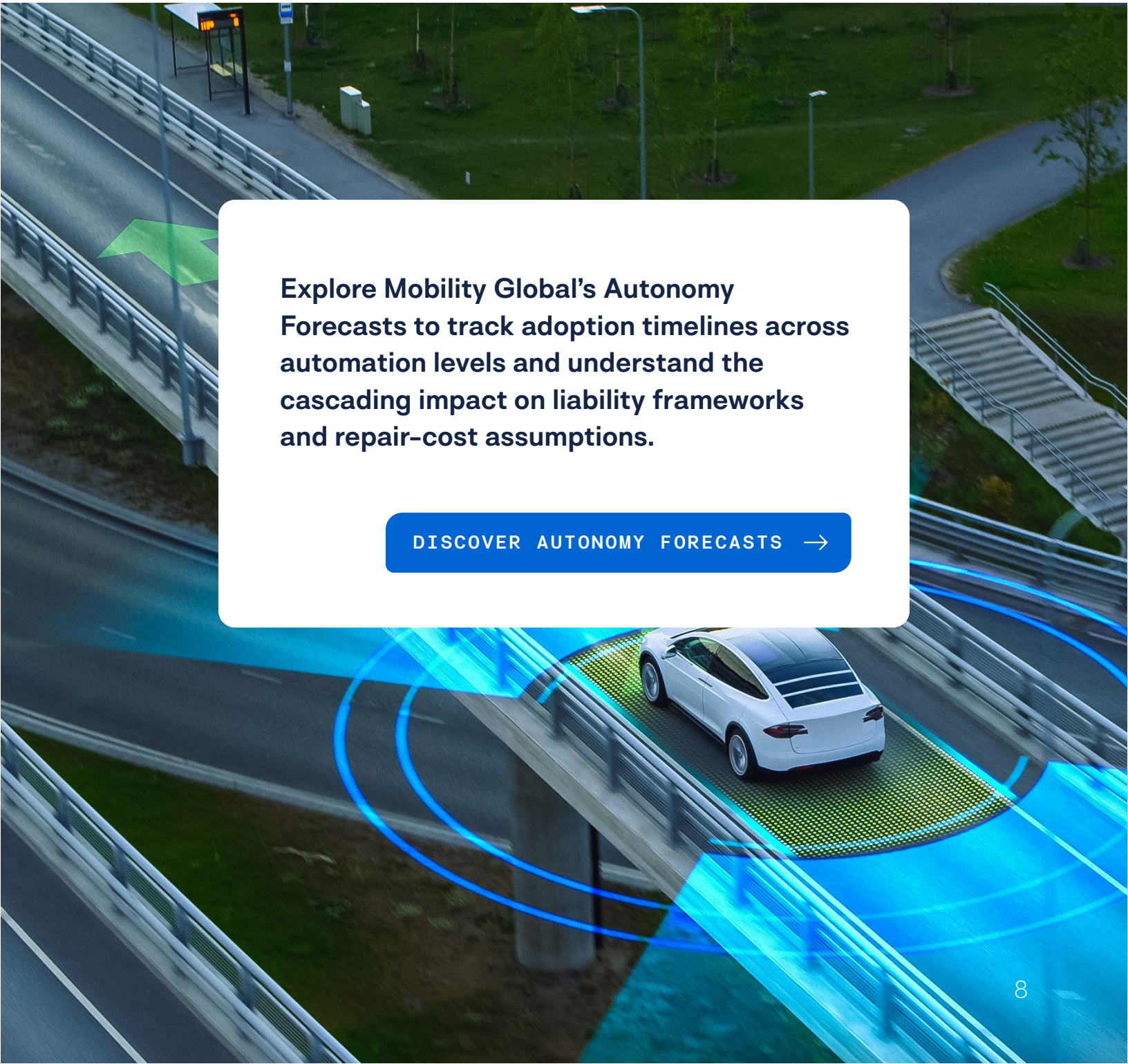
Figure 4: Global Autonomy Penetration Forecast, 2025–2035

Source: Mobility Global, Autonomy Level Forecast Q3 2025



Global light vehicle sales 2035: 98 million, of which 39 million L2+ to L4 (40%)

What else you should consider:
Automation's insurance implications extend beyond personal vehicles. Freight and logistics operators are piloting Level 4 highway automation, where product liability and commercial fleet risk intersect. Early modeling in this area can provide competitive advantage.



Explore Mobility Global's Autonomy Forecasts to track adoption timelines across automation levels and understand the cascading impact on liability frameworks and repair-cost assumptions.

DISCOVER AUTONOMY FORECASTS →

Insurance Market Impact

The insurance sector stands at the intersection of technological progress and financial risk. As mobility innovation accelerates, insurers must reconcile the promise of safer roads with the reality of higher repair costs and new liability exposures. This section reviews recent performance trends in U.S. auto insurance, highlighting how electrification and automation are transforming frequency, severity, and profitability across personal and commercial lines.

Market Performance and Volatility

Auto insurance remains a cornerstone of the U.S. property and casualty (P&C) sector and a critical stabilizer for industry profitability.

The total P&C premiums are projected to reach USD 1.4 trillion by 2029, with auto coverage accounting for roughly one-third of that total.

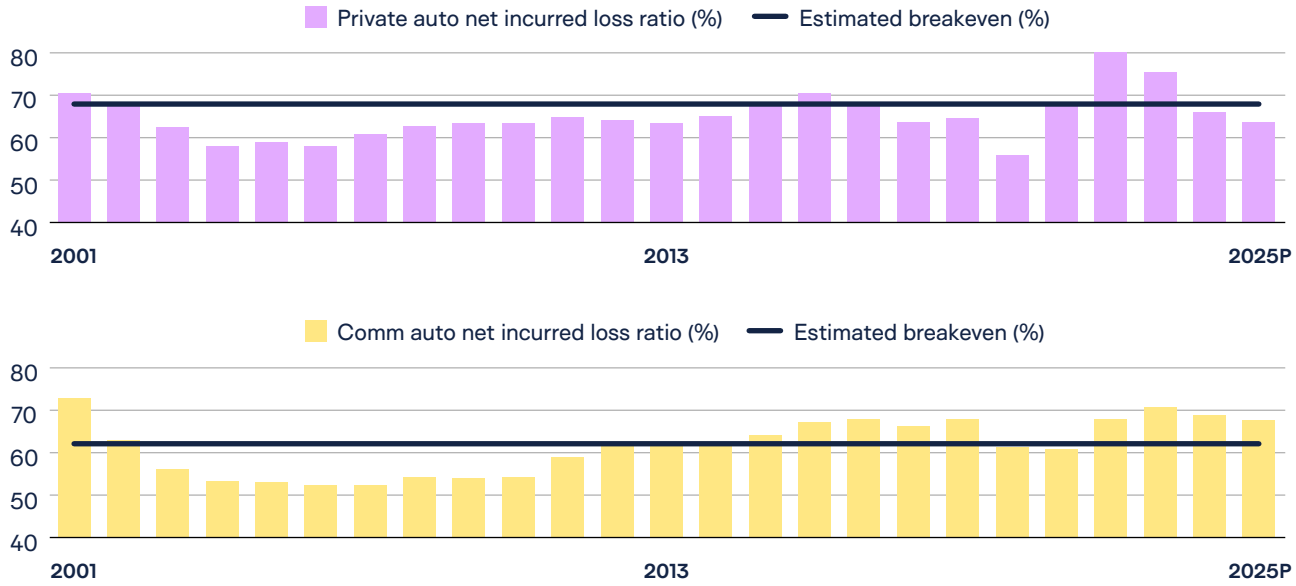
Yet the business has entered one of its most volatile cycles in recent history. Private auto lines saw record-low loss ratios during pandemic lockdowns, followed by sharp reversals in 2022 and 2023 as supply chain disruptions, rising parts costs, and labor shortages pushed repair expenses higher.

Commercial auto lines have faced their own pressures, with large jury verdicts and increased litigation further amplifying volatility.

The result is a market under tension: indispensable to the broader P&C portfolio but increasingly exposed to economic, technological, and legal crosscurrents that test its ability to deliver consistent returns.

Figure 5: Private vs. Commercial Auto Loss Ratios, 2019–2025

Source: S&P Global Market Intelligence, August 2025



Frequency, Severity, and Technology-Driven Cost Inflation

While advanced safety systems have made vehicles safer, they have also made them more expensive to repair. Over the long term, claim frequency has trended downward thanks to ADAS, telematics-based incentives, and behavioral changes among drivers. Yet at the same time, claim severity continues to climb, driven by complex repair procedures, specialized labor, and rising parts costs.

The widening gap between these two measures challenges the traditional assumption that fewer crashes translate to lower total losses. Today, the cost per claim has risen enough to erode underwriting margins even as accident frequency declines.

Electric vehicles amplify this dynamic. Studies from major carriers reveal EV loss ratios can be substantially higher – nearly double for one book of business – relative to comparable internal-combustion models. Minor collisions that compromise battery integrity often result in total losses, while limited parts availability and calibration requirements for sensors and high-voltage systems extend repair cycle times.

Tim Zawacki explains the American National Property & Casualty data showing EV loss ratios exceeding 120% versus ~65% for ICE vehicles, illustrating cost pressure from repairs and calibration.

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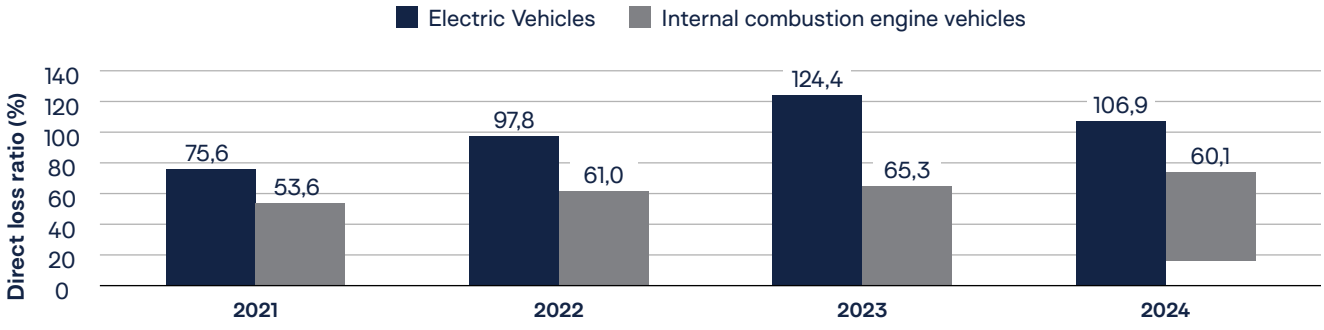
Figure 6: EV vs. ICE Loss Ratio Comparison, 2025

Source: S&P Global Market Intelligence, American National P&C filing ANPC-134574395



Reflects American National Property & Casualty Co. disclosures in SERFF filing ANPC-134574395

For insurers, the implication is clear. Safety technologies and electrification reduce crash frequency but can meaningfully increase claims severity when incidents occur. Managing this imbalance through pricing precision, network efficiency, and capital allocation will be critical to maintaining rate adequacy in the years ahead.

Commercial Sector Dynamics

Commercial fleets are undergoing parallel transitions toward electrification and automation. These shifts bring both opportunity and exposure. Fleets that adopt automation to reduce human-error crashes may simultaneously increase exposure to product liability and software malfunction claims.

What else you should consider:
Large verdicts are increasingly influencing underwriting appetites and capital reserves. Automation may mitigate frequency but amplify the scale of outlier claims when system failures occur.

Access S&P Global Market Intelligence's U.S. P&C Performance Data for updated industry-level combined ratios, profitability outlooks, and forecasted premium trends across personal and commercial lines.

Key Implications for the Industry

Carriers, automakers, and regulators are adapting to an environment where connectivity and data define both risk and opportunity. The implications span market stability, liability, and operational readiness.

Scale and Significance

As the cornerstone of the U.S. property-and-casualty sector, auto insurance plays a systemic role in market stability. Changes in exposure or performance echo across the broader P&C landscape, making the industry's ability to price risk accurately central to long-term resilience.

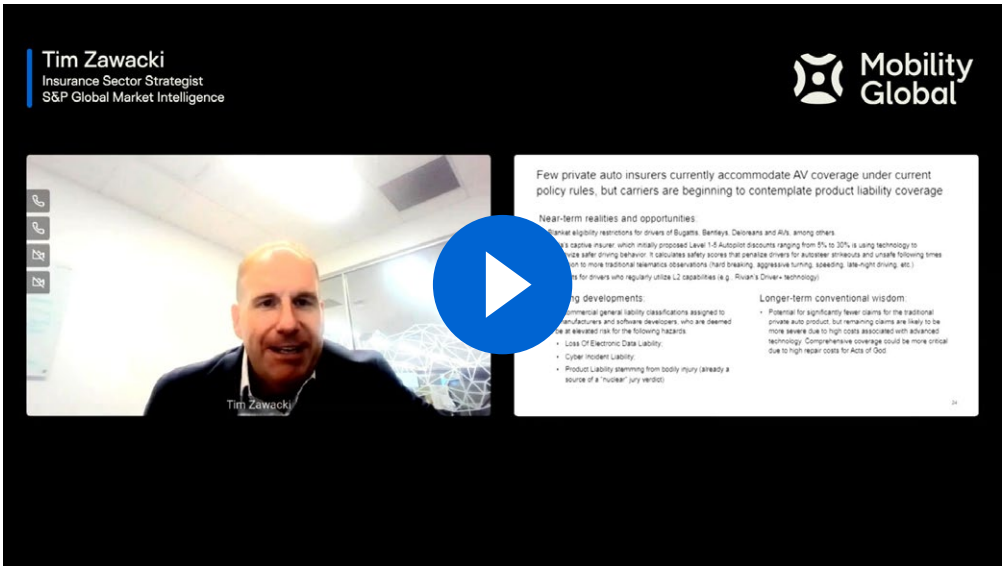
Evolution versus Revolution

Electrification remains an evolutionary shift that can be managed within existing regulatory frameworks. It introduces repair-cost inflation and supply-chain complexity but fits within familiar risk-modeling boundaries.

In contrast, widespread Level 3 and Level 4 automation will be revolutionary. It will change risk ownership, requiring new policy forms, rate structures, and claims processes as liability migrates from driver to product. Forward-looking carriers are already modeling how autonomy will influence loss ratios, liability distribution, and premium flow over the next decade.

OEM Influence

Automakers are becoming active participants in insurance. OEM-affiliated managing general agencies such as Tesla Insurance, Rivian Insurance, and GM OnStar are leveraging direct access to telematics and repair data to refine underwriting and claims efficiency.



Tim Zawacki discusses Tesla, Rivian, and GM's entry into insurance markets and how OEM-led MGAs could redefine underwriting precision and data access

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While many OEM programs operate as early-stage loss leaders, they serve as strategic investments in data collection and customer engagement, positioning automakers to shape how insurance integrates with future mobility ecosystems.

Carrier Readiness

Leading carriers are expanding telematics programs, autonomous-risk modeling, and AI-based claims triage to stay ahead of structural change. This evolution is unfolding amid inflation, labor shortages, and regulatory lag—conditions that strain profitability even as digital transformation accelerates.

Balancing near-term performance with long-term readiness will require disciplined investment in data infrastructure, closer OEM collaboration, and agility across pricing, claims, and product development.

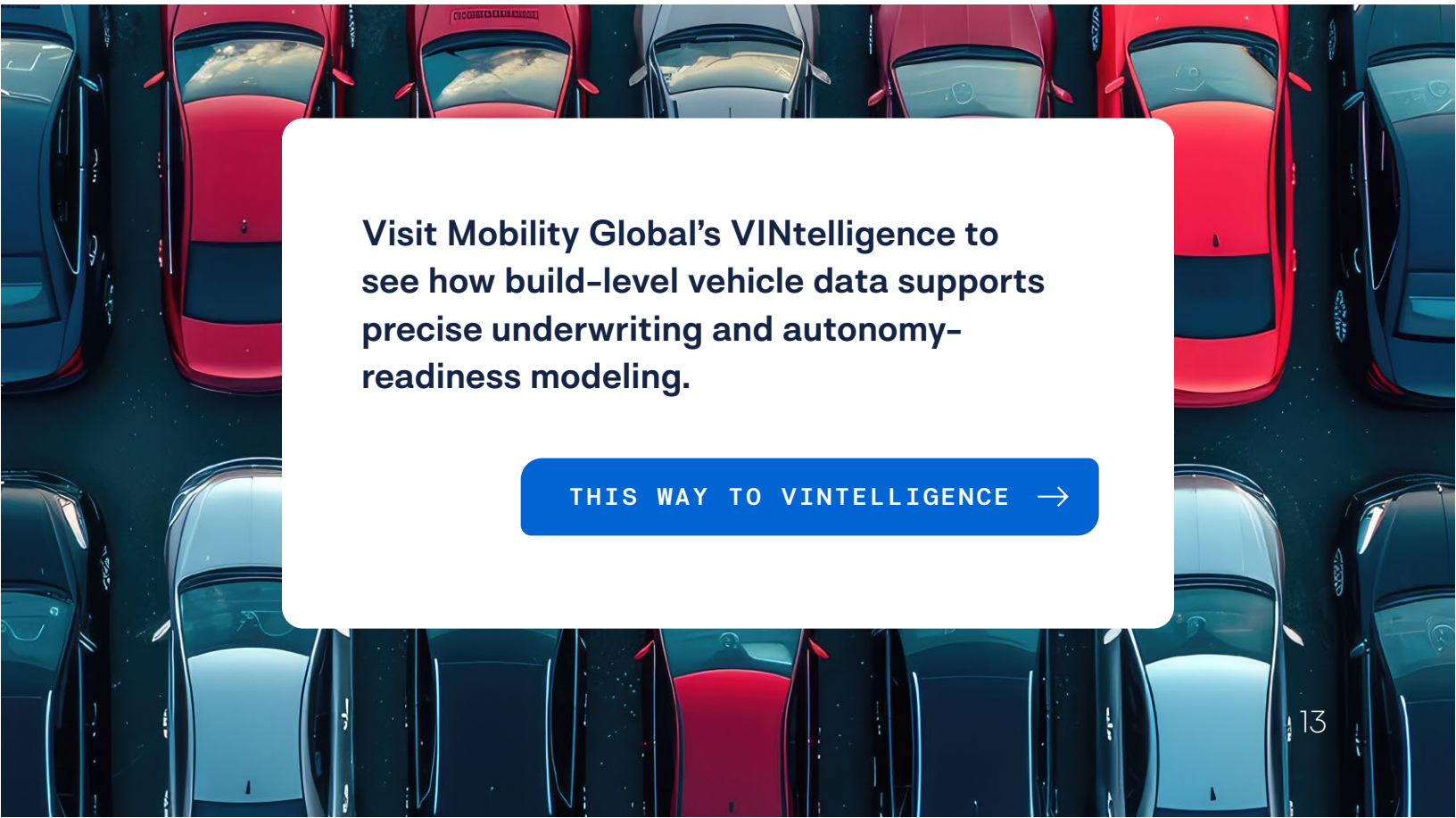
Outlook

For the foreseeable future, insurers must maintain profitability in today's volatile market while preparing for autonomy's disruptive impact. Electrification will continue as a manageable evolution; automation will drive a more fundamental transformation that tests technical and regulatory agility.

Carriers that ground their planning in verifiable data will be best positioned to sustain profitability and navigate the transition from conventional underwriting to autonomy-era risk models.

What else you should consider:

- Electrification remains a manageable, evolutionary change, but automation will require new policy models and coverage structures.
- Carrier readiness depends on integrating vehicle-level data, telematics, and AI analytics to sustain profitability while preparing for structural transformation.



Visit Mobility Global's VINtelligence to see how build-level vehicle data supports precise underwriting and autonomy-readiness modeling.

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How Insurers Can Prepare for 2026 and Beyond

As electrification, automation, and software-defined technologies continuously evolve, insurers face a dual challenge: maintaining profitability in today's market while preparing for tomorrow's structural change. Progress will depend on precision, agility, and access to trusted data.

Data-Driven Pricing and Portfolio Modeling

The Sales-Based Powertrain (SBPT) Forecast helps insurers anticipate how the North American fleet will evolve across ICE, hybrid, plug-in hybrid, and BEV segments. Integrating these projections into pricing and reserving frameworks supports more accurate modeling of repair-cost inflation, vehicle-mix shifts, and long-term premium adequacy.

Vehicle-Level Risk Identification

VINtelligence provides vehicle-level visibility by decoding millions of VINs to their exact build specifications, including propulsion type, battery capacity, and the presence of ADAS or automation features. This depth of detail ensures that underwriting reflects each vehicle's true technical and risk profile, reducing exposure to misclassification and underpricing.

Anticipating Liability Evolution

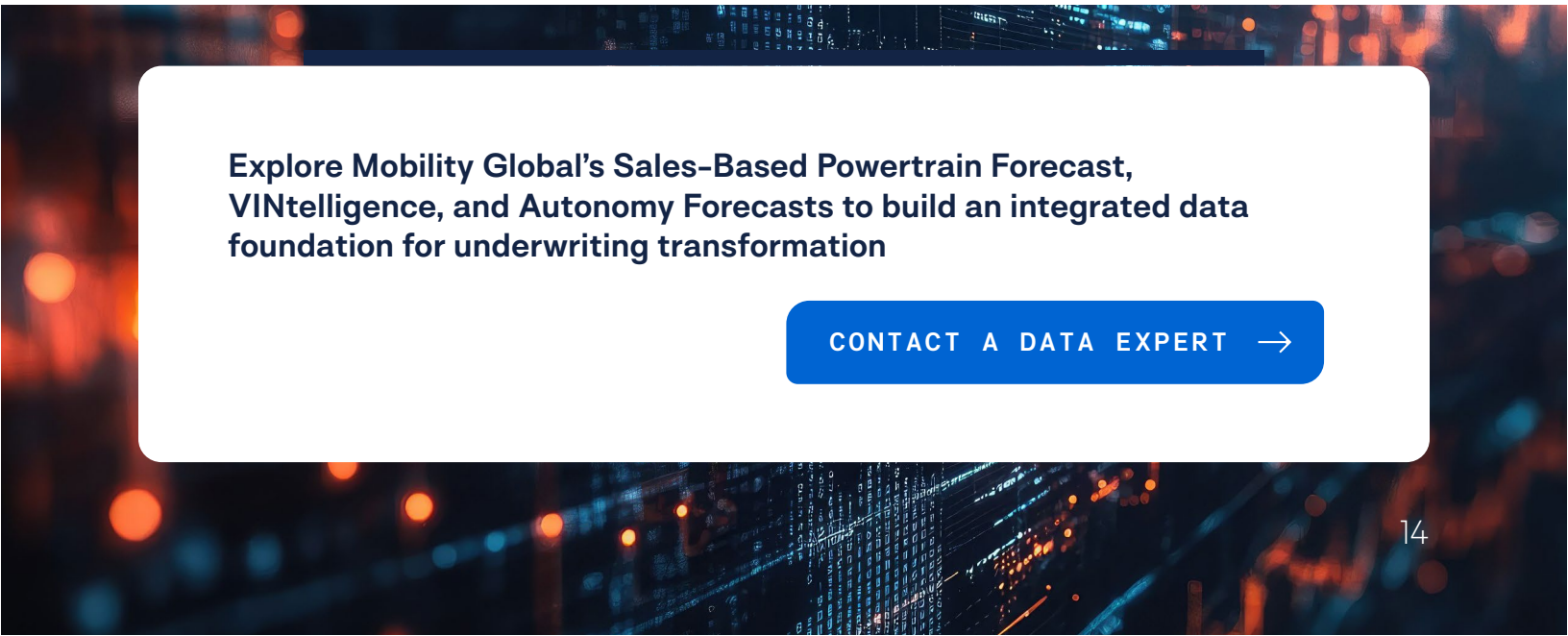
The Autonomy Forecasts provide a forward view of how automation levels will scale across the market, allowing insurers to align underwriting with evolving liability patterns. These projections help insurers align underwriting frameworks with the gradual shift from driver to manufacturer and fleet-operator liability. As automation advances, early segmentation by autonomy tier will enable smoother policy and rating adaptation.

Collaborative Strategy Development

Many insurers collaborate with consulting firms that leverage comprehensive datasets, such as **S&P Global's VINtelligence**, the **Autonomy Forecasts**, and the **SBPT Forecast** to model exposure, inform coverage design, and anticipate operational impacts of electrification and automation. This collaboration ensures consistency between tactical execution and long-term structural readiness, helping carriers plan effectively for a fleet that is becoming more electrified, automated, and software-defined.

Regulatory Monitoring and Adaptation

Continuous monitoring of evolving standards—such as NCAP's expanded crash-avoidance metrics, automatic emergency-braking (AEB) mandates, and new EV incentive frameworks—supports accurate pricing, reserving, and capital planning. Staying ahead of regulatory change allows insurers to anticipate shifts in repair-cost dynamics and liability frameworks before they affect portfolio performance.



Explore Mobility Global's Sales-Based Powertrain Forecast, VINtelligence, and Autonomy Forecasts to build an integrated data foundation for underwriting transformation

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Conclusion

The years ahead will test insurers' ability to adapt faster than the vehicles they insure. Electrification will advance through a gradual but sustained shift led by hybrids, while automation will change liability long before full autonomy arrives. Across both, repair costs, system complexity, and technology risk will continue to rise.

In this environment, precision is profitability. Insurers that base their strategies on verifiable market intelligence will be best positioned to sustain performance and resilience through structural change. By applying insights derived from **Mobility Global's automotive and insurance intelligence portfolio**, decision-makers can model exposure with greater accuracy, calibrate repair-cost assumptions, and time strategic pivots with confidence.

To learn more about how **Mobility Global's Sales-Based Powertrain Forecast, Autonomy Forecasts**, and **VINtelligence** datasets can strengthen risk modeling, readers are invited to **contact our data experts** via a quick inquiry form.

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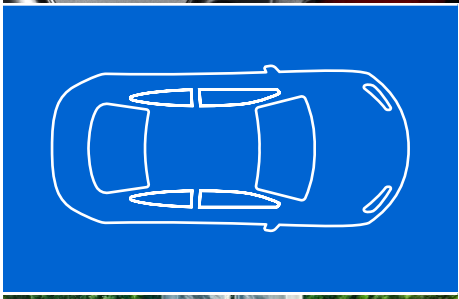

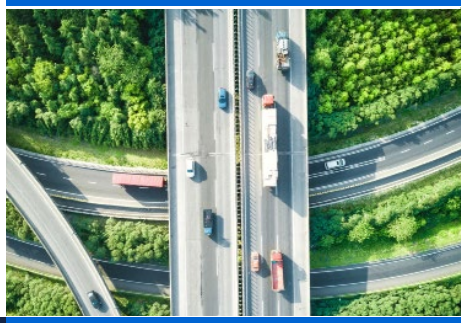

About Mobility Global

Mobility Global helps billions of people and businesses that build, sell, buy, and maintain vehicles make vital mobility decisions with confidence.

A hundred years ago, we created the first vehicle registration reports. Today, we're the world's standard for mobility intelligence. Almost every major OEM and 90% of the top 100 Tier 1 suppliers, along with dealers and millions of consumers, rely on us for must-have data and insights they can't get anywhere else.

We have three divisions, each built to help our customers win:

- **Planning Solutions** delivers the intelligence and forecasting leading mobility companies count on to spot trends, navigate industry shifts, and make strategic decisions that shape the future of our industry.
- **Sales Solutions** including trusted offerings like automotiveMastermind and Polk data help dealers and OEMs understand markets, find opportunities, and connect with the right customers at the right time.
- **CARFAX** gives millions of consumers the trusted information they need to buy, sell, and take care of their cars with confidence.

As mobility keeps evolving, we'll keep partnering with our customers to solve their most complex challenges so they can make decisions that move them, and the world, forward.

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